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JAPANESE TRADE AND INDUSTRY

PRESENT AND FUTURE

BY

MITSUBISHI ECONOMIC RESEARCH BUREAU

TOKYO

MACMILLAN AND CO., LIMITED
ST. MARTIN'S STREET, LONDON
1936

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MITSUBISHI ECONOMIC RESEARCH BUREAU
TOKYO, JAPAN.

PRINTED IN JAPAN
BY HOSOKAWA PRINTING CO., LTD., TOKYO

PREFACE

THE Mitsubishi Economic Research Bureau was founded in April, 1932 by Baron Koyata Iwasaki, President of the Mitsubishi Goshi Kaisha, as an independent institution, succeeding to the Economic Research Department of the said company. The Bureau is conducted on strictly scientific lines, with the main object of investigating and interpreting economic problems in Japan and foreign countries. The results of its investigations are compiled in a number of periodical as well as special publications.

The following analysis of the expansion of Japanese trade and industry is a translation of a Japanese edition which appeared last December. The publication of the English version in May, 1936 has permitted the insertion of the newest statistical data which cover in most instances the whole of the year 1935.

The world is rapidly awakening to the great driving force inherent in the economic development of Japan. There is therefore good reason for the publication of this book, which endeavours to give an impartial explanation of the recent advance and of the present trend of economic conditions. Compensation for its great bulk will be found in the inclusion of a wealth of reliable data from official and private sources.

May 1st, 1936.

FOREWORD TO JAPANESE EDITION

At this moment when 1935 is about to merge into 1936, we look back upon the march of events of the past twelve months, and review with some sense of satisfaction the general prosperity the year has brought to Japan.

The great advance in rice and raw silk prices has conferred upon the agricultural classes financial benefits which have gone far to alleviate the distress caused by the preceding unfavourable years. Continued activity in the various branches of industry has contributed, through increased production and rising profits, to the prosperity of the country.

In overseas trade, the progress in construction activities and steady development in Manchoukuo has brought about greater promise of satisfactory economic relations between the two countries, while the prospect of settled conditions in North China has favourably affected the trade and commerce with Eastern Asia.

In the Netherlands East Indies, despite the uncertainty as to the outcome of the trade negotiations now pending, our trade has not suffered to a perceptible degree, and the same may be said as regards our commercial relations with British India. The year has been marked by a considerable advance in the interchange of commodities with Australia.

Although trade negotiations between Egypt and Japan, which became necessary after the abrogation of the commercial treaty, are being watched with no small anxiety, yet the Continent of Africa offers a wide field for our merchandise. Japan's trade with Europe continues to flourish, and the change in the Canadian political outlook shows some indication of a possible solution of outstanding questions. The economic improvement in the United States has favourably affected Japan's export trade, especially in silk, and her trade relations with Central and South America have on the whole been well maintained,

Under these circumstances, trade and industry have proved better

than could be anticipated earlier in the year, and there are signs that, excepting unforeseen complications in the international situation, the coming year will be equally prosperous for Japan. It is becoming increasingly evident that, no matter how high the artificial trade barriers, low cost of production and superior quality cannot fail to compete successfully in the world's markets.

It appears that the world is rapidly awakening to the productive energy and economic capacity of Japan, and that an increasing interest is now taken abroad in the development of Japanese trade and industry. In the course of the last summer we had visits from two eminent foreign economists who came to Japan for the purpose of investigating financial and economic conditions.

One of these gentlemen was especially desirous of investigating the causes contributing to the recent expansion of Japanese trade in foreign markets. The four chief points he wished to elucidate were:— (a) whether the low cost of production was entirely due to low wages, (b) whether Japanese industry was subsidized by the Government, (c) whether the depreciated rate of exchange was responsible for low export prices, and (d) whether the present expansion was merely a temporary phenomenon or not.

He also went deeply into the possibility of a continuation of the present financial policy, which aims at meeting emergency expenditure through the issue of bonds. The fullest information was placed at his disposal, and everything done to enable him to grasp the present state and peculiar features of the industry and economy of Japan.

With reference to the annual issue of deficit loans, his attention was drawn to the method of issue, as being largely in accordance with market and trade conditions, the clear-sightedness and unbiassed judgment of the financial authorities being especially emphasized. Care was taken to demonstrate the necessity for such issues from the present needs of our national security, depending mainly as they do upon the attitude of the other Powers, which is naturally beyond the control of Japan. The hope was expressed that other nations might come to recognize the problem of overpopulation in Japan and understand her effort in attempting to solve the problem, so that a fuller comprehension may remove the causes of possible friction and consolidate the foundation of permanent peace. The fact was stressed that Japan, being debarred from all possibility of relieving the congestion by emigration to other lands, has been compelled to seek an antidote in intensified industrialization.

The other economist came to Japan with several questions of

importance—(a) deficit finance, (b) whether the Government intended to maintain the yen at the present level, (c) whether Japan stands for free trade, and like England, endeavoured to become highly industrialized, while depending for the bulk of her foodstuffs upon overseas supplies, and (d) Japan's attitude towards the Chinese boycott.

In reply to the second question it was stated that the exchange value of the yen is primarily dependent upon the degree of confidence placed in it elsewhere and upon the Anglo-American cross rate, and for these reasons is more or less beyond the sole control of Japan, and that Japan would rather prefer to stabilize the exchange at the present level. As regards the third question, while it is true that the rapid industrial expansion of Japan bears some resemblance to that of England in former days, it may be said that in the matter of foodstuffs, particularly rice, Japan aims at self-sufficiency. This object can be achieved by more intensified farming in a way as to make it possible for the farming classes not only to exist, but also to furnish a reserve of labour for the factories. Owing to the fortunate circumstance that the fishing grounds in Japanese waters are considered to be amongst the most prolific in the world, the fishing industry constitutes one of Japan's most important sources of income. Thus to whatever pitch her manufacturing industry may be carried, it will still be of vital importance to maintain the agricultural and fishing industries in the highest possible state of efficiency. On the other hand, Japan is lacking in raw material for her manufacturing industries, and, having no such vast overseas resources as Great Britain, must depend on importation on a large scale of iron, cotton, wool and oil. Owing to her geographical position, Japan naturally seeks an outlet for her manufactures and products in the surrounding continents and islands, so that she is obviously interested in the removal of excessive tariff barriers. Therefore, it is not unnatural that Japan should be a whole-hearted supporter of the old and time-honoured British free-trade doctrine.

The obstacles put in the way of Japanese goods in China, as evidenced by the boycott movement, have had a reflex action, which has been felt by that country in two ways. Firstly, Chinese trade has been badly affected by its self-imposed inability to buy in the lowest market, and, secondly, the diversion of Japanese exports to other parts of Asia has transferred much trade from the local Chinese merchants to Japanese traders, causing a substantial decrease in remittances by the former to the mainland of China. It has been credibly stated that these remittances tended largely to equalize the adverse balance in the foreign trade of China, and that the ruin of

Chinese merchants in South Asiatic markets, in conjunction with the perpetual state of civil war, the unfortunate recurrence of floods, bad harvests and the exodus of silver, has further aggravated the already intolerable financial burden of China. Thus it will be seen that the policy of boycotting Japanese goods has not only dealt a severe blow to the maintenance of amicable economic relations between the two countries, but has been injurious to China's own interests.

The present book has been in course of preparation since the commencement of this spring, when the compilation was decided upon. Its object is to enable the public to trace the rise and expansion of our trade and industries and point out the direction in which they must naturally advance.

T. NAGAOKA, *Managing Director*,
Mitsubishi Economic Research Bureau.

CONTENTS

PART ONE

RECENT ECONOMIC DEVELOPMENT OF JAPAN

CHAPTER I

PAGE

INTRODUCTION 3

CHAPTER II

PRESENT ECONOMIC CONDITIONS 6

1. Industrial and Economic Conditions after the Reimposition of the Gold Embargo 6
2. Capital and Labour 9
3. Production and Markets 13
4. Prices and Wages 17
5. Money Market 21
6. Foreign Exchange 28
7. Public Finance 32

CHAPTER III

FACTORS AFFECTING RECENT ECONOMIC DEVELOPMENT 40

1. Deflation and Reflation 40
2. Improvement in Manufacturing Technique 42
3. Advantages in Labour Conditions 43
4. Social and Educational Conditions 44
5. Organization and Control of Enterprises 45
6. Industrial and Economic Policy 46

PART TWO

BACKGROUND OF THE DEVELOPMENT OF TRADE AND INDUSTRY

CHAPTER IV

FOUNDATION AND CHARACTERISTICS OF JAPANESE INDUSTRY 53

1. Land and Population 53
2. Special Characteristics of Japanese Industry 61
3. Essential Factors in the Development of Modern Industries in Japan 69

CHAPTER V

PAGE
SOURCES OF RAW MATERIALS 72
1. Characteristics of Japanese Natural Resources 72
2. Relation between Home Resources and Imported Materials . . 74
3. Importance of Manchoukuo as a Source of Raw Materials . . 79

CHAPTER VI

CAPITALIZATION 81
1. Sources of Capital 81
2. Accumulation of Capital 85
3. Recent Development of Capital Investment 89
4. Japanese Investments in Manchuria 92

CHAPTER VII

ECONOMIC FACTORS AFFECTING COST OF PRODUCTION 94
1. Cost of Materials 95
2. Labour Conditions 96
3. Fuel and Power 103
4. Capital and Taxation 107
5. Freight 111

CHAPTER VIII

THE ORGANIZATION OF INDUSTRY 114
1. Development of Industrial Policies 114
2. Present Situation of Industrial Control 118
3. Reform Projects 127

CHAPTER IX

THE RATIONALIZATION OF INDUSTRIES 130

CHAPTER X

INDUSTRIAL PROFITS 136
1. General Survey 136
2. Capital and Assets 139
3. Business Results 142

PART THREE

BASIC INDUSTRIES

CHAPTER XI

AGRICULTURE 149
1. General Characteristics 149
2. Agricultural Production and Trade 155
3. Demand and Supply of Agricultural Products 157
4. Present Agricultural Situation 168
5. Agricultural Policies 175

CHAPTER XII

PAGE
FISHERIES 182
1. General Survey 182
2. Classification of Fisheries 183
3. Foreign Trade in Aquatic Products 190

CHAPTER XIII

THE MINING INDUSTRY 195
1. General Survey 195
2. Iron and Steel 199
3. Coal 205
4. Petroleum 210

CHAPTER XIV

THE ELECTRIC POWER INDUSTRY 217
1. General Survey 217
2. Power Generation 219
3. Power Plants and Transmission 220
4. Electric Power Consumption 222
5. Management and Business Results 224

PART FOUR

PRINCIPAL MANUFACTURING INDUSTRIES

CHAPTER XV

THE TEXTILE INDUSTRY—GENERAL 229

CHAPTER XVI

THE COTTON INDUSTRY 234
1. General Survey 234
2. Sources of Raw Cotton 236
3. Cotton Spinning 237
4. Cotton Weaving 241
5. Control in the Cotton Industry 246
6. Future Prospects of the Japanese Cotton Industry 249

CHAPTER XVII

THE SILK INDUSTRY 251
1. General Survey 251
2. Recent Development in the Silk Industry 253
3. Cocoon-Raising 255
4. Silk-Reeling 258
5. Raw Silk Trade 263
6. Silk Textiles 266
7. Control Machinery 267
8. Future Prospects of the Silk Industry 269

CHAPTER XVIII

PAGE
OTHER TEXTILE INDUSTRIES 272
1. The Rayon Industry 272
2. The Woollen Industry 281
3. Manufactures of Hemp, Jute and Similar Products 289

CHAPTER XIX

ENGINEERING AND SHIPBUILDING 294
1. General Survey 294
2. The Shipbuilding Industry 300
3. The Vehicle Industry 302
4. The Electrical Engineering Industry 310
5. Other Mechanical Industries 317

CHAPTER XX

THE CHEMICAL INDUSTRY 326
1. General Survey 326
2. Production 327
3. Exports and Imports 333
4. Raw Materials 337

CHAPTER XXI

THE CERAMIC INDUSTRY 341
1. The Glass Industry 341
2. The Cement Industry 348
3. The Pottery Industry 355

CHAPTER XXII

FOODSTUFFS AND PROVISIONS MANUFACTURING INDUSTRIES 362
1. The Sugar Industry 362
2. The Flour Milling Industry 367
3. The Brewing Industry 373
4. Canned Foods 377
5. The Tea Industry 381

CHAPTER XXIII

OTHER INDUSTRIES 385
1. The Paper Industry 385
2. The Rubber Industry 393
3. The Tobacco Industry 399

PART FIVE

BANKING, INSURANCE, WAREHOUSING AND TRANSPORTATION

CHAPTER XXIV

BANKING 407
1. Development and Present Situation 407

PAGE
2. Development of Bank Fusions 411
3. Function of the Bank of Japan and Financial Control . . . 413
4. Employment of Banking Funds 414
5. Employment of Funds of Other Financial Institutions . . . 421
6. Trade Financing 426

CHAPTER XXV

INSURANCE 431
1. Life Insurance 431
2. Marine, Fire and other Non-life Insurance 440

CHAPTER XXVI

WAREHOUSING 452

CHAPTER XXVII

TRANSPORTATION 458
1. Land Transportation 458
2. Marine Transportation 468

PART SIX

RECENT DEVELOPMENT IN FOREIGN TRADE

CHAPTER XXVIII

THE EXPANSION OF FOREIGN TRADE AND ITS BEARINGS ON THE NATIONAL ECONOMY 479
1. General Survey 479
2. Trade Balance and International Accounts 485
3. Trade Development and Industrial Production 488

CHAPTER XXIX

CHANGES IN CONSTITUENT PRODUCTS AND REGIONAL DISTRIBUTION . . 496
1. Foreign Trade by Groups of Commodities 496
2. Regional Distribution of Foreign Trade 501

CHAPTER XXX

EXPORTS AND IMPORTS BY COMMODITIES 505
1. Export Trade 505
(1) General Survey. (2) Textile Manufactures. (3) Metals, Machinery and Vehicles. (4) Oils, Fats, Chemical Manufactures and Paper. (5) Ceramic Manufactures. (6) Foodstuffs. (7) Other Important Articles
2. Import Trade 526
(1) Raw Materials for the Textile Industry. (2) Ores, Metals and Metal Manufactures. (3) Other Industrial Raw Materials. (4) Machinery, Machine Tools and Vehicles. (5) Foodstuffs.

CHAPTER XXXI

PAGE

EXPORTS AND IMPORTS BY DESTINATIONS AND SOURCES; COMPETITIVE CONDITIONS IN IMPORTANT MARKETS 542

1. East Asia 542
   (1) General Survey. (2) Manchoukuo. (3) China. (4) Hong Kong.
2. South Asia 553
   (1) General Survey. (2) British India. (3) Netherlands East Indies. (4) Strait Settlements. (5) Philippine Islands. (6) Siam. (7) French Indo-China.
3. West Asia 567
   (1) General Survey. (2) Principal Markets.
4. Oceania 573
   (1) General Survey. (2) Australia. (3) New Zealand.
5. Europe 578
   (1) General Survey. (2) Leading Industrial Countries in West Europe. (3) Other European States.
6. North America 591
   (1) United States. (2) Hawaii. (3) Canada.
7. Central and South America 597
   (1) General Survey. (2) South American Countries. (3) Central American Countries.
8. Africa 609
   (1) General Survey. (2) Egypt and Sudan. (3) East Africa. (4) Union of South Africa. (5) French Morocco.

CHAPTER XXXII

JAPANESE FOREIGN TRADE POLICIES 615

1. General Survey 615
2. Tariff System 616
3. Facilities for Trade Promotion 617
4. Control of Exports and Imports 618
5. Trade Protection Law 620

CHAPTER XXXIII

ECONOMIC RELATIONS BETWEEN CHINA, MANCHOUKUO AND JAPAN . . 622

1. General Survey 622
2. Fundamental Conditions of Economic Co-operation 623
3. Problems in Mutual Trade 629

PART SEVEN

CHAPTER XXXIV

CONCLUSION 637

LIST OF PRINCIPAL STATISTICAL SOURCES 641
INDEX 647

MAPS AND CHARTS

MAP OF JAPANESE EMPIRE AND MANCHOUKUO . . Frontispiece

MAP OF JAPAN . . . . . „

CHARTS:

Page

International Comparison of Industrial Profits 138

Price Movement of Agricultural Products and of Commodities Purchased by Farmers 169

Seasonal Variation in Production and Prices of Cotton Yarn . . . 241

Development of Production and Foreign Trade 489

Foreign Trade by Groups of Commodities 497

Foreign Trade by Continents 502

JAPANESE WEIGHTS AND MEASURES AND THEIR EQUIVALENTS

LINEAR MEASURE

(1) Land measure				
1 *ri* (36 *cho*)	= 3·927	km.	= 2·44028	miles
1 *cho* (60 *ken*)	= 109·09	m.	= 119·3032	yds.
1 *ken* (6 *shaku*)	= 1·81	„	= 1·98838	„
(2) Artisans' measure				
1 *jo* (10 *shaku*)	= 3·03	m.	= 3·31398	yds.
1 *shaku* (10 *sun*)	= 0·30	„	= 11·93032	inches
1 *sun* (10 *bu*)	= 3·03	cm.	= 1·19303	„
(3) Cloth measure				
1 *shaku* drapers' (10 *sun*)	= 0·378	m.	= 14·91287	inches
1 *sun* (10 *bu*)	= 3·78	cm.	= 1·49129	„

SQUARE MEASURE

1 sq. *ri* (1,555·2 *cho*)	= 15·42347	sq. km.	= 5·95526	sq. miles
1 *cho* (10 *tan*)	= 99·17355	ares	= 2·4507	acres
1 *tan* (10 *se*)	= 9·91736	„	= 0·24507	„
1 *se* (30 *bu*)	= 0·99174	„	= 0·0245	„
1 *bu* (=1 *tsubo*, 10 *go*)	= 3·30578	sq. m.	= 3·95383	sq. yds.

CAPACITY (Dry and liquid)

1 *koku* (10 *to*)	= 1·80391 hectolitres	=	39·70339 Imp. gallons 47·654 U.S. „
1 *to* (10 *sho*)	= 18·03907 litres	=	3·9703 gallons
1 *sho* (10 *go*)	= 1·80391 „	=	0·39703 „

WEIGHT

1 *kwan* (1,000 *momme*)	= 3·75	kg.	= 8·26719	lbs. (Avoir)
1 *kin* (160 *momme*)	= 600	g.	= 1·32275	„
1 *momme* (10 *fun*)	= 3·75	„	= 57·8703	grs.
1 *fun* (10 *rin*)	= 0·375	„	= 5·7870	„
1 picul (100 *kin*)	= 60	kg.	= 132·275	lbs.

PART ONE

RECENT ECONOMIC DEVELOPMENT OF JAPAN

CHAPTER I

INTRODUCTION

THE industrial revolution in Western Europe was effected about a century ago. Begun in 1775, the task required nearly fifty years for accomplishment. In Japan, the industrial transformation of the country commenced in the early part of the Meiji era (1868–1911), soon after the collapse of the feudal system of government, and was almost completed in 1897, when the foundation of capitalistic economy was firmly established. This consummation occurred some seventy years later than the industrial revolution in Western Europe, but the development of Japanese industries in the later period was very rapid. Previous to the outbreak of the World War, the lack of financial stability could not but obscure the potential economic strength of the country, but the World War offered Japan an opportunity to develop the latent possibilities of industrial expansion. The development which had its inception in the reimposition of the gold embargo in the winter of 1931 was of even greater moment, embracing as it did industries in which Japan had not formerly been considered competitive. The firm footing secured in international markets is revealed by the fact that Japanese trade has shown a greater expansion after 1932 than that of any other leading country, and that the Japanese share of world trade has increased from 3.19% to 3.65% during the six years ending 1935.

The unsound expansion during the World War and, later, the great earthquake of 1923 were the causes of certain unfavourable effects which delayed the economic development during more than a decade following the end of hostilities. These effects could be traced in State finance, company management, banking conditions, and above all, in the artificially raised price level of commodities which in turn resulted in a large annual excess of imports. In this way, the enormous specie holdings accumulated during the time of the World War were almost entirely lost in the course of the subsequent decade.

The maladjustment of the internal price structure prevented Japan from following the lead of the United States when the latter removed the

gold embargo in 1919. Preparatory steps were, however, taken in consolidating the financial basis by effecting an adjustment of some special liabilities which for a long period had remained a source of anxiety, and which, prudence commanded, had to be removed as an essential prerequisite to the removal of the gold embargo. Efforts directed to the attainment of that purpose in previous years had failed on account of political circumstances, and, on the contrary, helped to bring about the financial crisis in the spring of 1927. The system of special accommodation by the Bank of Japan, which was resorted to as an expedient for adjusting the aftermath of the crisis, brought about lower money rates, and facilitated the financial adjustment of enterprises to a certain extent. On the other hand, the measure stimulated the tendency for available funds to concentrate in the large banks, which resulted in small traders and manufacturers being practically left without access to banking facilities. Despite the unfavourable circumstances, the gold embargo was lifted on January 11th, 1930. The national economy, which had already experienced a period of extreme contraction during the preparatory stages, suffered acutely from this deflationary measure which coincided with the onset of the world depression, but the situation gradually improved in view of the great efforts made by industry to reduce the cost of production. There were indications of a normal recovery from the painful process of deflation—share prices in June, 1931, had already advanced more than 30% compared with the low level of the previous October—when the credit crisis in Europe and the suspension of the gold standard in Great Britain created a new situation which quickly led to the reintroduction of the gold embargo.

The gold embargo was reimposed about two years after the removal of the former one, and proved to be a turning point in the general economic situation of the country. The diminution in the import of manufactured goods, on the one hand, and the growing volume of export trade, on the other, brought about a great industrial expansion. Although textile goods still took the greatest share in the export trade, there was a relatively greater advance in machinery, hardware, chemicals and other goods which had previously not figured prominently in Japanese production. The first step was to take up the manufacture of goods, the import of which had become too expensive on account of the low value of the yen, and build up an export trade later on the basis of cheap production costs. This development may be traced in an extreme form in the phenomenal expansion of the Japanese rayon industry which, though of recent inception, now occupies the foremost position in

world production. This extraordinary growth within a period of only a few years has been rendered possible by extremely low costs of production, particularly for the older companies whose technical equipments have been largely written off during the recent years of prosperity.

Low production costs are in a great measure due to the continuous expansion of the country in industry as well as in population. During the past few years a new factor has appeared in the substantial cheapening of the cost of funds required for industry. The financial burden of industrial enterprises has been greatly reduced by the decline in interest rates on bank loans and debentures.

Japanese industry to-day offers a unique example of production costs, having been practically unaffected by the very sharp depreciation of the national currency, except in so far as they are dependent on imported materials. In many industries manufacturing costs have even been substantially lowered owing to increased production, the installation of new machinery and a reduction in wages. The overvalued price structure which was the greatest drawback of the Japanese national economy during the decade following the World War has in the past few years not only been entirely corrected, but a reverse tendency has been set up, prices, including the cost of living, being at present considerably cheaper than in other leading industrial countries.

The growing industrialization during the past few years has brought about a perceptible change in the destination of the export trade. There has been a conspicuous advance in trade with East Asia, South Asia and Oceania, and these regions, being now important buyers of Japanese goods, are able, in view of their geographical situation, to supply an increasing volume of the raw materials required by Japanese industry. Exports to new markets such as Africa, Central America, South America and Western Asia have also greatly increased and now claim a comparatively large share (16% in 1935) of Japan's total exports.

CHAPTER II

PRESENT ECONOMIC CONDITIONS

1. Industrial and Economic Conditions after the Reimposition of the Gold Embargo

The reimposition of the gold embargo had as its immediate effect a speculative boom in anticipation of monetary inflation. The sharp slump in Japanese exchange rates stimulated business transactions and led to a rise of share and commodity prices. Fundamentally, economic conditions did not improve except for the incipient check to imports in manufactured goods occasioned by the lower value of the yen, and even this advantage was threatened by the soaring price level. At this stage, the development appeared to follow a course parallel to the abnormal conditions which prevailed in Japan at the close of the World War, a development which, by raising the price structure, would have caused irreparable damage to the new financial policy. Fortunately, better counsel prevailed, and the efforts of official and banking circles were successful in stemming the speculative tide which subsided after February, 1932, and eventually disappeared. The subsidence of the speculative boom was helped by stringent money conditions due to the continued flight of capital.

The first spurt of speculative enthusiasm rested on vague inflationary expectations, and was brought to an end by official opposition and by the fact that the national purchasing power had not yet risen at all, whilst the country had been drained of enormous funds which had been moved abroad and had not yet been repatriated. In the second half of 1932, however, there appeared more tangible indications of the beneficial effects of the new financial policy. Supplementary budget estimates involving expenditure in Manchuria and for emergency relief work were passed at three special sessions of Parliament in March, June and August and the Government disbursements stimulated the armament and heavy industries. The depreciation of the exchange rate enlivened the export trade which attained a marked develop-

ment in spite of the as yet unfavourable conditions in foreign markets.

In 1933, the trade outlook was, however, adversely influenced by diplomatic tension which culminated in Japan's withdrawal from the League of Nations. The failure of the World Economic Conference and other unfavourable factors also affected the export trade. The exchange market remained unchanged on the whole, and the advance in commodity prices was moderate compared with the previous fall in exchange rates. The exploitation of new markets abroad, particularly the progress of Japanese trade in Manchoukuo, more than compensated for the decrease in shipments to China.

Commodity prices reached the highest level in January, and later remained almost unchanged with a slightly downward tendency in reaction to the speculative commitments entered into in the previous period and as a result of increased production. The money market became more and more sluggish, interest rates showing the lowest level recorded in recent years. The rate of interest on new issues of national bonds dropped to 4% in September. Agriculture also shared in the beneficial effects of easy money and, moreover, profited by the high price of spring cocoons and raw silk.

In 1934, the world economic situation showed signs of improvement except in the gold standard countries of Europe. Japanese industry also witnessed an increase in activity owing to the rapid expansion of the export trade and armament requirements. The rewriting of company debentures to a lower rate of interest continued, and the issue of new debentures reached a record amount. In the share market the feeling continued very buoyant particularly after the new parity of the U.S. dollar had been fixed in January. The highest share average recorded since the reimposition of the gold embargo was reached on March 7th, and showed a remarkable advance of over 170% compared with quotations in October, 1931.

In the autumn of 1934, the export trade and the movement of merchandise in the internal market indicated signs of slackening, but production continued to increase. In the money market too, the rate of increase in bank deposits was less pronounced, and short-term loans were dearer occasionally. Quotations of debentures and shares showed a downward tendency which continued during the first half of 1935.

The most striking development after the middle of 1935 was the advance in raw silk and cocoon quotations. This development, coupled with a price recovery in rice and other agricultural products, was responsible for the advance in the commodity price index. Prices also experienced some improvement through war apprehensions in Africa and Europe, and the general price index eventually reached the highest

point since the reintroduction of the gold embargo. Business transactions, as reflected in export trade and railway transportation, also improved. The activity in export trade extended chiefly to raw silk, machinery, chemical products and miscellaneous articles, whilst trade in textiles continued dull. The balance of foreign trade improved remarkably, and the final results at the end of the year showed an excess of exports for the first time since 1918.

TABLE 1

TREND OF ECONOMIC SITUATION IN RECENT YEARS

(Index figures based on average of 1929 or 1931)

	1929	1931	1931	1932	1933	1934	1935
Securities:							
Average quotations of industrial shares (50 cos.)	100	62·3	100	126·9	185·5	213·8	195·7
Long-term stock exchange transactions	100[a]	120·7[a]	100	153·0	189·4	206·2	135·9
Quotations of "Kogo" 5 per cent national bonds	100	99·6	100	99·7	108·5	112·1	112·0
Market conditions							
Index number of wholesale prices of commodities	100	69·1	100	109·3	128·8	129·9	131·5
Index number of industrial production	100	90·4	100	105·3	121·1	131·8	145·6
Railway goods traffic	100	77·6	100	100·7	114·4	126·5	134·0
Export trade	100	53·4	100	122·9	162·3	189·4	217·9
Money market							
Discount rate on commercial bills (%)[b]	*4·06*	*4·21*	*4·21*	*5·18*	*3·86*	*3·79*	*3·88*
Note issue of Bank of Japan	100	82·4	100	99·7	106·7	112·9	119·5
National income	100	79·0	100	107·0	125·0	131·1	136·0
Business results (net profits)							
All industries	100	49·5	100	140·8	187·7	232·2	...
Manufacturing industry	100	44·0	100	167·2	293·3	375·1	...
International balance of payments (in million yen)	*− 74*	*− 290*	*− 290*	*− 57*	*+ 13*	*− 120*	...
National expenditure (general account, in million yen)	*1,736*	*1,477*	*1,477*	*1,950*	*2,255*	*2,163*	*2,215*[c]
Foreign exchange rates							
On U. S. A.	100	106·1	100	57·5	52·0	60·8	58·7
On France	100	107·3	100	56·5	40·7	36·0	35·1

(*a*) Transactions on Tokyo Stock Exchange only. (*b*) Average of minimum rates.
(*c*) Budget for fiscal year 1935–36.

Although the business results of industrial companies continued to be favourable, there appeared indications of overproduction in various branches. Industrial profits are gradually declining in view of the sharp advance in imported raw materials, whilst, at the same time, the expansion of production has substantially lowered the prices of many industrial products. Overproduction is particularly acute in the rayon and steel industries, the effects of the existing curtailment of output being largely nullified by the expansion of producing capacity and the establishment of new enterprises.

2. Capital and Labour

Industrial Capitalization. National savings, which form the primary source of industrial capital of the nation, have steadily expanded, the annual figure for 1934 being estimated at approximately 2,800 million yen as against a total of about 2,400 million in 1919. The increase was rather conspicuous in the decade after 1919, but there was a setback in the years following 1928 owing to the severe economic depression, the figure for 1930 dropping to about one-third of that of 1928. The sudden increase after 1931 was largely due to the economic recovery and the expansion of the limit of the fiduciary issue of the Bank of Japan. The revival of industrial activity, coupled with the advance of prices and the increased volume of transactions, greatly added to the income of the nation.(1)

Foreign capital as a source of industrial capital was highly important in former days, about 1,370 million yen of new capital being invested in the ten years' period from 1897 to 1907. Foreign investments continued on a more moderate scale during the following seven years until 1914, with a net increase of new capital totalling 580 million yen. During and immediately after the World War, the introduction of foreign capital stopped for obvious reasons, indeed the heavy accumulation of specie in Japan permitted a reduction in foreign indebtedness of 430 million yen in the period from 1914 to 1922. The great seismic disaster of 1923 made Japan once more dependent upon foreign financial assistance for the rehabilitation of the devastated areas, and about 920 million yen of fresh foreign loans were introduced in the period of eight years from 1923 to 1930. No foreign loans were floated after 1931, and the redemption of outstanding loans in the following years reduced the total debt owing abroad by 312 million yen at the end of 1934. Still the total amount of outstanding foreign loans at the

(1) Cf. Table 46:—Estimate of National Income, National Savings and National Investment, shown on P. 82.

end of the same year reached 2,150 million yen, calculated at par, and if the present depreciation of Japanese currency be taken as permanent, the national indebtedness to foreign nations appears to have substantially increased. It must, however, be pointed out that a considerable part of Japanese bonds in foreign currency is held by Japanese nationals.

The main object of the introduction of foreign capital was, of course, to finance the industrial development of the country, but there can be no doubt that foreign loans were also occasionally welcomed for replenishing the specie reserve in years of abnormal import excess, improving adverse international balance of payments and relieving consequent strain on the money market. This periodical strain on the money market gradually disappeared after the reimposition of the gold embargo and the enforcement of the Capital Flight Prevention Law. The depreciation of Japanese currency brought about important repatriations of capital which, together with the increased financial strength in the wake of the industrial recovery, caused a sharp decline in interest rates to a level unprecedented in the national economy. The expansion of the limit of the fiduciary issue of the Bank of Japan accelerated this downward tendency in the cost of funds.

The total capital available consists of bank deposits throughout the country, bank debentures, the funds at the Deposit Bureau of the Treasury, reserves of insurance companies, post office annuities, etc., which at the end of 1934 aggregated approximately 24,000 million yen.

The amount of capital invested in Japanese industry as a whole cannot be given accurately, as it is of course impossible to ascertain the investment in individual enterprises. Considering the capitalization of companies only, the total paid-up capital and partnership funds as returned at the end of 1933 was 14,500 million yen or 17,500 million if the reserves are added. These figures represent Japan proper alone, the combined industrial company capitalization, excluding debentures, in Chosen, Taiwan, Karafuto, Mandated Islands, Kwantung Leased Territory and South Manchuria Railway Zone aggregating 1,600 million yen. The rapid development of company capitalization in Japan proper may be gathered from the fact that the aggregate capital (paid-up) in 1914 was only 2,070 million yen, which increased to 8,200 million in 1919, 13,900 million in 1930 and 14,500 million in 1933. The rate of development has been even greater in the dependencies due to the sudden growth of enterprises in Chosen and in the Japanese zone of Manchoukuo. Company capitalization in Japan including dependencies registered a further conspicuous advance of about 2,000 million yen in the following two years, according to the investigation

made by the Bank of Japan. It may therefore be deduced that the total increase during the past five years exceeded 2,600 million yen, capitalization totalling about 16,500 million yen at the end of 1935.

In addition to this total, there were outstanding company debentures, including issues in foreign currencies, amounting to 3,365·7 million yen, this figure being exclusive of 1,914 million yen worth of bank debentures.

Labour Situation. The population of Japan proper, as ascertained by the national census, was 64,450,000 in 1930 and 69,251,000 in 1935. The working population, comprising that section of the population engaged in economic pursuits, was 29,000,000 in 1930, which corresponds to 46% of the total population. The great preponderance of agriculture is reflected by the fact that about one half of the population continues to be employed in this branch of the national economy. Of the occupied population as above mentioned, the number of persons not working for their own account approximated 19,700,000 or 67%.

The working population including independent workers, engaged in industrial pursuits throughout the country, as ascertained by the quinquennial census taken in 1930, is estimated at 5,414,000, the number of persons drawing salaries and wages totalling 3,690,000.

The total number of industrial workers in factories employing not less than 5 workers was 2,025,000 at the end of 1930, covering about 54% of the total number of dependent industrial workers. The economic recovery of the past few years brought about a gradual increase in industrial labour, the total of 1933 already surpassing that of 1929.

TABLE 2

NUMBER OF INDUSTRIAL WORKERS

(Unit: 1,000)

	1929	1930	1931	1932	1933
Total number of dependent workers.	2,391	2,025	2,019	2,117	2,409
Of which operatives . . .	2,095	1,805	1,807	1,880	2,057

Based on *Factory Statistics* compiled by the Ministry of Commerce and Industry, investigations covering factories employing not less than 5 workers.

In the years before the World War, the spinning and weaving industry absorbed about 60% of the total number of operatives, but the advance in industrialization has reduced this share to less than 47% in 1933. The decline is of course only relative, and can be ex-

TABLE 3

RATIO OF OPERATIVES IN VARIOUS GROUPS OF INDUSTRIES

	1914	1929	1931	1933	Development ratio (1933) compared with	
					1914	1931
Total	100·0	100·0	100·0	100·0	211·3%	113·5%
Textiles	59·9	47·7	50·9	46·9	162·7	102·7
Machines and tools	7·9	12·5	12·1	15·4	415·1	144·3
Chemicals	4·0	6·0	7·0	8·4	439·1	134·5
Metals	2·9	5·3	5·7	6·3	455·8	125·1
Ceramic industries	3·9	3·4	3·2	3·6	194·4	124·8
Timbering and woodworking	2·4	2·8	3·2	4·6	401·2	159·2
Printing and bookbinding	3·0	2·7	3·1	3·4	239·4	121·8
Foods and beverages	8·2	8·1	7·6	7·1	183·5	100·3
Gas and electricity	0·6	0·4	0·5	0·4	143·9	97·5
Other industries	7·3	11·2	6·5	7·1	206·6	125·7

plained by the great development of the metal industry, mechanical engineering and the chemical industry.

The employment situation of industrial labour showed a temporary improvement from 1928, mainly due to the abolition of midnight work, but turned appreciably worse later until early in 1932. The effects of the reimposition of the gold embargo caused a rapid recovery from the second half of 1932, which has continued at an accelerated pace up to the present time. The increase in employment was most pronounced in shipbuilding, metal works, and in the machinery and chemical industries.

TABLE 4

INDEX OF EMPLOYMENT OF INDUSTRIAL LABOUR

(Base : 1926=100)

	1928	1929	1930	1931	1932	1933	1934	1935
First half-year	90·5	91·1	86·3	74·8	73·8	79·9	88·9	98·8
Second half-year	90·1	91·2	77·7	74·1	75·7	83·9	93·6	*100·9

* Average of five months ending November.

The great expansion in population makes it imperative for the prevention of social unrest that a large annual contingent of workers should be additionally absorbed in the national economy. As the op-

portunities in agriculture, which is already overmanned, are limited, additional workers must look to industry for employment. During the years of depression, particularly in 1929 and 1930, the number of dismissals exceeded new engagements by 64,000 and 101,000 respectively, which fact combined with the acute distress, on account of falling prices and high taxation, in the agricultural section of the country, created an intolerable situation which was probably in no small degree responsible for the later internal and external political developments.

During the years 1932 and 1933, industry was able to absorb a net surplus of workers to the extent of 57,000 and 109,000 annually, and this tendency has probably persisted in later years. A not inconsiderable contingent of intellectual workers also found opportunities in the new State of Manchoukuo. The annual absorption into productivity has, however, not been great enough to reduce unemployment effectively.

The number of unemployed at the end of September, 1935 was officially estimated at 365,596, but this figure only discloses a part of the real state of unemployment. The tendency of workers to return to their families or relatives in the country when out of employment makes it impossible to compile even approximately accurate statistics.

TABLE 5

RATE OF UNEMPLOYMENT AT THE END OF EACH YEAR

	1929	1930	1931	1932	1933	1934	1935 (Sept.)
Total (incl. day-labour) (%)	4·54	5·25	6·68	6·38	5·11	4·80	4·52
Labour other than day-workers (%)	3·52	4·16	5·50	4·91	3·25	2·92	2·69

3. PRODUCTION AND MARKETS

Prior to the World War, the value of national production of Japan proper was estimated at approximately 3,100 million yen, of which goods corresponding to 19% of the total value were annually exported. During the War and in the post-war period, the value of both production and export trade witnessed a phenomenal expansion which was accentuated by the high level of prices ruling during that period. The world depression and the adverse effects of the removal of the gold embargo led to a sharp decline in production and export trade in 1930 and 1931, due largely to falling commodity prices, the

TABLE 6

PRODUCTION IN JAPANESE EMPIRE (in million yen)

	1929	1930	1931	1932	1933
Agriculture (incl. sericulture)					
Japan proper	3,227·9	2,192·3	1,825·5	2,208·0	2,752·9
Chosen	871·9	656·5	644·9	765·1	832·5
Taiwan	261·6	223·1	181·6	249·5	205·7
Karafuto	3·3	3·0	2·1	2·9	3·6
Mandated Islands	2·1	2·7	2·7	2·8	3·3
Total	4,366·8	3,077·6	2,656·8	3,228·3	3,798·0
Stock-breeding					
Japan proper	244·3	216·0	188·6	183·5	211·6
Chosen	*34·0	30·4	29·4	32·7	37·8
Taiwan	40·0	36·2	28·4	29·4	32·5
Karafuto	—	1·1	1·1	1·3	1·8
Mandated Islands	0·2	0·2	0·2	0·3	* 0·3
Total	*318·5	283·9	247·7	247·2	*284·0
Forestry					
Japan proper	298·7	217·3	199·2	205·4	248·1
Chosen	74·4	63·4	59·4	55·1	* 56·8
Taiwan	13·9	11·9	10·8	10·5	10·5
Karafuto	11·3	10·0	8·4	7·4	11·4
Mandated Islands	3·6	3·3	3·6	3·3	3·4
Total	401·9	305·9	281·4	281·7	*330·2
Fishery					
Japan proper	567·8	452·9	398·5	397·5	462·0
Chosen	114·7	83·8	79·7	78·4	92·8
Taiwan	22·0	17·9	14·0	14·9	17·4
Karafuto	18·8	20·2	14·8	14·8	17·1
Mandated Islands	0·5	1·0	1·9	2·2	3·5
Total	723·8	575·8	508·9	507·8	592·8
Mining					
Japan proper	426·9	337·8	270·2	283·2	387·5
Chosen	19·7	18·7	17·2	29·6	42·7
Taiwan	14·8	15·1	13·3	14·0	15·2
Karafuto	5·7	5·6	5·3	5·2	6·7
Mandated Islands	1·4	1·2	1·1	1·2	1·4
Total	468·5	378·4	307·1	333·2	453·5
Manufacturing industry					
Japan proper	8,149·4	6,417·0	5,552·6	6,368·3	8,281·9
Chosen	358·5	306·2	273·5	335·3	407·1
Taiwan	246·8	232·1	192·6	212·6	206·7
Karafuto	64·4	64·2	51·5	48·5	62·7
Mandated Islands	3·7	5·8	10·8	8·3	11·4
Total	8,822·8	7,025·3	6,081·0	6,973·0	8,969·8
Grand total	15,102·3	11,646·9	10,082·9	11,571·2	14,428·3
Japan proper	12,915·0	9,833·3	8,434·6	9,645·9	12,344·0
Dependencies	2,187·3	1,813·6	1,648·3	1,925·3	2,084·3

Calculated by the Mitsubishi Economic Research Bureau from official sources.
* Estimated figures.

volume of production, although not of the export trade, being only slightly affected.

The economic recovery subsequent to the reimposition of the gold embargo in 1931 brought about an extraordinary increase in national production, the estimated value being 14,300 million yen in 1935. The export trade also advanced to 2,499 million yen, an increase of over 118% compared with the total of the year 1931. The advance in commodity prices was responsible for part of this gain, but there was also a heavy expansion in the volume of both national production and exports during the period from 1932 to 1935.

Up to the World War, agricultural production, including stock-breeding, was nearly equal, with 41%, to the industrial output which in 1914 represented 45% of the national production. The later industrial expansion carried the share of industrial output to 63% in 1929, whilst agricultural production in the same year declined to 27%. The situation remained unchanged throughout the ensuing four years, but the business recovery in 1933 again led to an expansion of industrial output to 67% as against a share of 24% in agricultural products. On account of bad harvests and low prices for agricultural products, the ratio of industrial production further increased in 1934, but 1935 appears to have been a better year for agriculture on account of a spectacular advance in rice and cocoon quotations.

The tendency towards industrialization is also verified by a marked increase, from 87% in 1914 to 91% in 1935, in the share of industrial products in the export trade, the advance being especially pronounced in finished goods which increased from 28·4% to 58·1%.

The volume of goods transported by the Government railways constitutes a barometer fairly indicating the state of business activity in internal and external trade. Railway goods traffic declined by nearly one quarter during the years of depression, but displayed a

TABLE 7

VOLUME OF GOODS CARRIED BY GOVERNMENT RAILWAYS

(in million tons)

	1929	1930	1931	1932	1933	1934	1935
Actual figure .	79·1	67·4	60·1	60·8	69·4	76·5	79·7*
Index number .	100	85·2	76·0	76·8	87·7	96·6	100·8*
			100	101·1	115·5	127·2	132·6*

* Preliminary figures.

sharp advance in 1934, although the standard figure of 1929 has only been reached in 1935.

The increase in railway goods traffic has been particularly marked in mineral ores and industrial products due to the prosperous condition of industry in general and the requirements of the armament branch in particular. Construction materials for industry and emergency relief works also witnessed a sharp advance in transportation figures.

The reimposition of the gold embargo engendered an optimistic outlook in business circles and gave rise to speculative transactions, but the incipient boom was cut short by the fact that the purchasing power of the nation, particularly the agricultural section, had been extremely reduced by the previous depression. The advance in prices brought about by the short boom only served to check the domestic demand. The export trade, too, was rather inactive at that time on account of sharp fluctuations in the exchange rate which was generally expected to show a further decline. These influences, combined with the disturbed state of diplomatic relations on account of the Manchurian incident, effectively dispelled for a time the confidence which had been restored by the reintroduction of the gold embargo.

This situation underwent a sudden change in the second half of 1932, when, stimulated by the Emergency Budget, which implied a policy of financial expansion, and the fall of the exchange rate, business transactions presented unusual activity. The extent of speculative commitments at that time is reflected by the volume of long-term transactions in merchandise which aggregated 4,455 million yen in the second half of 1932, and the amount of shares dealt in which totalled 4,778 million yen during the month of December alone. The buoyant feeling on all markets stimulated production in the cotton spinning, cement, sugar, paper, steel, and particularly the rayon industry which witnessed a great improvement in business. The volume of domestic and export transactions continued to increase well into the first half of 1934, and was met by the extension of factory equipment and a consequent augmentation of capacity. However, this sudden revival of industrial activity was rather abnormal, and, being largely due to the increase of armaments, temporary relief works and brisk trade in a few export staple products, did not embrace the whole industrial apparatus of the country. Although Government disbursement on a large scale continued throughout 1934 and 1935, there was no further expansion, whilst the development of the export trade in fibre products was checked by import restrictions abroad. Reduced crops of rice and cocoons in 1934, combined with low prices for these

products, considerably weakened the domestic purchasing power. As a consequence, the volume of transactions in general merchandise, as revealed in the movement of railway cargo and the figures of the export trade, registered only slight progress from the latter half of 1934. The upward tendency of market prices came to a standstill after January, 1933, and was replaced by a downward movement with little indication of recovery, a condition which provided no incentive for speculative transaction. Restrictions on output increased in the second half of 1934 and there was general apprehension of overproduction particularly in steel products, cotton yarn and rayon. The situation became worse in the early part of 1935, although overproduction was by no means general, being confined to industries which had previously benefited most by the reintroduction of the gold embargo and the depreciation of the yen. During the second half of 1935, however, general market conditions, both in commodities and securities, improved considerably owing to the recovery in the United States and the resultant heavy increase in the export of raw silk.

TABLE 8

INDEX FLUCTUATIONS OF COMMODITY PRICES, PRODUCTION AND TRANSACTIONS COMPARED WITH THE CORRESPONDING PERIOD OF PREVIOUS YEAR

(%)

	1932		1933		1934		1935	
	1st half	2nd half	1st half	2nd half	1st half	2nd half	1st half	2nd half
Exports { Value	− 4·8	+ 51·0	+ 51·0	+ 19·9	+ 20·9	+ 13·2	+ 16·9	+ 13·5
Exports { Quantity.	+ 3·1	+ 32·0	+ 20·1	+ 3·7	+ 21·2	+ 15·9	+ 14·7	+ 12·2
Railway goods traffic . . .	− 2·2	+ 3·6	+ 11·1	+ 16·0	+ 14·0	+ 7·4	+ 5·5	+ 6·4
Industrial and mineral production .	+ 7·2	+ 3·6	+ 12·6	+ 17·4	+ 10·6	+ 7·2	+ 11·0	+ 11·9
Wholesale prices .	− 0·5	+ 20·2	+ 24·3	+ 11·4	+ 0·4	+ 1·7	+ 2·6	+ 0·4

4. PRICES AND WAGES

Comparison of Wholesale Prices with World Market Prices. For a considerable time after the World War, Japan was unable to rectify the overvalued position of domestic prices when measured by international standards. When the policy of deflation was taken up in earnest with the advent of the Hamaguchi Ministry in 1929, it unfortunately coincided with the onset of the world depression which

originated in the collapse of the American share market in the autumn of the same year.

The reimposition of the gold embargo, which became necessary afterwards, caused indeed an advance in prices, but in view of the greater decline in Japanese exchange rate, the international position of the Japanese price structure was considerably improved. In the second half of 1935, Japanese prices of commodities, when converted into dollars, and taking the level of the second half of 1931 as a basis, stood at 79·3 against 110·1 and 124·0 in Great Britain and the United States, respectively.

TABLE 9

INTERNATIONAL POSITION OF COMMODITY PRICES IN JAPAN

	Japan		Great Britain		U.S.A.(c)
	Wholesale prices	Commodity prices in dollars	Wholesale prices (b)	Commodity prices in dollars	Commodity prices
			(1931 = 100)		
1920, average	(a) 307·2	306·0	303·7	251·5	221·4
1926, „	(a) 179·2	168·4	157·0	156·7	148·4
1928, „	(a) 170·2	158·6	141·9	141·9	143·6
			(First half of 1929 = 100)		
1929, 2nd half	94·8	90·2	91·0	90·9	97·2
1930, „	74·3	73·6	77·9	77·8	79·2
1931, „	65·0	63·0	68·7	59·4	64·5
			(Second half of 1931 = 100)		
1932, 2nd half	120·2	56·1	96·1	67·3	84·9
1933, „	133·9	76·5	100·0	98·4	108·6
1934, „	136·2	80·2	101·9	104·7	114·2
1935, 1st half	136·1	77·6	104·0	104·0	119·2
„ 2nd half	136·7	79·3	108·5	110·1	124·0

(a) Index number of 53 items of merchandise prepared on the basis of investigations by the Bank of Japan. (b) Index numbers for the years up to and including 1928 are those of *The Statist*, those of later years are taken from *The Economist*. (c) *Bradstreet* index figures.

Price Movement after the Reimposition of the Gold Embargo. The deflation policy pursued from the first half of 1929 combined with the economic depression brought about a decline in commodity prices of more than 35%. After the reimposition of the gold embargo, from the middle of December, 1931, the average of prices recovered by about 36·7%, which corresponds roughly to the decline achieved during the previous attempt at deflation.

In spite of the moderate decline of commodity prices after January,

1933, raw materials ruled very strong generally, the declining tendency being confined to finished goods. The discrepancy between the prices of these two groups continued to broaden even during the period of price recovery in the second half of 1935. It is instructive to note that the group of raw materials generally reflects the increasing cost of imported articles, whilst the decline in finished articles largely represents the lowering of prices in the export trade either on account of overproduction or due to the efforts made to maintain export markets in the face of restrictions against Japanese goods.

TABLE 10

CLASSIFIED INDEX OF WHOLESALE PRICES

(Base: Dec. 10, 1931=100)

	1933, average	1934, average	Rise or decline compared with preceding year	1935, average	Rise or decline compared with preceding year
			%		%
General index	144·0	147·5	2·4	149·6	1·4
Commodities for domestic consumption	110·7	118·8	7·3	123·4	3·9
Commodities for international consumption	151·0	153·9	1·9	155·5	1·0
Export goods	137·8	132·3	(−) 4·0	133·7	1·1
Import goods	170·6	186·8	9·5	196·0	4·9
Cereals	145·5	153·8	5·7	175·1	13·8
Foodstuffs	114·2	110·7	(−) 3·1	112·4	1·5
Textiles	142·8	145·4	1·8	141·0	(−) 3·0
Textile materials	181·7	165·9	(−) 8·7	163·9	(−) 1·2
Building materials	125·5	133·1	6·1	136·9	2·9
Metals	195·7	202·0	3·2	206·9	2·4
Industrial chemicals	147·3	150·0	1·8	138·4	(−) 7·7
Miscellaneous manufactures	153·6	191·7	24·8	186·4	(−) 2·8
Fuel	110·5	113·1	2·4	117·9	4·2
Fertilizer	146·5	143·3	(−) 2·2	160·5	12·0

Compiled by the Mitsubishi Economic Research Bureau.

Retail Prices and Wages. Parallel to the decline in wholesale prices which, as stated above, fell by about 35% during the period from the first half of 1929 to the second half of 1931, retail prices also lost over 28% in the same period. The downward tendency was shared by wages which showed a reduction of 8·5% in fixed wages and

TABLE 11

PRICE MOVEMENT OF RAW MATERIALS AND MANUFACTURES

(Base : Dec. 10, 1931=100)

	Raw materials	Manufactures	Remarks
1933, Jan. 7	151·1	151·2	Rapid rise of commodity prices
Dec. 30	165·9	130·0	Rise of prices at standstill
1934, Sept. 29	170·7	136·2	Storm and flood damages push up prices
Dec. 31	171·0	130·9	Reaction
1935, June 29	177·6	129·8	,,
Oct. 31	186·7	138·6	General improvement, especially higher raw silk prices and stimulus by Ethiopian war
Dec. 31	186·9	136·3	Reaction

Compiled by the Mitsubishi Economic Research Bureau.

of 15·4% in actual earnings. This all-round decline was the result of the efforts made to deflate the high price structure prior to the reintroduction of the gold embargo, and the wage reduction was accepted as inevitable by labour in view of the widening scale of unemployment. The sharp decline in actual earnings was more apparent than real, being caused by increased employment in the cotton spinning and other industries following the abolition of midnight work, the engagement of a large number of workers at low wages in newly established rayon enterprises, and the inactive state of mechanical engineering, a branch of industry employing skilled labour at relatively high wages.

Although employment steadily expanded after the industrial recovery late in 1932, the rate of fixed wages continued to decline at a diminishing rate until the summer of 1935, due to technical rationalization. Actual earnings, however, increased considerably during 1932 as employers generally preferred overtime work to employing new hands. The increase in average earnings during later years may be attributed to the extension of the bonus and extra allowance system, in order to stimulate per capita production.

The surprising downward trend in wages during the past five years, in spite of the intervening monetary developments which cheapened Japanese currency, has only been possible because of the fact that retail prices have so far lagged behind in the general price advance.

In the period from the second half of 1931 to the second half of 1935, retail prices rose by 15·6% as against an advance of 36·7% in wholesale prices. In the same period, fixed wages declined by 10·4%, while actual earnings increased by 1·2%. The relatively small increase in

the rate of wage earnings, as compared with the marked advance in wholesale prices, has of course had the effect of greatly reducing the cost of production in manufacturing industries; probably it also contributed toward keeping retail prices down by weakening the purchasing power of labour.

The advance in actual earnings has been unequally distributed, being greatest in the shipbuilding industry, while most industries experienced a reduction in earnings. Fixed wages witnessed a decline in all branches of industry, the decline being greatest in spinning and tool manufacturing.

TABLE 12

DEVELOPMENT OF PRICES AND WAGES

	1931	1932		1933		1934		1935	
	2nd half	1st half	2nd half	1st half	2nd half	1st half	2nd half	1st half	2nd half
Wholesale prices .	100	106·6	120·2	132·6	133·9	133·2	136·2	136·1	136·7
Retail prices . .	100	102·3	103·9	109·0	110·6	111·8	112·3	112·9	115·6
Fixed wages . .	100	98·2	96·6	94·9	93·6	92·1	91·3	90·3	89·6
Actual wages .	100	98·9	99·0	100·6	99·9	102·4	102·6	102·4	101·2

5. MONEY MARKET

Monetary Situation prior to the Reimposition of the Gold Embargo. Banking in Japan has played a leading part in the development of industries, which may be explained by the fact that the rise of a modern banking system antedated the growth of industries. The banking system has proved strong enough to withstand a series of crises, among which the earthquake of 1923 and the financial panic of 1927 were the most serious. The readjustment which became necessary as a result of the financial crisis of 1927 led to a great reduction in the number of banks, a development which was furthered by the Banking Law promulgated on March 1st, 1928. The banking crisis of 1927 was weathered with the aid of special accommodation extended by the Bank of Japan (687 million yen in Japan proper and 191 million yen in Taiwan) under the guaranty of the Government, and these disbursements led to a period of unusually low money rate. The Banking Law of 1928 considerably strengthened the banking system, but popular distrust of small banks continued for some time, and brought about the concentration of funds with leading institutions. This ten-

dency deprived the provincial banks of a sufficiency of funds, and small traders as well as manufacturers found it practically impossible to obtain the usual financial accommodation and experienced great difficulty in tiding over the period of economic depression which lasted until 1932.

For a period of about one year subsequent to the removal of the gold embargo in January, 1930, the financial situation underwent a rapid course of contraction. Banks were chary in making advances, and money rates advanced although there was no particular demand for funds. Due to the combined efforts of the Government and the banks, and aided by a reduction in the adverse trade balance, the money market became less stringent later. On April 1st, 1931, bank rates on deposits were lowered from 4·5% to 4·2% on fixed deposits with first-class banks and from 5·0% to 4·2% on those with second-class banks. The conventional rate on call money in Tokyo was also reduced from 4·02% to 3·65%. Because of lack of confidence in small banks, the leading banking institutions were inundated with funds which, combined with the decreased demand for funds, depressed money rates further until, in the middle of June, the minimum rate for call loans dropped to 1·278%, the lowest record since July, 1916. Interest on Treasury Bills issued about that time was quoted down to a minimum of 1·28%, the issue being oversubscribed, which attests to the superabundance of unemployed funds accumulating on the market. Idle funds deposited by the city banks of Tokyo with the Bank of Japan exceeded 360 million yen in the middle of May and June. In spite of this plethora of funds, however, the banks continued their cautious policy in making long-term advances.

Subsequent to the suspension of the gold standard in England on September 21st, 1931, money rates advanced rapidly due to the outflow of gold in anticipation of the possible reimposition of the gold embargo. In order to check the outflow, the Bank of Japan raised the official discount rate on October 6th, and again on November 5th from 5·11% to 6·57%, but these measures failed to stop the flight of capital. The outflow of gold during the period from October 3rd to December 5th aggregated 304 million yen, and in view of the approach of the year-end settlement, the money market was plunged into a state of extreme stringency.

Money Market Conditions after the Reimposition of the Gold Embargo. The outflow of specie in consequence of the flight of capital continued even after the reimposition of the gold embargo, the total remittance since the suspension of the gold standard in Great Britain reaching the large total of 373 million yen up to January, 1932. This re-

markable efflux of specie naturally resulted in a marked decrease in bank deposits during the first half of 1932 and in considerable tightness of the money market. On December 14th, immediately after the re-imposition of the gold embargo, the conventional call money rate rose to 4·38% from 3·65% and the maximum rate for overnight call money on the Tokyo market advanced to 9·13% at the year-end, the maximum rate of discount on commercial bills also rising to 8·03%.

The situation improved only toward the beginning of the second half of 1932, when the decline of the yen had gone some way, and after the enforcement of the Capital Flight Prevention Law. The brighter outlook was at once accompanied by an advance in quotations of national bonds and an increase of funds with the leading banks.

The changing trend of the money market provided the financial authorities with an opportunity to envisage a long-view policy of low rates of interest. Such a policy was vital for the success of the national bond operations which became necessary after deflation had been discarded and the Manchurian incident made large annual disbursements imperative. An outline of the various financial and other measures taken by the Government in this connection will be described summarily elsewhere, but the basis for all those measures was provided by the revision of the convertible note issue regulations implying the extension of the limit of the fiduciary issue, the reduction of the convertible note issue tax, the reduction of the rate of interest on postal savings deposits and advances made by the Deposit Bureau of the Treasury and the enactment of the Capital Flight Prevention Law.

At this stage the easy money circulation was further enhanced by the favourable situation of the export trade. Deposits increased steadily, and bank loans were either refunded or converted into low-interest debentures thus reducing in no small measure the financial burden of industrial enterprises. The continued disbursement of Government funds brought about an increasing accumulation of capital which was to a limited extent utilized in financing industrial enterprise, but went mainly into Government bonds which were issued to cover budgetary deficits. A substantial part of capital accumulations was invested in industrial enterprises in Manchoukuo. The introduction of foreign capital ceased after 1931, and there was even a sufficiency of funds available to redeem Japanese bonds in foreign currency at maturity.

The situation of the money market since the second half of 1932 may be divided into three different periods of varying characteristics. The first stage covers the year from the second half of 1932 to about

TABLE 13

CHANGES IN MONEY RATES SINCE 1931

		Conventional rate on call money in Tokyo	Rate of interest on fixed deposits (ordinary banks)		Rate of discount on commercial bills (Bank of Japan)
			Class A.	Class B.	
		%	%	%	%
1931	1st half	3·65	4·2	4·7	5·11
	2nd half	4·38	4·7	5·2	5·84 6·57
1932	1st half	4·38	4·7	5·2	5·84 5·11
	2nd half	4·02 3·65 3·29	4·2	4·7	4·38
1933	1st half	2·92	4·2	4·7	4·38
	2nd half	2·56	3·7	4·2	3·65
1934	1st half	2·56	3·7	4·0	3·65
	2nd half	2·56	3·7	4·0	3·65
1935	1st half	2·56	3·7	4·0	3·65
	2nd half	2·56	3·7	4·0	3·65

		Postal savings rate on ordinary deposits	Rate of interest on and yield of national bonds (new issues)		Yield of company debentures		
			Rate of interest	Yield (compound interest)	Maximum	Minimum	Average
		%	%	%	%	%	%
1931	1st half	4·2	5·0	5·45	8·00	4·00	6·53
	2nd half	4·2	5·0 5·0 5·0	5·34 5·55 6·01	8·00	5·58	6·45
1932	1st half	4·2	5·0 5·0 5·0	5·82 5·82 5·80	8·00	6·50	7·00
	2nd half	3·0	5·0 4·5	5·59 4·88	7·10	5·00	6·40
1933	1st half	3·0	4·5 4·5	4·86 4·86	8·00	5·00	6·03
	2nd half	3·0	4·0 4·0	4·09 4·09	8·00	4·50	5·27
1934	1st half	3·0	4·0	4·09	6·00	4·50	4·80
	2nd half	3·0	4·0 4·0	4·09 4·09	7·00	4·30	4·77
1935	1st half	3·0	4·0	4·09	4·84	4·40	4·58
	2nd half	3·0	4·0	4·09	4·57	4·30	4·41

the same period of 1933 when money became increasingly easy and a period of epochally low money rates was ushered in; the second period may be said to extend from the autumn of 1933 to the end of the first half of 1934, which was marked by low money rates which gradually spread throughout the country; the third period starts from the second half of 1934 up to the end of 1935 when the downward tendency came to a standstill.

TABLE 14

BALANCE ACCOUNT OF ORDINARY BANKS IN JAPAN PROPER

(in million yen)

	Deposits		Advances		Securities	Call loans	Cash
	At end of month	Inc. or dec.	At end of month	Inc. or dec.			
1931, May	8,448		6,559		3,102	153	861
		−351		− 74			
Nov.	8,097		6,485		3,062	138	693
		−475		−122			
1932, May	7,622		6,363		2,742	259	590
		+265		−210			
Nov.	7,887		6,153		2,787	338	746
		+405		−217			
1933, May	8,292		5,936		3,274	323	833
		+262		+126			
Nov.	8,555		6,062		3,338	426	791
		+510		−237			
1934, May	9,065		5,826		3,892	488	819
		+ 68		+ 4			
Nov.	9,132		5,830		3,957	429	818
		+362		+ 5			
1935, May	9,494		5,835		4,223	449	838
		+216		+264			
Nov.	9,710		6,099		4,306	391	791

The conversion of company debentures to lower rates of interest had on the whole been completed during the second stage of the low-interest period. The total of conversions, accordingly, decreased sharply from the second half of 1934, but the interest on first-class

TABLE 15

COMPANY DEBENTURES ISSUED

(in million yen)

	1931	1932	1933	1934		1935	
				1st half	2nd half	1st half	2nd half
New issues	85 (61)	74	76	118	98	168	211
Conversion issues	180	214	847	1,024	229	194	281
Total	265	288	924	1,142	327	362	492

Figures based on investigations by the Bank of Japan except for 1935 which are those of the Industrial Bank of Japan; figures in brackets refer to foreign loans.

issues continued to decline moderately, in some instances to the unprecedentedly low level of 4·3%. At the same time, short-term loans became dearer occasionally, an incipient tightness in this section of the money market disappearing, however, in consequence of heavy and judicious Government disbursements.

Nevertheless, the large volume of company debentures bearing a rate of interest of only 4·3% found the money market in an unresponsive mood, and a large part of these debentures remained undigested. These debentures eventually accumulated with security dealers and brought about the clogged condition which characterized the issue market late in 1935.

Expansion of National Loans and Currency Inflation. The low-interest policy is not only vital for the success of the national bond policy resorted to since the reintroduction of the gold embargo, but that policy is in turn entirely sustained by the huge Government expenditure built up on the basis of national loans. The total of national loans newly issued since November, 1932, when the first issue in connection with the present policy was made, aggregates 3,012·5 million yen, of which 2,756·9 million yen were taken up by the Bank of Japan. The Bank of Japan in turn disposed, up to the end of 1935, of bonds amounting to about 2,489·7 million yen, including a total of about 50 million yen issued before November, 1932, the balance remaining with the Bank of Japan being estimated at about 320 million yen.

TABLE 16

NATIONAL LOANS ISSUED

(in million yen)

	Amount issued		Amount taken up by Bank of Japan	Open market sales
	New issues	Conversion issues		
1932	410·5	345·8	200·0	16·3
1933	1,162·0	52·9	1,115·0	843·1
1934	660·0	256·8	701·3	928·0
1935	780·0	267·7	740·6	702·3
Total	3,012·5	922·2	2,756·9	2,489·7

Figures exclude Government Rice Purchase Notes and Treasury Bills.

As will be seen from the above, all issues of public bonds have so far been disposed of in a satisfactory manner. The greater portion, more than 62%, was acquired by ordinary banks, about 15% by savings banks, the remainder being taken up by security dealers, trust and insurance companies and Government institutions.

In view of the successful disposal of national bonds, the increase in currency circulation has been comparatively limited and very gradual. Considering that there has been a notable advance in commodity prices, the present volume of the note issue shows no signs of real inflation. On the other hand, the fact that the note circulation has been conservatively managed has had a stabilizing influence on exchange rates and commodity prices. The total issue of convertible notes at the end of December, 1935, reached about 1,767 million yen, an increase of about 139 million yen on the figure of the same period of the previous year. This increase includes an advance of 70 million yen in the note reserve against convertible notes issued in Chosen and Manchuria by the Bank of Chosen, the total increase during one year for Japan proper being approximately 70 million yen. The total increase compared with the figure at the end of 1932 was about 340 million yen. The annual average for 1935 was 1,248 million yen, slightly less than the average for 1929, and an increase of 203 million yen compared with the figure for 1931.

Against the above moderate increase in the note circulation must be set the recent advance in gold reserves, which started with the Gold Replenishment Law of April 6th, 1934. The total net increase in gold holdings of the Bank of Japan at current purchase value amounted to more than 137 million yen, and the trend has been towards even larger gold acquisitions during the remainder of the year. These acquisitions of gold incidentally constitute one of the causes for the increase of the note circulation.

TABLE 17

NOTE CIRCULATION OF THE BANK OF JAPAN

(in 1,000 yen)

	Highest	Lowest	Average	At half-year end	Note reserve against Bank of Chosen Notes	Balance
1931, 1st half	1,317,318	949,804	1,071,675	1,161,434	12,106	1,149,327
2nd half	1,400,496	904,999	1,016,969	1,330,575	18,520	1,312,054
1932, 1st half	1,246,895	931,563	1,045,274	1,120,013	12,005	1,108,008
2nd half	1,478,846	913,524	1,036,427	1,426,158	52,539	1,373,619
1933, 1st half	1,321,335	973,868	1,091,745	1,269,878	39,152	1,230,726
2nd half	1,598,225	1,016,389	1,136,759	1,544,797	74,329	1,470,467
1934, 1st half	1,414,888	1,064,613	1,177,722	1,294,504	51,123	1,243,381
2nd half	1,668,801	1,038,364	1,179,284	1,627,349	89,160	1,538,188
1935, 1st half	1,494,989	1,106,246	1,231,696	1,376,245	78,328	1,297,917
2nd half	1,837,611	1,106,315	1,263,154	1,766,555	158,685	1,607,870

6. Foreign Exchange

Fluctuations of the Yen after the War. Before the World War, when the international movement of gold was free, the range of the fluctuations in exchange rates was practically limited to specie points. Japanese currency was stable at a level slightly below par. During the War, Japan indeed followed the example of other nations by putting an embargo on the export of gold, but in view of large accumulations of specie abroad, consequent upon the excess in exports, the yen maintained its firm tendency even during the embargo. During the greater length of the War, the yen stayed above par, reaching even $ 52 1/8 per ¥ 100 in November, 1918.

After the War, however, uneasiness as regards exchange rates spread throughout the whole world. In June, 1919, Japan lost an opportunity of following the example of the United States in removing the gold embargo, and exchange rates thereafter fluctuated in sympathy with the unfavourable tendency of the trade balance. Specie held abroad which amounted to 1,343 million yen at the end of 1919, gradually decreased to less than one half, or 615 million yen at the end of 1922. To make matters worse, the great earthquake which devastated the Kwanto districts in September, 1923, and which necessitated the rehabilitation

TABLE 18

Movements of Exchange Rates on London and New York up to the Removal of the Gold Ban

Average during	On London (Par=2 s. 0.582 d.)	On New York (Old par= $ 49.846)	Remarks
1913–1914	2/0.303	49.305	Before the War
1915–1918	2/1.332	50.190	Favourable trade balance during the War (Gold ban imposed in Sept., 1917)
1919–1923	2/3.674	49.017	Trade balance turned adverse (America's gold ban placed in June, 1919)
1924	1/10.773	41.978	Rapid increase of imports due to the Great Earthquake
1925	1/8.273	40.801	Policy of lifting the ban adopted (International tendency of returning to gold seen)
1926	1/11.140	46.856	
1927	1/11.407	47.425	Monetary crisis, counter-measures adopted (Policy of lifting the ban abandoned)
1928	1/10.907	46.457	
1929	1/10.755	46.070	Preparation for the removal of ban after July (Announcement of the removal of the ban was made on November 21st.)
1930	2/0.342	49.367	Removal effected on January, 11th, 1930

of large areas, led to huge imports of materials which caused a rapid depreciation of the yen, and in October, 1924, the rate declined to the lowest point on record, $ 38½. Following an official announcement that the Government would do all in their power to prevent currency depreciation and adjust fluctuations by utilizing the specie held at home and abroad, Japanese exchange rates gradually improved and rose to $ 49 in March, 1927. This high level could not be maintained, however, on account of an ensuing monetary crisis and cabinet change. The new decline in Japanese exchange rates was accompanied by a gradual shrinkage in specie held abroad, which decreased to 83 million yen owing to the continued excess of imports.

In view of this situation, public opinion from the latter half of 1928 insisted upon an improvement of the trade balance and a thorough reorganization of national finance, particularly as, after the removal of the gold embargo by Great Britain, France and other countries, exchange speculators centred their activities on Japanese currency.

The Reimposition of the Gold Embargo. In consequence of the removal of the gold embargo on January 11th, 1930, the rate of the yen remained at par until the autumn of 1931. However, after the suspension of the gold standard in Great Britain, exchange speculation and capital flight brought about the reintroduction of the gold embargo.

The depreciation of the yen that occurred after December 14th, 1931, up to the end of 1932, was nearly 60% of its normal rate. A rapid fall of about 30% was recorded during the two weeks immediately after the reimposition of the gold embargo, but the later decline must be attributed to special factors, such as tension in international relations following the outbreak of trouble at Shanghai, the successive occurrence of political incidents and a considerable increase, partly speculative, in imports. These factors turned the balance of trade from bad to worse and forced up the excess of imports for the first half of the year to almost double the amount of the corresponding period of the previous year. In the latter half of 1932, the depreciation of the yen continued under the pressure of the following factors:—(1) A report that the dominant political party had sponsored the devaluation of the yen, (2) public apprehension as regards possible inflation in view of the enormous expenditure for Manchurian affairs, relief works, and the huge budget unofficially decided for 1933–34, (3) uneasiness, social and diplomatic, centering in the Manchurian incident, (4) a considerable clandestine flight of capital by means of exportation of commodities without bills of ex-

change, (5) contracts for import bills increased in autumn, and (6) yen selling by speculators in Shanghai and New York accelerated the downward movement. On the other hand, exports during the latter half of the year increased remarkably, and the excess of exports during that period advanced by 228 million yen compared with the corresponding period of the previous year. Moreover, on July 1st, the Capital Flight Prevention Law came into force. But these facts were insufficient to check the downward movement of the yen, and rates, at the end of November, 1932, declined below $ 20 per ¥ 100, the lowest level on record.

In 1933, the quotation on New York having rallied, the range of fluctuation during the year was remarkably narrowed, and the downward tendency of the rate on London also largely disappeared. Exchange markets now entered the period of stabilization. The yen was supported by the extraordinary improvement in the export trade, whilst speculators switched from the yen to the dollar.

The Exchange Control Law enforced from May 1st, 1933 had no effect on the exchange market except that of placing some restrictions on transactions between bankers.

After the United States embargo on gold export the rate on London became the standard quotation on the exchange market. The average rate during the second half of 1933 was 1s. 2·306d., a slight decrease compared with that for the first half.

In 1934, the exchange market entered a period of complete stabilization. During the whole year, the yen rate moved only within a very narrow range around $ 29·687 on New York and 1s. 2·140 d. on London. The yen showed a weak tendency without any special stimulating factors owing to the reduced rate of expansion of exports, while imports increased remarkably, showing a considerable excess of imports over exports. At the same time the invisible trade also registered an excess of payments chiefly on account of huge investments made in Manchuria.

Early in 1935, the yen was still subject to occasional weakness owing to an excess of imports, scarcity of forward contracts for exports, foreign exchange requirements for the purchase of the North Manchuria Railway, and the redemption of the South Manchuria Railway sterling loan maturing at the end of the year. The quotation of the Yokohama Specie Bank on London was pegged at 1s. 2d., the rate on New York declining in sympathy with the Anglo-American cross rate to $ $27^{13}/_{16}$, the lowest level since October, 1933. The general trend was stationary or moved only within a very narrow range. The only noticeable developments during this

period were a rapid advance of the Chinese dollar owing to dearer silver and the devaluation of the Belga, which in turn unsettled the Dutch and Swiss currencies. The franc also showed a weak tone in general.

TABLE 19

JAPANESE EXCHANGE RATES

(Mitsubishi Bank Quotations on London and New York)

	On London (s. d.)			On New York ($)		
	Max.	Min.	Av.	Max.	Min.	Av.
1931	3/0·250	2/0·313	2/2·018	49·438	34·500	48·843
1932	2/1·500	1/2·625	1/7·126	37·000	19·875	28·066
1933	1/3·000	1/1·813	1/2·488	31·250	20·125	25·392
1934	1/2·438	1/1·750	1/2·140	30·750	28·375	29·687
1935, 1st half	1/2·125	1/1·938	1/2·044	29·000	27·813	28·437
2nd half	1/2·188	1/1·906	1/2·051	29·438	28·500	28·893
Whole year	1/2·188	1/1·906	1/2·047	29·438	27·813	28·665

The Present Position. The actual depreciation of the yen at the end of 1935 was about 42% as against present parities on London and New York, or about 66% against the international price of gold.

Japanese currency has practically remained stable for the past two years. The depreciation of 66% in value compares with a price advance in commodities of about 36%. Actual devaluation of the currency would probably lead to a further advance in commodity prices, but probably the time is not yet ripe to carry out such devaluation. Even a preliminary stabilization of currencies advocated in many quarters appears to be impossible at present in view of the prevailing political uncertainty in Europe. A Japanese decision in this regard would probably follow rather than precede arrangements abroad.

TABLE 20

INTERNATIONAL EXCHANGE RATES

	Dollar-Sterling	Sterling-Franc	Dollar-Franc	Yen-Sterling	Yen-Dollar	Yen-Franc
	$	Fr.	Ct.	s.d.	$	Fr.
Par	4·86656	124·21343	3·918	2/0·582	49·846	12·72265
(new par)	(8·23971)		(6·634)		(84·395)	
1931, Sept. 18.	4·85625	123·97	3·92	2/0·375	49·375	12·45
1931, Dec. 8.	3·25750	83·125	3·91875	3/0·250	49·250	12·35
1932, Dec. 31.	3·33	85·1875	3·9025	1/2·875	20·500	5·20
1933, Dec. 31.	5·155	83·25	6·0825	1/2·375	30·625	4·96
1934, Dec. 31.	4·9425	74·6875	6·61125	1/1·9375	28·625	4·33
1935, Dec. 31.	4·93	74·40	6·62625	1/2·000	28·750	4·35
Rate of fluctuation (%)						
Against par	+ 1·3	− 40·1	− 41·9	− 43·0	− 42·3	− 65·8
Against U.S.A. new par			+ 0·1		− 65·9	

	Exchange rates in relation to gold price			
	London (per oz.)	Converted domestic price (per *momme* = 3.75 gram)	Ratio of legal gold price (¥5 per *momme*) to international gold quotation.	Rate of yen depreciation against gold.
	£ s. d.	¥		
1931, Sept. 18.	4–2–11·5	8·04		
1931, Dec. 8.	6–6–10	5·06		
1932, Dec. 31.	6–3–9	12·04		
1933, Dec. 31.	6–6–5	12·72		
1934, Dec. 31.	7–0–10·5	14·74		
1935, Dec. 31.	7–1–2	14·59	34·3%	− 65·7%

7. PUBLIC FINANCE

Development Since the World War. Although not to anything like the same extent as in the case of other more directly involved belligerents, Government expenditure showed a considerable expansion during the World War. This expansion continued even in the post-war period, and was due in a great measure to the high internal price level and increased expenses for national defence.

The Hamaguchi Cabinet, which was formed in July, 1929, adopted measures for financial retrenchment with a view to lifting the gold embargo, and as a result, expenditure showed a marked decrease

in the successive years. This policy, however, was the more painful in that it synchronized with the economic depression which was then gripping the entire world, and in the end could not be maintained. The increased military expenses accompanying the Manchurian incident and the reimposition of the gold embargo at the end of 1931 marked a break with the policy of financial retrenchment. National budgets expanded to record figures in subsequent years under the combined influence of armaments and relief works, and this policy of a reflationary type is still continuing at present.

Retrenchment in the Years 1929–31. The budget estimate for 1930 drawn up by the Government totalled 1,602 million yen, representing a reduction of 78 million yen on the working budget of the preceding year. The estimate, however, failed to pass owing to the dissolution of the Diet, and the previous working budget was redrafted, showing a total expenditure of 1,608·6 million yen and embodying a reduction of 72 million yen on the scheduled expenditure for the fiscal year 1929. In view, however, of the downward movement in prices, the Government was able to effect further reductions, as the result of which the expenditure for the fiscal year 1930 actually totalled 1,557·8 million yen, representing a decline of 178·5 million yen from the preceding year.

TABLE 21

REVENUE AND EXPENDITURE IN GENERAL ACCOUNT

(in million yen)

	1913	1919	1929	1930	1931	1932	1933		1934	1935
								(a)		
Expenditure	573	1,172	1,736	1,557	1,476	1,950	2,254	2,131	2,163	2,215
Ordinary	415	502	1,212	1,202	1,111	1,182	1,313	1,211	1,224	1,310
Extraordinary	157	669	523	355	365	767	941	920	938	905
Revenue	721	1,808	1,826	1,596	1,531	2,045	2,331	2131	2,246	2,215
Ordinary	575	1,063	1,481	1,422	1,314	1,287	1,391	1,117	1,342	1,335
Taxation	369	672	893	835	735	695	748	692	843	828
Other revenue	205	390	587	587	579	591	642	425	499	506
Extraordinary	146	745	345	174	216	758	940	1,013	904	879
Ordinary	39	264	54	46	56	44	62	56	84	101
Revenue from public bonds	12	19	99	38	120	659	753	903	743	771
Loans	—	—	—	—	—	—	30	30	—	—
Reserve carried forward from preceding year	93	462	190	90	39	54	95	23	77	7

Fiscal year beginning April. Actual figures, except for 1935. (a) for 1933 represents estimate obtained by deducting the expenditure for communications which was transferred to Special Account after 1934.

In drafting the 1931 budget, the Government attempted further retrenchment in view of the likely decrease in revenue from taxation owing to the business depression. The London Naval Agreement made it possible to curtail expenditure on armaments, whilst ordinary working expenses were reduced to a minimum. The national budget for 1931 thus showed expenditure at 1,488·9 million yen, representing a reduction of 119·7 million yen from the working budget for 1930. Revenue collections were, however, even lower than anticipated, and the Government were consequently placed under the necessity of effecting further reductions in expenditure. Cabinet meetings for this purpose were held in August and October, but at this juncture the Manchurian incident and a change in Cabinet led to a fundamental modification of financial policy.

Financial Expansion after 1932. Owing to the dissolution of the Diet, the 1932 budget was drafted on the basis of an automatic continuation of the budget of the preceding year. However, in March and June of 1932, supplementary budgets were passed at extraordinary sessions of the Diet to meet the expenses for military action in Manchuria. In August, the Diet was again convoked, and an Emergency Relief Bill submitted for approval with the object of extending relief to the agricultural and fishing communities, to small merchants and manufacturers, and to lessen unemployment. The expansion of oversea payments owing to the decline in Japanese exchange rates had also to be considered. Thus, the working budget for 1932 showed an unprecedented expansion, totalling 2,012·1 million yen. The actual expenditure was only 1,950·1 million yen, representing an increase of 473·3 million yen on the preceding year.

This upward tendency in national expenditure has since continued, although there was a formal decrease in 1934, due to the transfer of expenses for communications to Special Account. The estimate for 1935 recorded a further expansion of 52·4 million yen compared with the preceding year, largely on account of military expenditure and disbursements which became necessary on account of natural calamities. A considerable appropriation, amounting to 219·1 million yen to be spread over the fiscal years 1934, 1935 and 1936, was passed at the special session of the Diet in December, 1934, as an emergency relief measure on account of disastrous floods in Western Japan and generally bad crops of rice, cocoons and other agricultural products all over the country. Deducting this expenditure, General Account for the fiscal years 1934 and 1935 showed practically no increase over the figure for 1933. The foregoing table shows the itemized special

disbursements in General and Special Account which caused the financial expansion since 1932.

TABLE 22

SPECIAL EXPENDITURE SINCE 1932

(in million yen)

	1931	1932	1933	1934	1935	Total
Manchurian incident expenses						
General account	7·49	278·1	196·2	159·3	180·6	continuing
Special account	0·67	3·5	5·1	4·3	3·6	
Total	75·6	281·6	201·3	163·7	184·3	
Expenses for improvement of military equipment						
General account only	—	—	239·9	331·3	366·3	do.
Expenses accompanying fluctuations in exchange rates	50·3		94·2	92·8	86·8	do.
Emergency relief expenses						
General account	—	163·4	213·7	145·4	—	522·5
Special account	—	13·2	16·1	4·5	—	33·8
Total (direct State contribution)	—	176·6	229·8	149·9	—	556·3
Municipal share in provincial expenses (incl. Chosen and Taiwan)	—	87·3	135·9	85·1	—	308·4
Expenses for natural calamities						
General account	—	—	—	70·6	66·1	219·1 including figures for the fiscal year 1936 and onwards
Special account	—	—	—	6·5	5·7	14·7
Total	—	—	—	77·2	71·9	233·9

Manchurian incident expenses for the fiscal years 1931, 1932, and 1933 are actual expenditures, while the rest are budgetary estimates.

Expansion of Military Expenditure. The financial expansion since 1932 is due mainly to increased military expenses following the Manchurian incident and to expenses for the improvement of military and naval equipment. The aggregate total of these two items for the years from 1931 to 1935 amounts to approximately 1,800 million yen. No sudden decrease in these two items is expected in the near future. Emergency relief accounted for 550 million yen during the three years from 1932 to 1934 and special relief on account

TABLE 23

ADMINISTRATIVE, MILITARY AND NAVAL EXPENDITURE AND NATIONAL LOAN BURDEN

(in million yen)

	1920	1924	1928	1931	1932	1933	1934	1935
Actual expenditure								
Administrative expenses	615	981	1,012	808	1,023	1,047	902	803
Military and naval expenses	650	455	517	455	686	873	943	1,023
Interest on national loans	95	188	286	214	241	335	379	389
Total	1,360	1,625	1,814	1,477	1,950	2,255	2,224	2,215
Ratio to total expenditure (%)								
Administrative expenses	45	60	55	55	52	46	41	36
Military and naval expenses	48	28	29	31	35	39	42	46
Interest on national loans	7	12	16	14	12	15	17	18
Total	100	100	100	100	100	100	100	100

Actual expenditures up to 1933, estimates for the succeeding years.

of natural calamities for 230 million yen to be disbursed in the fiscal year 1934 and onwards. With the exception of the item for the settlement of international accounts which, of course, cannot be lowered, attempts have been made to reduce every item of expenditure to the lowest level. The increase in the budget has been met by the annual issue of public bonds to a considerable amount. As a result of the huge expenditure on armaments, the ratio of administrative expenses to total Government expenditure has declined sharply since 1932, whilst the combined military and naval budgets have about doubled in the five years up to 1935, and account for 46% of the total State expenditure. With the increase in military and naval expenditure, the interest burden on national loans has risen from 14% to 18%. In 1935, the estimate for administrative expenses was less than that for military and naval expenses, the ratio to total expenditure dropping to 36%.

Revenue and Public Bond Issues. The rapid expansion of expenditure since 1932 is due mainly to the increase in extraordinary

TABLE 24

PUBLIC BONDS ISSUED FOR BALANCING BUDGET DEFICIT

(in 1,000 yen)

	1931 (actual)	1932 (actual)	1933 (actual)	1934 (actual)	1935 (estimate)
General account	134,912	691,235	764,505	753,700	771,651
"Manchurian Incident" loans	85,914	306,702	179,999	164,129	170,755
Others	48,998	46,158	49,441	19,468	13,029
Loans for balancing budget deficit	—	338,375	535,065	570,103	587,867
Special account	78,909	90,077	82,226	76,300	80,000
Total loans newly issued for budget revenue	213,822	781,313	846,732	830,000	851,651
Transferred bonds issued for indemnification and other purposes	21,388	61,837	41,640	35,678	20,535
Grand total	235,210	843,151	888,372	865,678	872,186

The difference between the figures in General Account (Table 24) and the Extraordinary Revenue from public loans (Table 21) is due to the inclusion of bonds of the previous fiscal years preceding the one concerned.

expenses. A large portion of this augmentation should, however, be envisaged as ordinary expenses, the amount which may thus be designated accounting for approximately 300 million yen of the total estimate for 1934. So far as the years 1933 and 1934 are concerned, ordinary revenue estimates failed to cover even the ordinary expenditure, although the later business activity contributed to expand revenue to an extent sufficient to cover the actual ordinary expenditure. The 1935 budget showed an excess of ordinary revenue of 25·2 million yen over expenditure. The revenue from taxation, which was 915·9 million yen in the fiscal year 1928, declined annually, the figure for the fiscal year 1932 showing a decrease of 219·3 million yen. A favourable turn took place in 1934, an increase of 147·3 million yen being recorded in that year. Notwithstanding this natural increase in revenue in later years, the growth in extraordinary expenditure made it necessary to meet the enormous budget deficits through the issue of public bonds.

A Law promulgated in June, 1932, first provided for the issue of public loans for the balancing of budget deficits. Thus the total of public loans in extraordinary revenue, which was 38 million yen in the fiscal year 1930, has risen to 753 million yen and 743 million

yen in the fiscal years 1933 and 1934 respectively. The estimate for 1935 was 772 million yen, but on account of a decrease in international payments and a possible increase in ordinary revenue, the actual figure is expected to register some reduction.

As the result of the extensive issue of public bonds, the total of domestic bonds has considerably increased in recent years, whilst foreign loans have been reduced by 160 million yen during the same period. There has also been a marked increase in Government Rice Purchase Notes as the result of the recent extension in the issue limit of these bonds.

TABLE 25

DEVELOPMENT OF NATIONAL DEBT

(At the end of each year: in million yen)

	1918	1919	1928	1931	1932	1933	1934	1935
Domestic loans	1,067	1,482	4,346	4,525	5,150	6,400	7,243	8,208
Foreign loans	1,525	1,311	1,453	1,477	1,398	1,421	1,408	1,373
Total	2,592	2,793	5,799	6,003	6,549	7,821	8,651	9,581
Special exchequer notes	—	153	—	—	—	—	—	—
Treasury bills	20	—	—	255	340	—	—	—
Government rice purchase notes	—	—	—	75	111	311	509	422
Grand total	2,612	3,306	5,799	6,333	7,000	8,132	9,160	10,003

The sinking fund for the amortization of national loans was fed by fixed amounts transferred from General or Special Account to the National Loan Redemption Fund Account, these sums consisting of (1) the annual transfer of not less than $\frac{116}{10,000}$ of the total amount of national loans at the beginning of the preceding fiscal year, (2) an amount of not less than one fourth of any surplus of the year before the preceding budget, and (3) public contributions for the redemption of national loans. In view of the decrease in annual revenue and the necessity of a considerable issue of national loans, a partial suspension and reduction in transfers to the sinking fund has been resorted to since 1932. The annual transfer under (1) has been reduced to one third, and transfers under (2) have been totally suspended in order to minimize the issue of national loans. In the compilation of the budget for 1935, the transfers from Special Account relating to Taiwan, Railways and Communications were resumed, the amount thus raised being utilized to reduce transfers from General Account.

An Emergency Profit Tax has been enforced from the fiscal year of 1935, imposing special taxation on enterprises which have profited by the disbursement of national emergency expenditure since the reimposition of the gold embargo. The profit liable to this tax is calculated by deducting the average profit for the two years preceding 1931 from the profit of legal persons and individuals. The rate of taxation was fixed at $\frac{10}{100}$ of the profit thus calculated, no local taxation being permitted. The amount to be raised from this source is estimated at ¥ 29,704,416 for the fiscal year 1935.

CHAPTER III

FACTORS AFFECTING RECENT ECONOMIC DEVELOPMENT

In a sense, Japanese trade and industry has duplicated in recent years the extraordinary expansion which started with the inception of modern capitalism many decades ago. This second expansion may be said to have originated with the reimposition of the gold embargo which, combined with a number of other factors, has led to economic recovery at a time when the situation in other countries showed few signs of improvement.

The decline in the international value of the yen coincided with extensive financial expansion which was stimulated by increased Government expenditure on armaments and relief works. At the same time, the advance in commodity prices and particularly in wages was effectively checked, with highly beneficial results to industry and the export trade.

Industrial activity was, however, not due to these factors alone, but credit must be given, as fundamental conditions, to the technical progress and improvement of management already achieved under the stress of depression and further enhanced during the later period of prosperity. Other causes may be traced to advantages in labour conditions based on natural, social and historical circumstances. Moreover, the very success of the economic recovery made it possible to rationalize production to a high degree of efficiency.

1. Deflation and Reflation

In order to meet the sharp decrease in revenue witnessed during the period of intensified depression from the latter half of 1929 to the end of 1931, the Government expenditure was cut down to the lowest limit possible. Appreciation of the yen and a decline in commodity prices followed the removal of the gold embargo. In order to meet the decline in commodity prices, efforts were directed

towards the reduction of production costs, and this led to the consolidation of enterprises under the pressure of economic depression. It also led to the collapse of many unsound enterprises, and in the general weeding-out process only the fittest survived. The elimination had already begun after the great earthquake of 1923 and the monetary crisis of 1927, but it was accentuated by the world-wide depression and the deflation following upon the removal of the gold embargo. The surviving enterprises were fully alive to the necessity of finding new outlets in foreign markets, and the plans in this direction were facilitated by easy money conditions which greatly reduced the interest burden. Speculative tendencies disappeared on the commodity markets, and stocks diminished to the lowest volume.

At this juncture, the Manchurian incident occurred, and a little later, the gold embargo was reimposed following the trend in the international situation. The deflation policy so far adopted was discarded, and mild inflation began to set in. Expenditure under the national budget increased enormously during the years after 1931 owing to the exigencies of the Manchurian situation and relief works. The total of new loans issued to balance budget deficits from the beginning of 1932 up to the end of 1935 rose to ¥3,012,500,000, but the greater part of these bonds having been taken up by the Bank of Japan, no pressure was felt in the money market. On the contrary, these funds were placed with the Bank of Japan for withdrawal when needed and were thus distributed in the markets for the payment of materials and wages. Increased incomes led to an expansion in deposits, which again lowered interest rates. The Government were careful to maintain cheap money conditions without stimulating speculative excesses. These circumstances, in conjunction with the depreciation of exchange rates, promoted the export trade and industrial production which also benefited by the boom in armaments.

The effects of the depreciation of Japanese exchange rates, particularly on the export trade, will be appreciated when it is considered that commodity prices in Japan were, before the reimposition of the gold embargo, generally above the international level. There were various factors which kept down the increase of commodity prices to a greater extent than elsewhere, for the decline in exchange rates was not confined to the yen and both sterling and the dollar also showed a depreciation of about 40%. The main contributory factors were the acute distress of the farming communities which greatly diminished the purchasing power of one

half of the total population and thus prevented an undue rise in commodity prices, and the stationary trend of wages which partly may also have been due to the unfavourable conditions prevailing in the rural districts.

2. Improvement in Manufacturing Technique

In the early years of the Meiji era, Japanese industry was in the stage of handicraft, and only typical Japanese trades such as porcelain, lacquer ware, paper manufacturing, silk reeling, weaving, flower-mat making showed more or less development. Subsequently, under the stimulus of the Sino-Japanese and Russo-Japanese Wars, modern industries such as textile manufacturing, muslin weaving, paper manufacturing, artificial fertilizer, shipbuilding, beer brewing, flour milling, electric engineering, machinery manufacturing, etc. were built up gradually. Again during and after the World War, Japanese industries witnessed an epoch-making development in many lines. The progress since the reimposition of the gold embargo has been particularly marked in machinery, metal working and the chemical industries. The industrial development has now reached a stage hardly inferior to that obtaining in the West, and the former imports of ordinary manufactured articles are now replaced by domestic products of good quality.

In improving the technical standard of factory equipment, Japanese manufacturers are not deterred, as so often in the West, by the hostile attitude of labour. The growing population and the expansion of markets make the acquisition of up-to-date machinery a reasonable proposition.

TABLE 26

Machine and Tool Production and Prime Movers

	Machine and tool production (in 1,000 yen)	Factories employing prime movers		
		Number	Percentage to total number of factories	Actual horse power (in 1,000 H.P.)
1914	110,906	14,578	45·8	1,289
1930	694,725	51,407	82·6	8,537
1933	888,195	61,203	85·1	8,926

Taken from *Factory Statistics*.

3. Advantages in Labour Conditions

The Japanese worker is industrious by nature, skilled in technique and able to work for long hours. Labour is abundant, and relations between employers and operatives are fairly satisfactory. The cost of labour is very moderate owing to social and economic conditions, and it appears that this condition is to a great extent responsible for the recent development of Japanese industry, particularly as working efficiency is increasing.

TABLE 27

Development of Industrial Production per Capita of Operatives

	1927	1929	1931	1933	1934
Cotton yarn (bales) . .	20	23	27	28	29
Cotton tissues (yds.) .	30,915	44,966	61,009	57,694	58,414
Rayon yarn (kg.) . .	unavailable	823	1,170	1,385	...
Cement (barrels) . .	„	2,201	2,560	3,081	...
Sulphuric dyes (kg.) .	„	33,829	36,595	38,863	...
Coal (metric tons) . .	140	150	181	226	...

Wages in Japan are comparatively lower than those of other leading countries. In the cotton spinning industry, they are about one sixth of the scale of wages in the United States and one third of that of the United Kingdom. In the knitting industry, workers are content with 20 sen a day in the case of side jobs, while in rayon weaving 3 sen per yard is paid for weaving when carried on at the worker's premises.

A mere comparison of wages is, however, hardly justifiable, as general conditions of labour are entirely different. The density and rate of increase of the population in Japan is exceedingly high, and natural resources are lacking for the sustenance and employment of this expanding population. On the other hand, opportunities for emigration are extremely restricted. Naturally, Japanese labour has to be content with a lower standard of living conditions and is obliged to work hard to earn a livelihood. Labour conditions in Japanese industry are determined by the standard of income in agriculture which constitutes the backbone of the country. The earnings of farmers are very small, even lower than the income of workers in towns and cities. Here lies the difficulty of artificially raising the living standard of industrial operatives. The fact that nominal earnings of farmers and industrial workers are small does

not necessarily imply a miserable existence in substance. The life of the common people has been very simple from times immemorial due to social conditions, and hence their cost of living is very cheap. Welfare work and benevolent institutions, moreover, supplement the regular rates of wages, and often involve a high outlay in proportion to the direct cost of nominal wages. Although the advance of retail prices has been greater than that of actual earnings of real wages (87·5 in the second half of 1935) have increased compared with the average index (83·8) for the three years from 1927 to 1929.

The labour movement which made its appearance in Japan after the World War was influenced by socialistic doctrines imported from Europe. Since the Manchurian incident, these doctrines have been discarded in favour of nationalism, and an emergency atmosphere has been created in industry which has effectively checked labour troubles. There has been a surprising diminution in strikes which must be partly attributed to the new national outlook.

4. Social and Educational Conditions

The technical education given to the working classes has remarkably advanced in recent years. It is greatly facilitated by the institution of universal and compulsory education which has prevailed for many decades. The attendance of children of school age (99·57% in March, 1933) is very high, and the diffusion of primary education equals that of the most advanced countries in the West. The increase of students in secondary and higher educational institutions during the period from 1914 to 1933 was about 230% compared with only 51% in elementary school attendance, which reflects the spread of advanced education.

As regards technical education, there are institutions for the instruction of operatives and foremen actually engaged in labour at factories, mines, etc., supported by State and private associations. A subsidy was appropriated for the first time in 1929 as an aid to the education of labour, and grants were distributed to the educational associations already established.

Technical education is also imparted to workers, male and female, at the factories and mines. The pliable nature of Japanese labour makes it possible to give such education at the dormitories attached to factories. The dormitory system on a large scale is peculiar to Japanese industry, and is very susceptible to educative influence whilst allowing inexpensive amusements on a collective scale. Lec-

tures and short courses are often and effectively used among employees and workers in various lines of industry in Japan.

There are not a few enterprises which incur considerable expense for technical education within their premises. Such education is chiefly given in machine and machine tool manufacture and in Government factories, and aims at the promotion of technical skill and the training of apprentices.

5. Organization and Control of Enterprises

The majority of workers in Japanese industry are in small scale factories employing less than 10 persons, which produce the greater part of staple export goods. Proprietors are generally carrying on their work at their own houses with a small capital, employing members of the family or some relatives. These workers are part of the household, and there exists a spirit of mutual interest and protection which naturally transcends the ordinary relations between employers and employees. The cost of production in these establishments is very low, and the output can be easily adjusted to changes in the market situation. Export articles such as bicycles, rayon textiles, knitted goods, etc., are manufactured at these small factories at extremely competitive prices. These small enterprises have developed and are still developing side by side with large companies in distinctly separate spheres.

The keen competition during the lean years after the World War gave rise to various forms of centralized control in industry. This tendency has become more pronounced during the years of world depression in 1931 and 1932, and has contributed not a little to the subsequent recovery.

A characteristic feature in Japanese industry is the influence exercised by a few wealthy family concerns. These concerns are contributing to the economic development of the country with bold conception and firm and systematic control. Backed by vast financial resources, they are in a position to venture upon enterprises which can hardly be operated by small capitalists.

The cartel movement, which witnessed a rapid development during the depression, has been systematically unified by the Major Industries Control Law enforced since August 11th, 1931. In order to minimize the pressure emanating from the monopolistic position of large enterprises, the formation of trade associations among small industrialists and traders was encouraged by the promulgation of the Industrial

Association Law in April, 1931, the revision of the Exporters' Association Law in March, 1934 and the Commercial Association Law of September, 1932.

There is an increasing tendency of the State interfering with industry in the public interest. This tendency has been strengthened lately by the trend towards economic nationalism throughout a large part of the world and by the restriction placed on Japanese goods in various countries.

6. Industrial and Economic Policy

Industrial management has much improved in the prosperous years since 1932, but there is no doubt that the reforms in organization and the general rationalization of enterprises owe their inception to Government encouragement during the previous period of depression.

The formation of co-operative organizations has gradually improved the position of small enterprises, and this development still continues with the assistance of the Government. Financial provisions for such assistance have been embodied in the national budgets following the year 1931. Special experts are despatched by the Ministry of Commerce and Industry to advise small factories in the provinces, and subsidies are granted to industrial, commercial and exporters' associations to enable them to control these small enterprises effectively by establishing mutual co-operation. Subsidies distributed by the Ministry of Commerce and Industry for this purpose were as follows:—

TABLE 28

Subsidies Appropriated for Joint Facilities

(Unit: yen)

	1931–1932 (Actual figures)	1932–1933 (Actual figures)	1933–1934 (Budget figures)	1934–1935 (Budget figures)
Industrial associations	156,000	291,200	395,790	265,880
Commercial associations	37,940	99,749	165,880	132,450
Exporters' associations	44,000	113,000	100,000	50,000
Direct control of small and medium enterprises	—	43,500	43,500	39,150

In the past decade, and notably during and after the economic depression, the Japanese Government tightened the control of industries as explained in detail in Chapt. VIII. For vital reasons con-

nected with national defence, this control has been particularly strict in regard to key industries as evidenced by the amalgamation, under Government control, of iron and steel manufacturing and the increasing Government intervention in the petroleum industry. Rationalization and consolidation of the iron and steel industry, through the reduction of production costs and the improvement of equipment have been a pending question for long years. Fusion was effected at the behest of the Japan Steel Manufacturing Company Law which was promulgated in April, 1934, and marked an event in the history of this industry. The Japan Steel Manufacturing Co. controls 96% of the production of pig iron and 44% of that of steel products.

With regard to the petroleum industry, the Government, through enactment of the Petroleum Industry Law in March, 1934, regulates the import of petroleum products and limits the number of refineries. Oil importation as well as refining is placed under a licensing system, and power is conferred upon the Government to issue orders and exercise supervision over the whole industry. Refiners and importers are required to maintain a certain quantity of stock based on the amount imported during the previous year. The Law further provides that refiners and importers cannot refuse to supply petroleum products to the Government at the ruling prices.

In order to promote the development of key industries, aids and bounties have been granted by the Government since 1932 as follows:—

TABLE 29

SUBSIDIES FOR THE DEVELOPMENT OF KEY INDUSTRIES

(Unit: yen)

	1931–32 (Actual figures)	1932–33 (Actual figures)	1933–34 (Budget figures)	1934–35 (Budget figures)
Assistance for the exploitation of petroleum resources in North Karafuto	100,000	284,000	1,216,000	1,200,000
Assistance to low-temperature carbonization industry	—	—	296,200	252,000
Aid for the study of charcoal gas generating plants	—	—	90,000	90,000
Bounties for the manufacture of dyestuffs	591,560	63,061	—	—
Bounties for the manufacture of artificial indigo	—	1,101,917	45,182	—
Bounties for the manufacture of soda ash	303,902	—	—	—

TABLE 29—*Continued*

	1931–32 (Actual figures)	1932–33 (Actual figures)	1933–34 (Budget figures)	1934–35 Budget figures)
Aid for the manufacture of steel rods.	—	—	75,295	63,556
Assistance to the photographic industry	—	—	400,000	400,000
Bounties for the manufacture of motor cars	—	—	130,000	—
Aid for industrial research institutions	62,000	211,000	180,000	150,000

Promotion of Gold Production. In view of the importance of encouraging the gold production, the Government have reduced railway freights and provided testing facilities. For assistance to gold mining on a small scale, a fund of ¥360,000 was appropriated for 1933–34 and ¥180,000 for 1934–35.

After the reimposition of the gold embargo, the quotation of gold bullion naturally experienced a marked rise, but in the absence of a market, transactions were suspended for a time. To meet this situation, the Government undertook to purchase gold bullion after March, 1932, for shipment abroad. Later, this policy was changed and the gold kept in Japan to replenish the specie reserve.

Improvement of Transport and Communications. Shipping and aviation subsidies have been granted by the Ministry of Communications for a fairly long time. As regards air transport, a subsidy of ¥19,970,000 was appropriated for eleven years commencing April, 1928.

To promote the scrapping of obsolete and uneconomical vessels and the construction of new ships, a subsidy totalling ¥11,000,000 was earmarked but was in fact not entirely disbursed during the three years commencing April, 1932. A second subsidy has now been appropriated to the total amount of ¥1,500,000 for two years beginning from April, 1935. This measure has been highly successful, and shipbuilders as well as owners were greatly benefited by this form of State aid.

The operation of motor car traffic has been found effective and economical for the development of rural districts and the promotion of local industries. Japanese railways, as elsewhere, have suffered from this competition, but are now themselves developing motor car traffic in conjunction with the State railway service, this policy having been put into operation from the financial year of 1933–34.

TABLE 30

SUBSIDIES FOR THE IMPROVEMENT OF TRANSPORT

(Unit : yen)

	1932–33 (Actual figures)	1933–34 (Actual figures)	1934–35 (Budget figures)	1935–36 (Budget figures)
Subsidy granted by the Ocean Shipping Subsidy Law of 1909 . .	6,562,448	6,538,394	6,199,680	5,961,737
Other shipping subsidies .	3,907,387	3,836,828	3,796,084	3,721,084
Air transport subsidies .	2,374,949	1,368,886	1,260,000	1,010,283
Subsidies for ship improvement . . .	1,250,000	3,698,204	4,250,000	65,000
Aid for the construction of motor car roads . .	—	2,015,083	3,951,000	3,566,000

Foreign Trade Policy. As in the case of industry, Government intervention in foreign trade, apart from commercial policy, has made itself increasingly felt during recent years. This intervention was in part a necessary sequence to the economic nationalism practised throughout the world generally, the more so as Japanese goods were often made a target of special legislation in various countries.

The form taken by State control is direct or indirect interference in trade arrangements, particularly export prices and volume, the inspection of goods destined for export, etc. Control has been made more effective through the revision of the Exporters' Association Law, which is treated fully in Chapt. VIII.

The establishment of the new State of Manchoukuo, and the projects thereanent of an economic *bloc* involving Japan, Manchoukuo and perhaps China, also presuppose increasing Government intervention in the export trade.

In the sphere of general promotion of foreign trade there has been enhanced activity of consuls and trade commissioners, the establishment of organs for trade information and the enactment of the Trade Protection Law. This law aims at the bilateral adjustment of trade relations with countries whose exports greatly exceed imports from Japan, and has been first invoked recently against Canada.

Legislation has also been enacted for the opening up of new markets for Japanese goods, the law providing for the Government's indemnification to bankers to a certain extent for losses incurred in certain specified countries.

Financial Policy. In order to meet the requirements for army and navy equipment and for the increase in budgetary expenditure generally, the Government promoted a policy of cheap money. The policy has been successful, contributing largely to an improvement of business conditions in general. The revision of the law governing debentures, and various measures defined for the improvement of credit facilities to farmers and small merchants and manufacturers, also contributed directly and indirectly to the betterment of economic conditions.

PART TWO

BACKGROUND OF THE DEVELOPMENT OF TRADE AND INDUSTRY

CHAPTER IV

FOUNDATION AND CHARACTERISTICS OF JAPANESE INDUSTRY

1. Land and Population

Territory, Natural Resources and Food Supply. The territory of the Japanese Empire consists of a chain of volcanic islands lying along the western shores of the Pacific Ocean, and stretching from Araito Island (about 51° N.L.) in the north to Vele Rete Reef (about 21° N.L.) at the southern extremity of Taiwan or Formosa in the south. The distance between the two extremities approximates 29 degrees, and, if put on the map of Europe, would stretch from the latitude of Morocco to that of England. The country is traversed by mountain ranges with a long coastline, and the population is concentrated in valleys and on the lowland of the sea coast. As the insular territory stretches from north to south for a great distance with a very wide expanse of ocean extending from the northern sea to southern waters, the warm current coming from the south joins the cold current flowing from the northern seas at a point off the coast of Japan proper. Consequently, the country is favoured with an abundant supply of a large variety of marine products found in both warm and cold currents, just as its forest resources contain the flora of the tropical and temperate zones.

The difference in temperature between winter and summer is very marked. In the average temperature of January, the isothermal line at zero passes through the northern part of Honshu (Main Island), while in the average temperature of July the isothermal line at 20 degrees crosses the northern end of Honshu. Again, the average temperature in Tokyo registers 3·0 degrees centigrade in January, while in July it stands at 24·2 degrees. In winter, the climate is cold due to north-western air currents which sweep down from Siberia. Summer is generally hotter than in Northern Europe but more tolerable than in the neighbouring countries, particularly

China. Humidity, except in autumn and winter, is very high. In Tokyo, for instance, the average relative humidity rises to 83% in summer, but falls below 65% in winter.

The area of the Japanese Empire, including the Mandated Islands in the Pacific, is 677,263 square kilometres. Japan proper is mountainous, with plains very few and far between, the cultivated area being only 16% of the total area. Such a topographical condition is a great drawback to a nation whose staple food is rice which is mostly grown in lowland paddy fields. And yet, in such an unfavourable natural environment, the country supports a large population of 69 million in Japan proper alone, with a density of 181 inhabitants per square kilometre.

Turning to natural resources, the country is exceptionally rich in aquatic products, but poor in mineral resources. Although the coal deposits assure a state of self-sufficiency, the country has to depend on outside sources for the major portion of iron ore and petroleum oil it consumes. Japan has a comparatively high production of sulphur, but only scanty resources of other important mineral products. The country is favoured with a relatively abundant supply of water power, and in respect of the utilization of hydraulic resources Japan ranks fourth in the world.

The cultivated area is about the same as ten years ago, although there has been some increase in rice plantation. Nearly the whole of the arable land fit for rice fields has been exploited to such an extent that there remains only a very small margin available for further rice cultivation except in remote districts in Hokkaido, Chosen and Taiwan.

As regards wheat, the yield and consumption of flour shows an increasing tendency. Japan imports wheat and wheat-flour, the latter being exported as well. Wheat, unlike Japanese rice, is an international commodity, and the price of the domestic product is controlled by the market price of imported wheat and wheat-flour. The acreage of wheat plantations in Japan proper, which at the time of the World War was about 550,000 square *cho*, increased to 664,000 square *cho* in 1935. Although, due to this augmentation in acreage, the total yield in 1935 advanced to 9,660,000 *koku*, the imports of wheat and wheat-flour amount to about 5 or 6 million *koku* annually, while exports have also steadily increased in the past decade. Deducting shipments to Chosen and Taiwan from the total (home production plus imports), there remains about 10 million *koku*, representing the volume consumed in Japan proper.

There is a scope for further extention of the wheat area, and also for

TABLE 31

PRODUCTION OF PRECIOUS METALS, RAW MATERIALS AND FOODSTUFFS

	World production	Japanese production				Ratio to world production (%)
		Japan proper	Chosen	Taiwan	Total	
Gold (kg.)	706,000	13,729	11,508	652	25,889	3·7
Silver (")	5,206,000	185,610	21,865	231	207,706	4·0
Copper (metric tons)	1,043,000	69,023	785	—	69,808	6·7
Pig iron ($\frac{1,000}{\text{metric tons}}$)	49,350	1,424	164	—	1,588	3·2
Coal (")	1,006,300	32,524	1,307	1,533	35,364	3·5
Crude petroleum (")	196,836	208·4	—	5·4	213·8	1·1
Salt (")	24,800	631	242	192	1,065	4·3
Cocoons (1,000 kg.)	481,000	379,363	21,294	—	400,657	83·3
Water-power ($\frac{1,000}{\text{H.P.}}$)						
Total power resources.	445,722	6,000	—	—	—	
Utilized power	45,591	3,500	—	—	—	
Rice (1,000 quintals)	905,000	131,488	33,765	15,121	180,374	19·9
Wheat (")	1,311,800	10,989	2,419	7	13,415	1·0
Beans (")	67,870	3,622	5,877	46	9,545	14·0
Sugar (")	225,310	972	—	6,470	7,442	3·3
Fish (1,000 tons)	10,786	—	—	—	2,953	27·4

Figures for world production are taken from *Statistical Year-Book of the League of Nations* except in the case of cocoons and water power, for which figures are based on *International Yearbook of Agricultural Statistics* and *Foreign Commerce Yearbook* of the U. S. Department of Commerce.

increasing the average crop by applying improved methods of cultivation and tillage and by other artificial means. The rate of consumption per capita in Japan proper is, on the whole, increasing year by year, but wheat and wheat-flour are chiefly consumed as subsidiary foodstuffs.

Barley is mostly consumed by the lower classes and as forage for livestock. It is also extensively used in beer brewing and *miso* manufacture. The country is self-sufficient in this staple, particularly as per capita consumption is on the decrease. Consumption per capita in Japan proper of rice, wheat and barley in 1934, according to investigations of the Ministry of Agriculture and Forestry, was 1·148 *koku* for rice, 0·131 *koku* for wheat, and 0·095 *koku* for barley.

Next to the aforementioned three products, sugar and salt occupy an important position as articles of consumption. In respect of sugar, the country is self-sufficient, an abundant supply being derived from Taiwan A few years ago the consumption of salt

was about one million tons, of which about 60% was for alimentary use. Since 1933 the total consumption has increased to 2 million tons a year, due to the sudden rise in demand for industrial purposes. This increased demand caused an augmentation in the volume of the domestic output which at present supplies nearly one half of the total consumption. The output of meat, eggs and dairy products is gradually expanding, but the consumption of these foodstuffs is still comparatively small. Foreign products are fast disappearing from the market, being superseded by home products.

In summarizing, it may be stated that although Japan is poor in mineral products, it is self-sufficient generally in respect of foodstuffs. This state of self-sufficiency will, it is anticipated, last for some time to come.

Population. The population in Japan proper reached 69,251,000 in 1935; including that of Taiwan, Chosen and Karafuto, the total comes up to over 97,000,000. The density of the population in Belgium, the Netherlands, Germany and England is greater than that of Japan, while that of Italy is about equal. However, if the cultivated area only is considered, the density per square kilometre would be 661 in Belgium, 865 in England, 308 in Italy and 1,156 in Japan proper. The degree of pressure which the population brings to bear upon the domain is even far greater than this figure indicates, and herein lies the importance of the food problem in Japan. The cultivated area of the country has increased remarkably since the beginning of the Meiji era, except during the past ten years, due to Government encouragement. In Japan proper, an area corresponding to about 35% of the previously cultivated land was newly exploited and converted into arable land in the course of the past fifty years, as shown in the following statistics (figures being in units of 1,000 hectares):—

	1880	1934	Rate of Increase
Paddy fields	2,599	3,192	23%
Upland farms	1,835	2,796	52%
Total	4,434	5,988	35%

The rate of augmentation is very limited in paddy fields, and the increasing tendency in general has gradually disappeared since the time of the World War. The increase, as shown in the foregoing table, is attributable to the exploitation of waste land which has been converted into arable land by laborious efforts, and not through the opening up of virgin soil left uncultivated as is the case in North and South America. There seems to be no prospect of increasing the rice production to any large extent above the present level.

From the latter half of the Tokugawa period to the beginning of the Meiji era, namely, from the 18th century to the end of the first half of the 19th century, the population of Japan remained almost stationary within the range of from 26,000,000 to 27,000,000. After the dawn of the Meiji era, consequent upon the sudden rise of industries and the innovation of institutions, the population began to rise and expanded to 34,800,000 by the end of 1872. The following statistical table, showing the increase of population in recent years, has been prepared on the basis of investigations by the Government Statistical Bureau:

TABLE 32

INCREASE OF POPULATION IN JAPAN PROPER

	Population (1,000)	Index number	Rate of annual increase per 1,000 of population (a)		Population (1,000)	Index number	Rate of annual increase per 1,000 of population (a)
1872	34,806	100·0	—	1915	52,752	151·6	14·5
1875	35,316	101·5	4·9	1920	55,473	159·4	10·3
1880	36,649	105·3	7·5	1925	59,058	169·7	12·9
1885	38,313	110·1	9·1	1930	64,450	185·2	18·3
1890	39,902	114·6	8·3	1931	65,367	187·8	14·2
1895	41,557	119·4	8·3	1932	66,296	190·5	14·2
1900	43,847	126·0	11·0	1933	67,239	193·2	14·2
1905	46,620	133·9	12·6	1934	68,195	195·9	14·2
1910	4,9184	141·3	11·0	1935	69,251	198·8	15·5

(a) Average for each five years.

The rate of increase which did not exceed 10‰ of population in the first year of Meiji (1868) rose upward of 10 from about 1894, and to about 14‰ in the early years of the Taisho era (1912–1925). Later, there was a setback only for a brief period, but the advancing tendency became pronounced again, the average annual increase in Japan proper during the five years (1926 to 1930) being returned as 15·3‰, resulting in an annual increase of about 900,000. In addition to the population of Japan proper, there are 22,899,000 inhabitants in Chosen, 5,213,000 in Taiwan and 332,000 in Karafuto, making a total of 97,695,000 for the entire realm including the dependencies.

What will be the future of such a huge population? This is an interesting problem which has been studied by Prof. T. Ueda, whose views are worth recording here. Pointing out that the number of births in Japan remained stationary at about 2,000,000 a year during the past twelve years, Prof. Ueda opines that such a phenomenon was never witnessed in the past decades, and is to be regarded as an

indication heralding the advent of a gradual decline in the birthrate. He says:—

"The period subsequent to 1920 was just the time when the children born in 1900 or thereabouts reached marriageable age or became parents, and since the birthrate was increasing rather rapidly during the intervening period from 1890 to about 1903, the number of women who attained maturity during the decade from 1920 to 1930 must have been fast increasing. Nevertheless, the augmentation of births was not so marked as it ought to have been. This seemingly inconsistent phase was due to the fact that the rate of births per marriage, or the rate of pregnancy per capita of married women, was decreasing during the period under review"(1)

According to Prof. Ueda, the tendency he refers to should not merely be ascribed to the difficulty of marriage occasioned by the economic depression, but to a cause of far greater significance, namely, the advanced standard of living and the stronger efforts of the multitudes to maintain that elevated standard.

On the basis of the above assertion, Prof. Ueda thinks that the declining tendency of the rate of pregnancy will last for a long period hereafter, and, assuming that the rate of infant mortality will remain fixed within a certain limit, he concludes that, although the number of annual births may not be exactly stationary, it cannot be supposed that it will increase to any large extent. He estimates the number of annual births for a period of twenty years hence at 2,100,000, and forms an estimate of the future population of Japan as indicated in Table 33.(2)

The statistical figures for 1920 and 1925 are the actual or final figures of the national census taken in the respective years; those for 1930 are also based on the results of the national census taken that year, and, though not final, can be considered comparatively accurate. Figures for the population of an age ranging from 0 to 14 for the years after 1945 are estimated on the basis of the above mentioned supposition, while the rest of the figures have been worked out on the basis of the population classified by age ascertained as the result of the third national census taken in 1930, and the rate of survival deduced from the figures of the second and third national census taken in 1925 and 1930, respectively. According to what is shown in the foregoing statistical table, the rate of increase of population in each quinquennium was to reach the highest mark in 1930, and gradually to dwindle after that year. Taking this for granted,

(1) Prof. T. Ueda, *Study of Population Problem in Japan* (Japanese edition), vol. 2, p. 15.
(2) *Ibid.*, pp. 22, 23.

TABLE 33

ESTIMATE OF FUTURE POPULATION BY AGE GROUPS

(Unit: 1,000,000)

Age	1920	1925	1930	1935	1940	1945	1950	1955	1960	1965	1970
0–14 . .	20·4	21·9	23·5	25·0	25·8	25·8	25·8	23·8	25·8	25·8	25·8
15–59 . .	30·9	33·2	35·8	38·0	40·4	43·3	46·0	48·4	50·4	52·0	53·4
Over 60 .	4·6	4·6	4·7	5·1	5·7	6·1	6·6	6·9	7·4	7·9	8·5
Total .	55·9	59·7	64·1	68·1	71·9	75·2	78·4	81·1	83·6	85·78	87·72
Increase .	—	3·8	4·3	4·0	3·7	3·4	3·1	2·8	2·4	2·2	2·0
Rate of increase (%)	—	·067	·073	·063	·055	·048	·041	·034	·029	·026	·022

the climax in the population of Japan proper will probably be reached some time between 1960 and 1970, when the total population will aggregate between 86 and 87 millions.

The increase in the young generation, which became pronounced from the early part of the 20th century, has now reached the climax, and it is supposed that the juvenile population will remain stationary showing, however, a decline in ratio. What calls for attention is that the population of productive age (15 to 59 years) will continue to increase hereafter at the rate of approximately 2,100,000 to 2,900,000 for each five years. The increase is inevitable as the young generations come of age, and it is incumbent to provide room for their economic life, hence the bearing of the present survey on the relation between population and employment that obtains in the country. Statistics which answer the purpose are the official returns concerning the population classified by occupation, based on the results of the national census taken in 1920 and 1930. The figures quoted in the following observations are those mentioned in the official returns referred to, which Prof. Ueda has carefully revised with the object of rendering them comparable with similar figures of the previous census returns taken in 1920.(1)

It should be noted that during the decade between the first national census (1920) and the third national census (1930), the ratio of persons engaged in agriculture declined from 51·8% to 48·9%, while that for commerce and the public services rose from 11·7% and 5·3% to 15·3% and 6·9% respectively. The rate for industry dropped to 17·9% from 19·5%. During the same decade the actual number of persons with occupations increased from 27,261,000 to 28,935,000, indicating that

(1) *Ibid.*, vol. 2, p. 211.

TABLE 34

Population with Occupation in Japan Proper in 1930

(Unit: 1,000)

	Population of ordinary households	Persons with occupation(*a*)	Index number of persons with occupation (1920=100)	Ratio to 1,000 of active population		Ratio to 1,000 of population of ordinary households
				1920	1930	
Total number	60,477	28,935	106	1,000	1,000	1,000
Agriculture	27,225	14,139	100	518	489	450
Fishery	1,376	566	106	20	20	23
Mining	757	231	55	16	8	13
Industry	11,019	5,184	98	195	179	182
Commerce	10,531	4,435	139	117	153	174
Traffic and Communications	2,378	1,080	104	38	37	39
Public service and liberal professions	4,183	1,991	137	53	69	69
Domestic service	185	795	121	19	18	3
Other occupations	148	514	98	24	27	3
Without occupation	2,675	—	—	—	—	44

(*a*) The number of unemployed, ascertained through the national census taken in 1930, has been deducted.

TABLE 35

Active Population by Age Groups

Age	Total active population			Ratio to total population (%)						Estimated number of persons without occupation in 1930 by Mr. Odahashi (1,000)		
				Total number		Male		Female				
	1920 (1,000)	1930 (1,000)	Index number for 1930 (1920=100)	1920	1930	1920	1930	1920	1930	Total number	Male	Female
0–14	1,395	1,027	73·6	7	4	6	4	7	5	579	235	344
15–19	4,102	4,386	106·9	76	70	83	79	68	60	378	132	246
20–24	3,545	3,935	110·1	77	72	94	90	60	54	282	114	168
25–29	2,975	3,408	114·5	76	71	97	95	53	44	265	56	209
30–34	2,766	3,019	109·1	76	74	98	96	54	49	146	33	113
35–39	2,624	2,659	101·3	77	75	98	97	56	52	82	29	53
40–44	2,521	2,539	100·7	78	75	98	96	57	52	102	34	68
45–49	2,057	2,293	111·5	77	74	98	96	56	52	105	35	70
50–54	1,677	2,058	122·7	75	72	97	95	53	48	93	27	66
55–59	1,310	1,528	113·7	71	67	95	91	48	44	95	46	49
Total	23,577	25,826	109·5	76	72	94	92	58	51	1,548	506	1,042
Over 60	2,289	2,082	90·9	49	44	75	70	28	23	245	120	125
Grand total	27,261	28,935	106·1	49	45	61	58	37	32	2,372	861	1,511

1,673,000 persons were newly absorbed. Taking the total in 1920 as 100, the index number for 1930 stood at 106. On the other hand, the index number for the total population increased to 115 during the same period. In view of the fact that among the unabsorbed in the total population there are included women, students, soldiers, etc., the absorption of the population increase into occupational activity may be considered fairly satisfactory up to 1930.

It is surmised that the population engaged in farming is no longer expanding, and that the greater portion of the surplus population in agrarian districts has been absorbed by other lines of occupation, such as commerce, the public services, etc. On account of the economic depression during the period before and after 1930, the absorption of new labour by industries has not kept pace with the increase of the whole population.

2. Special Characteristics of Japanese Industry

Family System and Agrarian Population. Industry in Japan has a peculiar background of its own, without an understanding of which it is difficult to appreciate the national economy of the country.

The family system in Japan has ancestor-worship as its corner-stone. The lineal relation by blood, which is succeeded to by the eldest son, is continued in one and the same family generation after generation, and there are few cases in which father and eldest son establish separate families. Although the members of the family may live separately and have their domiciles at distant places, this strong family tie and lineal connection exists as a matter of reality in the society of contemporary Japan, both spiritually and legally. This family system plays an important part in the industrial economy of the country on account of the strong sense of joint responsibility among family members, and because, though the members of a family may include grandparents, parents, sons, daughters, grandsons, etc., they are under obligation to support each other.

The largest part of industrial labour in Japan is supplied by the surplus population in the agrarian districts. An example is furnished by the 180,000 girl operatives working in spinning mills on whose efforts depends the great textile industry of the country. Most of these female workers hail from rural districts where they are enlisted in the service by agents of the spinning companies; they live in the dormitories of the companies and are given the tuition of intermediate grade schools in the leisure hours of their daily routine work. The wages they earn, some of these girls remit to their homes in

the provinces, while others save them until they are able to defray their wedding expenses. It is fully understood by the company which employs them that these girl workers do not expect to remain in the service for a long period. As a rule they remain for about four or five years, that is, from the age of fifteen or sixteen to about twenty, and then return to their native places, to be replaced by their younger sisters. It is generally admitted that their state of living, while working as factory girls, is above the level of that in their homes. The direct and intimate hiring relations which exist between the agrarian communities and industrial organizations in cities and towns can operate only in a country like Japan where the family system forms the backbone of the social as well as the industrial organization of the nation. The wages these factory girls receive may be low, but the benefits the agrarian population derive from the system are manifold. Besides saving the expenses necessary for bringing up their daughters, the girls enjoy the benefit of leading a stable, regular and orderly life while earning wages. On the other hand, the companies are assured an abundant supply of labour, and, on account of frequent shifts of hands, are able to effect without opposition improvements in factory equipment, and any necessary reforms in the methods of operation.

Such are the relations that exist between the spinning industry and the agrarian villages in respect of girl workers. Much the same conditions obtain in the case of male workers on the whole, except that there are no such close relations between employers and the agrarian villages, because, unlike young girls who undertake factory labour only for a few years' period, young men come to the cities and towns in quest of employment with a view to establishing themselves and leading an independent life there. Still, should they lose their employment and be cut off from means of supporting themselves, most of them go back to their homes in the provinces and stay there until fortune again leads them to cities. Since the cost of living in Japanese rural districts is extremely low, country-bred youths who have lost employment naturally seek a haven of safety in their native villages.

To sum up, Japanese industry obtains the supply of labour mostly from the agrarian villages, while the low cost of living in the agrarian districts maintains the existing low level of industrial wages. The traditional habit of common support which exists among the members of a family largely contributes to the maintenance of equilibrium of the demand and supply relations of industrial labour.

Importance of Minor Industries. What calls for attention next in a general survey of Japanese industry is the very important position occupied by the numerous small factories and household industries. The first foreigner to give special attention to this particular phase of Japanese industry was Mr. F. Maurette, Deputy-Director of the International Labour Office, who visited Japan recently. Writing about small industrial enterprises, Mr. Maurette observes:—

"A thorough study of small enterprises in Japan would be valuable. It would be interesting to discover how they are developing, at what rate and in what direction, how their production competes with that of large undertakings, or how, in some cases, e.g. the porcelain industry and some branches of the cotton industry, the two are co-ordinated".(1)

Statistical data as to small enterprises in Japanese industry has been prepared by Mr. K. Takahashi on the basis of the results of the national census taken in 1920 and 1930, and the data supplied by *Factory Statistics* for 1930 compiled by the Ministry of Commerce and Industry, which covers the results of investigations up to the end of that year. According to Mr. Takahashi, the number of workers engaged in medium and small enterprises corresponded to 68·6% in 1920 and 62·5% in 1930 of the total number of workers. Included in the figures are workers who were employed in small factories with not more than five workers, whose number corresponded to 54·6% (in 1920) and 46·1% (in 1930) of the total number of industrial workers. The production of these medium and small enterprises participated with about 65% in the total volume of exports, the figure being the annual average percentage for three years from 1931 to 1933, and with 43% in the total industrial production of the country in 1932.(2)

Opinions concur that these small enterprises are growing in importance in the industrial organization of the country. In the above statistics, showing the number of operatives engaged in minor industrial establishments, the figure for 1930 is below that of 1920 owing to a marked decrease in the number of female operatives in 1930. In the case of male operatives the rate of decrease was very insignificant. Considering that the economic depression was very intense in 1930, the fact that the number of male workers remained unchanged on the whole indicates the resisting power of small enterprises. Another instance which indorses the above supposition is

(1) F. Maurette, *Social Aspects of Industrial Development in Japan*, 1934, p. 67. (2) Mr. K. Takahashi, "Superiority of Medium and Small Undertakings in Japanese Industries and Characteristics of Japanese Economy", *Review of Social Reform (Shakai Seisaku Jiho)*, April, 1935.

TABLE 36

NUMBER OF OPERATIVES EMPLOYED IN MEDIUM AND SMALL FACTORIES IN 1920 AND 1930

(Unit: 1,000)

	Total industrial population	Total number of workers in medium and small enterprises		Factory Classification		
				Factories employing less than 5 operatives	Factories employing 5-29 operatives	Factories employing 30-99 operatives
1920			%	%	%	%
Total	5,300	3,636	68·6	54·6	8·5	5·6
Men	3,716	2,557	68·3	57·6	7·2	3·5
Women	1,584	1,079	68·1	47·5	10·3	10·3
1930						
Total	5,291	3,309	62·5	46·1	9·9	6·5
Men	4,287	2,889	67·4	55·1	8·4	3·9
Women	1,004	420	41·8	8·0	16·4	17·5

that small factories employing less than 5 operatives in Tokyo are steadily increasing, the number of operatives employed also showing a gradual increase.

As a general statement, it may be said that, excepting such commodities as can be produced profitably only by mass production, industrial products in Japan are turned out by medium and small enterprises. To the former category belong cotton yarn, rayon, artificial fertilizer, cement, paper, window glass, sugar, beer, wheat flour and the products of heavy industries, which are manufactured by mechanical processes and on a large scale. Other industrial products are mostly produced in smaller factories where they can be manufactured with better results from an economic point of view. Some of these products are manufactured in the numerous small factories employing not more than 100 workers, whose output represents a comparatively large percentage of the total industrial production. Among products manufactured at these small industrial establishments are dressed timber, woodware, provisions, silk and cotton textile fabrics, enamelled iron ware, bicycles, hosiery, porcelain and earthenware, rubber goods, glass ware, celluloid articles, etc.

The reasons that justify the existence of these small enterprises are many and complicated. The principal factors are summarised below:—

(a) The abundance of electric power resources enables small enterprises to obtain an adequate supply of motive power at low rates. Even large factories which formerly depended on steam power, and

later utilized the method of group drive by means of electromotors, have recently adopted individual drive extensively.

(b) Small enterprises have reached the present stage of development by catering for the domestic market. Changes in taste require prompt adaptation and a great deal of artistic sense in the design of such goods as cotton and silk textile fabrics, porcelain and earthenware, etc. These and similar articles do not lend themselves well to mass production, although their annual consumption reaches considerable proportions.

(c) An ample supply of labour is available even in remote provinces, where the cost of living is very low, and wages cheaper than in towns and cities. This is the reason why the small-scale foundries have developed in Miye, Hiroshima and Niigata prefectures, and why the woollen fabric industry thrives in Aichi prefecture.

(d) Minor industries in Japan have as a rule originated from household industries, and are even now marked by ties of solidarity and paternalism unknown in large factories. Apprentices who generally live with their employers are given only pocket-money as in the case of members of the employer's family.

(e) Small factories often work in co-ordination with large enterprises. Iron tubes and joints are manufactured at large factories, while parts of machinery can be produced at lesser cost at foundries run on a small scale. This is only an example out of many industries in which small establishments are supplementing the work of large factories.

Growth of Co-operative Societies. The system of co-operative societies in Japan is based on that of Germany in many respects, with much of the flavouring of old Japanese institutions such as "*Tanomoshiko*" and "*Hotokusha*". In Germany, agrarian co-operative societies at the end of 1933 represented 78% of the total number of co-operative societies throughout the country, while in Japan they constituted 90% with a membership of 3,694,000 at the end of that year. Apportioned to the size of the population, 41·2% of all households in the country and 65·4% of all agricultural households[1] are represented in co-operative societies.

The record of activities during the thirty-five years of existence since the promulgation of the Co-operative Society Law in 1900, under which these organizations were formed, reveals that the most important functions of co-operative societies are the operation of a credit system, the provision of facilities for joint purchase and joint sales.

(1) According to *Year Book of Co-operative Societies*, 1935.

The principal merchandise handled are rice and cocoons (joint sales), and fertilizer (joint purchase). Membership of co-operative societies partaking of the nature of consumers' societies, which conduct the purchase and supply of daily necessaries in urban districts, aggregates only about 200,000. The position of co-operative societies in the national economy is as follows:—(1)

		1932	1933
Total assets:	Ratio of net assets to those of total banks and companies throughout the country	1·9%	...
Total savings:	Ratio of savings to total deposits and money in trust at all banks and trust companies throughout the country .	7·8%	8·5%
Total credit:	Ratio of loans advanced by societies to total loans made by banks and trust companies throughout the country .	7·6%	8·3%
Sales volume:			
Rice	Ratio of rice sold through societies to volume sold by farmers throughout the country.	15·6%	18·1%
Cocoons	Ratio of cocoons sold through societies to total sales for the whole country . .	9·6%	9·7%
Fertilizer purchased:	Ratio of volume purchased by societies to total consumed in the country . .	19·0%	25·0%

More than 98% of agricultural warehouses are under the management of co-operative societies. Moreover, as joint organs for the sale of farm produce, marine and dairy products, there are, also, under the management of the industrial co-operative societies, facilities for marketing goods, in certain specified localities. Marketing organs of the co-operative societies undertake the delivery of farm, dairy and marine products, and safeguard the common interests and welfare of the producers in the respective localities.

Although joint credit is apparently the main function of the co-operative societies, their activities are actually focussed on the joint laying-in of stocks of commodities (chiefly fertilizer) and the joint sale of agricultural products (chiefly rice, raw silk and cocoons). Thus the co-operative societies are important organs for business transactions in agrarian villages, and as such collectively form a complete system. There is a disposition in the Ministry of Agriculture and Forestry and among those connected with the co-operative societies, to enlarge the scope of the system so as to enable the producers to secure the right of determining the market price of farm and

(1) According to *Year Book of Co-operative Societies*, 1935.

forestry produce. There is, therefore, a possibility of these co-operative societies gradually rising to importance and becoming the controlling organs of agrarian economy.

Level of Culture. No survey of Japanese industry would be complete without referring to some characteristics of Japanese culture. It is no easy task to fathom the degree of culture of any nation, as the subject is not limited to its material side. As the culture of a country is supported by subjective values, it would be a mistake to attempt to appraise such culture objectively. It is impossible to attempt anything like an exhaustive study of the subject in these pages, and comments here will be confined to an explanation and description of some particular phases of the mode of living which contrast with the customs and manners prevailing among Western peoples.

A comparative study of the spread of common education and of mortality rates in various countries is calculated to be the best way of making a comparative survey as to the level of culture and civilization of the respective countries.

The largest percentage of illiteracy in Japan is shown among people of over 60 years of age. The rate of children of school age annually entering primary schools in recent years stands at over 99% (99·57% in 1932) in Japan proper, so that the rate of illiteracy is certain to decline sharply in the near future.

In respect of mortality rate, Japan still stands far behind the countries of Europe and America. The death-rate per 1,000 of population in the leading countries in 1932 was as follows:—

Japan 17·7; Germany 10·8; England 12·3; France 15·8; Italy 14·7; and United States 11·1.

The high mortality rate in Japan is chiefly due to infant mortality and to pulmonary tuberculosis among young men and women.

The Japanese people have a very simple mode of living, the reasons for which, apart from historical and traditional influences, are economic and climatic. Meat consumption in Japan is low because of its comparative dearness, but an ample supply of cheap albuminous food is provided by fish, a great variety of which can be had all the year round. Sardine, cod, salmon, mackerel, skimmer, saury-pike and other common fish can be had in abundance and at a low price.

The most significant climatic factor is the humidity in summer. The peculiar style of habitation in Japan, which is mostly built of wood and is very airy, must not be attributed to mere habit or to economic reasons. Airy dwellings and loose clothing are best suited

to the inhabitants of the country because of the humidity during the summer months.

Summer in Tokyo is as hot as in Hawaii or the Philippines, and to those living in Western-style houses built of concrete, the moisture and sultry air, especially during the night hours, is almost unbearable, although these houses may be suitable in winter. Consequently, Japanese-style houses are the most economical and best adapted to the climatic condition of the country. The Japanese fondness of a vegetable diet is sometimes attributed to religious influences, but such an interpretation sounds unconvincing. This preference is the natural outcome of geographical situation which furnishes an abundant supply of cheap fish as the main foodstuff rich in albuminous substance. According to an estimate, the quantity of fish consumed in Japan proper in 1933 was about 27 kilograms per capita of population.

Japanese culture has given birth to a peculiar mode of living, well suited to the conditions of natural environment at a comparatively low cost. Japan is thus self-sufficient in foodstuffs in spite of an abnormally dense population, and enjoys a comfortable, though inexpensive, mode of living in respect of clothing and dwelling.

For reference, a table is appended showing a general outline of the

TABLE 37

COMPARISON OF COST OF LIVING IN JAPANESE AND AMERICAN FARM FAMILIES

	Japanese farm families (*a*)	American farm families (*b*)	Remarks
	%	%	
Foods and beverages . .	45·7	41·2	
Clothing . .	7·9	14·7	
Housing . .	15·2	15·0	incl. rent, furniture and utensils in the case of America.
Lighting and heating . .	6·1	13·3	incl. automobile, telephone, traffic expenses, and hired labour in the case of America.
Cultural expenses	22·5	15·6	
Other expenses .	2·6	0·2	incl. hired labour in the case of Japan.
Total . .	100·0	100·0	

(*a*) The data for Japanese farmers are based on the results of investigations carried out by the Bureau of Statistics for one year from September, 1926 to August, 1927, covering 670 farm families (132 proprietor farmers, 330 proprietor and tenant farmers, and 208 tenant farmers) in nine prefectures. (*b*) The data for American farm families are based on the results of investigations conducted by the Bureau of Agricultural Economics, Department of Agriculture, covering 2,886 farm families.

cost of living in rural communities, in which the standard of living is generally considered to be the lowest, as contrasted to the situation obtaining in the United States.

The cultural expenses comprise education, amusement, travel, sanitation, social, traffic, communication and other expenses, life insurance premiums, etc., in addition to which there are expenses for the care of babies in the case of Japan. Some difference in minor items between Japan and the United States is quite unavoidable, but, on the whole, Japanese farm families have a proper share in disbursements for cultural affairs.

3. Essential Factors in the Development of Modern Industries in Japan

Social Stability. Of various factors stimulating the speedy development of modern large factory enterprises in Japan, one that stands out prominently is social stability. The great social revolution in Japan, or the restoration of the Imperial régime of Meiji (1868), by which the Japanese nation emancipated itself from the yoke of the feudal system, was effected through the wisdom and self-sacrificing efforts of a handful of able men in the comparatively short period of about ten years, without disturbing in the least the order and tranquillity of society. This was possible because of the singular system of social organization peculiar to the country, where the nation forms one great family with the Imperial House as the centre of universal respect and adoration. The abolition of feudalism in Japan was accomplished by the peaceful transfer of the hereditary administrative authority held by the Shogunate Government to the newly established Imperial Government composed of statesmen who were ardent advocates of social reform. The Emperor Meiji, not long after ascending the throne, promulgated the constitution and proclaimed the establishment of representative government.

In a remarkably short period laws and statutes were elaborated and enforced, and the rights and duties, both public and individual, clearly defined and assured, so that the people were enabled to devote themselves to the development of newly arisen industries. In the meantime, the Government introduced from foreign countries advanced technical knowledge and various useful arts, which contributed immensely to the progress and development of private industrial enterprise. Subsequently, Japan was twice involved in wars, at first with China, and later with Russia. As these wars were fought

on the continent, the nation suffered little from the direct effect of hostilities. On the contrary, Japan's victory on both occasions had the result of animating the spirit of the nation and eventually stimulating a development of national industries, as is indicated by the conspicuous increase in the number of companies promoted in the post-bellum periods. Japan also participated in the World War espousing the cause of the Allies, but the country suffered practically no evil effects from the titanic struggle.

Japanese Aptitude for Industrial Enterprise. The social stabilization which had thus been accomplished offered an opportunity to the enterprising spirit of the nation, and industrial expansion followed. Merchants who accumulated funds during the feudal period, men of unpropertied *samurai* classes and ordinary citizens availed themselves of the opportunity offered by the dawn of the new era. Not a few of those early industrialists failed, but in a sense all modern industrial enterprises which flourish and prosper today are the fruits of the energetic efforts of the able pioneers during and after the Meiji era who accomplished the task independently and unaided.

The influence exercised by the industrial protection policy of the Government is sometimes overrated. Needless to say, the Government has since the beginning of the Meiji era made efforts to develop national industries, but in most cases official assistance did not go beyond the limits of indirect and general encouragement, instances of direct aid extended to any particular line of industry being very few. The measures taken by the authorities for the promotion of industrial interests were the establishment and maintenance of model factories, protective customs duties, the despatch of students to foreign countries for technical study and observation, the engagement of experts and specialists from foreign countries, subsidies, etc. Special protection was, however, extended to banking, shipping, sugar refineries, iron and steel foundries, ordnance, dyestuff, and sulphate of ammonia manufacturing and a few other lines. Cotton spinning, the rayon, ceramic and other light industries, some of which have developed to international prominence, received little or no benefit from Government protection.

Most of the important branches which have since expanded into major industries experienced many difficulties before they were firmly established and attained the present development. They had, in the initial stage, to import machinery from Europe and America, and to compete in the home market with superior foreign products. The scarcity of skilled experts and operatives was another handicap

to Japanese industries in the early stage of growth. In the case of the cotton spinning industry which started in the early part of the Meiji era, spindles, looms and other machinery had to be imported from England. At first Japanese cotton was used as raw material, which was later replaced by cotton imported from China and India, and still later from America and Egypt.

Even more difficult was the position of the woollen textile industry which is of later origin. Due to a dearth of recovered wool and noil, the most economical raw material, the home product was no rival to the excellent foreign textile fabrics which were imported in large quantities. The Nippon Keori Kabushiki Kaisha (Japan Woollen Textile Fabric Co., Ltd.), established in 1896, which has since risen to the foremost position in this line, was barely able to carry on its business by supplying its products to the army. Financially the company was in such a bad condition that it could declare a dividend of 5% only twice during the many years from its foundation up to the time of the Russo-Japanese War in 1904. This war favoured the company by a sudden growth of demand for its products, which were very extensively used for military purposes. Taking advantage of the opportunity, the company effected a great improvement technically by further importing weaving machines from Europe and adopting Western processes of manufacture until it reached the stage where it could turn out goods not inferior to the imported article.

CHAPTER V

SOURCES OF RAW MATERIALS

1. Characteristics of Japanese Natural Resources

The general conception that Japan is a country of scanty natural resources may not be strictly correct, but it is undeniable that her resources are poor compared with the wealth of material to be found in some of the principal industrial countries. The topographical features of the country prevent the extension of arable land, and the rapidly increasing population renders it imperative to devote as much of the land as possible to the supply of foodstuffs, making it impossible to produce such staple materials as cotton, hemp, wool, etc. even where climatic conditions are favourable.

The geological condition of the country is also of a nature as to preclude the existence or large quantities of important minerals required in modern industry, such as iron, coal, and petroleum. Iron ore deposits in Japan total about 90 million tons, and coal deposits are estimated at 20,000 million tons, both only a small fraction of world deposits. These deposits can in no way be compared in magnitude with the ample resources of the United States, Great Britain, Germany, France, etc. The resources of petroleum are also very modest and cannot stand comparison with the big oilfields elsewhere in the world. This scarcity is not confined to petroleum, iron, and coal, but extends to most other minerals which are poor in total quantity, and split up in petty deposits.

The water-power resources of Japan are estimated at 15,000,000 H.P., and may be considered sufficient for the probable needs of the country. However, on account of topographical conditions, the resources are greatly scattered, requiring a large number of plants.

Complete self-sufficiency in raw materials is, of course, unattainable for any single country. The United States is the most favoured country in the world in regard to natural resources, and yet these must be complemented by imports from abroad of antimony, chrome,

nickel, tin, potassium, rubber, hemp, raw silk, etc. Great Britain's resources are practically concentrated in her rich iron and coal mines, and even if the whole British Empire is considered, there is a scarcity of deposits of antimony, mercury, potassium, sulphur, etc. Compared with these countries that are rich in natural resources, those of Japan are small indeed, but there is a compensatory factor represented by the great variety of her natural resources.

The topographical, climatic and geological conditions of the country, which constitute a drawback to the existence of big resources, are, on the other hand, conducive to the formation of a great variety of mineral deposits, as will be seen from the comparative table below :—

TABLE 38

OCCURRENCE OF 28 IMPORTANT MINERALS IN THE PRINCIPAL COUNTRIES, INCLUDING COLONIES

	United States	Gemany	France	British Empire	Japan	Belgium	Italy	Spain
Number of minerals including deposits of economic value only	21	12	17	22	22	4	12	13

Mention should be made of the aquatic resources which are the only exceptional ones the country possesses. Geographical, oceanic, and climatic conditions, combined with the skill of the people are the chief reasons for the outstanding success of Japanese fisheries. These resources not only supply a large variety of food, but also such industrial materials as fish oil, sea-weed from which iodine is produced, and aquatic manure which to the farmer constitutes a substitute for nitrogen, phosphates, etc.

The natural resources in every country have only economic value as far as they are utilized, and it therefore follows that the human element is of paramount importance in evaluating the resources of nature.

One of the greatest assets in opening up the existing resources in Japan is the abundant supply of labour provided by the dense and increasing population. To this should be added the frugal, yet not necessarily low, standard of living, and the qualities of painstaking physical labour and skill in industry fostered by the spread of education and the progress of science. These characteristics make for the utmost utilization of the existing resources as is shown by the fact that in many collieries, coal-beds of less than a foot thickness are yet economically mined. The natural resources are thus supplemented by the human element in a most remarkable manner.

2. Relation between Home Resources and Imported Material

The relative degree of self-sufficiency in 65 kinds of raw material, excluding foodstuffs, is illustrated in the following table:

TABLE 39

Degree of Self-sufficiency in Raw Materials

A—Materials available for export (rate of self-supply of more than 100%):—
silver, sulphur, arsenic.
raw silk, fish-oil, camphor, peppermint, vegetable-oil, rayon.

B—Materials nearly adequate to meet domestic demand (rate of self-supply of 90–100%):—
ferro-alloys, steel, bismuth, graphite, gypsum, clay and kaoline, silica-sand, limestone, fluorite or cryolite, alunite, nitrogen (fixed), iron pyrite.
leather, lumber, coal, lubricating oil, asphalt.

C—Materials inadequate to meet domestic demand and partially dependent on foreign sources (rate of self-supply of 50–90%):—
pig-iron, copper, chromium, soda, barytes.
pulp, paraffin, hides.

D—Materials inadequate to meet domestic demand and mostly dependent on foreign sources (rate of self-supply of 10–50%):—
iron ore, scrap-iron, lead, zinc, tin, manganese, tungsten, molybdenum, salt.
bristles, animal-fats, shells of mollusca, jute, flax and hemp, oil-seed.

E—Materials for which the country depends almost entirely on foreign sources (rate of self-supply of 0–10%):—
nickel, antimony, quicksilver, platinum, aluminium, mica, asbestos, magnesite, phosphates, kali, nitrates.
wool, pulp (for rayon), shellac and resin, tanning materials, raw cotton, petroleum.

The above table gives a general view of the supply of raw materials during the year 1933.

As may be seen from the above table, raw materials available for export number 9; those which are nearly adequate to meet the domestic demand are 17; those which are inadequate to meet the domestic demand, and for which Japan is partially dependent upon foreign sources are 8; materials of which the rate of self-supply is higher than 50% are 34. The remaining 31 are produced in Japan to an extent of less than 50%, of which 17 kinds are almost or entirely imported from abroad.

Metals. The variety of metal requirements of Japanese industry is very great and so are, in general, the resources in Japan. The volume is, however, insufficient except in silver, which is now available for export. Although ferro-alloys and steel are at present produced in almost self-sufficient quantities, their constituents are largely imported. Self-sufficiency in pig-iron is 71%, copper 80%, iron ore 35%, lead, zinc, tin etc. from 10% to 50%.

TABLE 40

PRODUCTION AND SELF-SUFFICIENCY IN METALS

	Domestic production (metric tons)	Standard of self-supply		Domestic production (metric tons)	Standard of self-supply
Iron ore .	843,000	D	Antimony .	160	E
Pig-iron .	1,585,000	C	Bismuth . .	57	B
Ferro-alloys .	33,000	B	Quicksilver .	8	E
Scrap iron .	unavailable	D	Silver . .	208	A
Steel . .	3,200,000	B	Platinum .	6,400 (gr.)	E
Copper . .	71,000	C	Chromium (ore)	20,000	C
Lead . .	7,600	D	Manganese (,,)	33,000	D
Zinc . .	30,700	D	Tungsten (,,)	180	D
Tin . .	970	D	Molybdenum(,,)	110	D
Nickel . .	—	E	Aluminium .	—	E

The mark indicating the standard of self-supply corresponds to the previous table. Self-supply is estimated on the basis of production during 1933.

Japan is almost entirely dependent upon the import of nickel, antimony, quicksilver, platinum and aluminium. As regards nickel and aluminium, the discovery of new resources as well as the progress of technique in metallurgy have made it possible to envisage economical production in the near future, when self-sufficiency will consequently be improved.

Non-metals. Japan is blessed with abundant sulphur resources. The high rate of self-sufficiency, namely, refined sulphur 140%, sulphur ore 100% and pyrites 100%, will ultimately form the basis for the development of the chemical industry.

The abundance of clay, kaoline, silica-sand, limestone and gypsum, etc. will also promote the growth of the ceramic industry, and that of graphite and fluorite will contribute to the development of pyrochemical processes. More than half of the production of arsenic is destined for export.

The rate of self-supply of salt, which is a basic material for the

alkali industry, is only 50%, and the domestic requirements of industrial salt are almost entirely met by importation.

The apparent supply of soda-ash, which is a secondary raw material derived from salt, has recently increased considerably, but is not sufficient to meet the whole domestic demand, the rate of self-sufficiency being nearly 80%. Production of caustic soda has now reached self-sufficiency.

The country was formerly entirely dependent upon foreign sources for the supply of nitrates, but great progress has been made in recent years in the nitrogen-fixation industry which has developed to such an extent as to be able at present to supply almost the whole domestic demand for nitrogen.

Mica, asbestos, magnesite, phosphates, potash, etc. may be enumerated in the group of scanty supply of less than 10%. The low rate of self-sufficiency in mica, asbestos and phosphates may not be improved unless new resources are discovered. As regards magnesite and potash, new sources have been opened, and the domestic supply will sooner or later be substantially increased.

TABLE 41

PRODUCTION AND SELF-SUFFICIENCY IN NON-METALLIC MATERIALS

	Domestic production (metric tons)	Standard of self-supply		Domestic production (metric tons)	Standard of self-supply
Graphite	23,500	B	Salt	1,065,000	D
Mica	30	E	Soda (Soda ash)	201,200	C
Asbestos	10	E	Nitrates	—	E
Gypsum	104,000	B	Nitrogen		
Clay and kaoline	2,644,000	B	(Sulphate of ammonia)	455,000	B
Silica sand	300,000	B	(Cyanamide)	279,000	B
Limestone	4,685,000	B	Sulphur and sulphur ore	118,000	A
Magnesite and dolomite	unavailable	E	Iron pyrite	918,000	B
Phosphorite	105,000	E	Barytes	5,000	C
Fluorite	9,000	B	Arsenic (white)	2,500	A
Potash	—	E			
Alunite	27,000	B			

Zoonic Materials. The supply of raw silk and fish oil is extremely abundant, but the output of wool, hides, bristles and animal fat is deficient.

The export of raw silk during the year 1933 represented about 70% of the total output, while the domestic supply of wool, in spite of a rapidly increasing demand following the recent expansion of the Japanese woollen industry, remained stationary at about 300,000 lbs., the greater part of this raw material being consequently imported.

TABLE 42

PRODUCTION AND SELF-SUFFICIENCY IN ZOONIC MATERIALS

	Domestic production (metric tons)	Standard of self-supply		Domestic production (metric tons)	Standard of self-supply
Raw silk .	44,000	A	Animal fats	5,000	D
Wool . .	140	E	Fish oil .	120,000	A
Bristles .	unavailable	D	Shell of mol-		
Hides . .	„	C	lusca. .	unavailable	D
Leather .	„	B			

The absence of extensive stock-raising checks the domestic supply of hides, and self-sufficiency in this commodity is unsatisfactory. In cow leather only is the supply nearly self-sufficient. The demand for bristles and shells is surprisingly large, and the greater part of the raw material is met by imports. Fish oil, which holds the most important position among materials derived from marine products, is adequate in output, and there is even further scope for the expansion of exports.

Vegetable Materials. Japan exports camphor, peppermint and isinglass, the chief export product being camphor. The supply of rayon has shown a great expansion, and this product figures now as an important export article. Timber produced in Japan is nearly sufficient to meet the domestic demand, yet a fairly large amount is imported. Vegetable oil is abundant and even available for export, but the output of oil seed can barely meet about 40% of the total home demand.

The most important vegetable material in Japanese industry is raw cotton. Total yearly requirements are approximately one million metric tons, whilst home production does not attain to 100,000 tons (in seed cotton). Thus Japan depends almost entirely upon foreign resources. The import value of raw cotton in 1933 amounted to 600 million yen, corresponding to about 30% of the aggregate total of the country's imports.

TABLE 43

PRODUCTION AND SELF-SUFFICIENCY IN VEGETABLE MATERIALS

	Domestic production (metric tons)	Standard of self-supply		Domestic production (metric tons)	Standard of self-supply
Timber. .	21,000,000(c.m.)	B	Camphor	4,200	A
Pulp (for paper)	630,000	C	Peppermint	570	A
Pulp (for rayon)	—	E	Raw cotton	97,000	E
Rayon yarn	41,000	A	Jute, flax and hemp	60,000	D
Shellac and resin . .	10	E	Oil seeds	15,000	D
Tanning materials .	unavailable	E	Vegetable oil	135,000	A

The output of pulp for paper manufacturing is self-sufficient to the extent of nearly 80% of the home demand, but the whole of the 60,000 tons of the country's annual demand for rayon pulp was imported. This state is now rapidly being improved, and self-sufficiency is expected to be reached in the near future.

The state of self-sufficiency in jute, flax and hemp, although better than in raw cotton, is only about 40%. Shellac, resin and tanning materials are almost entirely imported.

Mineral Hydrocarbons. The total coal output in Japan in 1933 was about 36,000,000 metric tons. Imports during the same period amounted to 4,000,000 tons, and exports to 1,750,000 tons. Thus the rate of self-sufficiency was 94%, but if examined closer by categories, the situation is not so satisfactory, particularly in regard to anthracite, which satisfies only about 60% of the domestic demand.

Coal requirements for carbonization total approximately 4,000,000 metric tons annually, a part of which must be supplemented by importation. The products as well as by-products of the industry are almost in a self-sufficient state.

Japan is very deficient in petroleum resources, the output of crude oil and natural gasoline for the year 1933 being only 2,400,000 hectolitres. The import of crude oil and its derivatives during the same period amounted approximately to 25,000,000 hectolitres excluding naval requirements, and the export of oil products to 260,000 hectolitres. The rate of self-sufficiency was less than 10%. However, as a result of the recent development of the oil refining industry, the import of oil products is gradually being replaced with that of crude

TABLE 44

PRODUCTION AND SELF-SUFFICIENCY IN MINERAL HYDROCARBONS

	Domestic output	Standard of self-supply
Coal	36,000,000 (metric tons)	B
Crude oil and natural gasoline . . .	2,400,000 (hectolitres)	E
Petroleum products .	9,900,000 („)	D
Asphalt	76,000 (metric tons)	B
Paraffin . . .	12,000 („)	C

oil. When the derivatives manufactured in Japan from imported crude oil are added to the domestic output, the output of petroleum products may be estimated to supply 41% of the whole demand.

TABLE 45

PRODUCTION AND SELF-SUFFICIENCY IN PETROLEUM PRODUCTS

(1933, in 1,000 hectolitres)

	Total requirements	Domestic output	Rate of self-supply	Refined from domestic crude oil	Rate of self-supply
Gasoline .	8,962·6	4,061·2	45·3	519·5	5·8
Kerosene .	1,458·7	796·3	54·6	213·8	14·7
Light oil .	2,097·0	2,066·0	98·5	546·5	26·1
Lubricating oil . .	1,964·9	1,918·8	97·7	423·4	21·5
Heavy oil .	8,483·8	1,070·3	12·6	211·3	2·5
Total .	24,037·2	9,912·6	41·2	1,914·5	8·0

The production of asphalt, paraffin and carbon-black, has lately developed, and at present supplies 90%, 80% and 24% respectively of the home demand. However, the figures for the first two materials include the output from imported raw materials. Carbon black is a pure home product, and the rate of self-sufficiency is expected to improve further.

3. IMPORTANCE OF MANCHOUKUO AS A SOURCE OF RAW MATERIALS.

When surveying the present condition of raw material supply for Japanese industry, particularly manufacturing, one is struck by the

great inferiority in natural resources and the surprising skill with which human ingenuity has complemented this drawback. In view of the high degree of utilization of resources, the present condition of self-sufficiency in various raw materials is not necessarily inferior to that of other countries, particularly as regards variety of utilized resources. However, the recent expansion of the manufacturing industry has carried production beyond the limit of self-sufficiency in almost every group of raw materials, and necessitates importation on a large scale, particularly in the most important national industries, such as iron and steel, raw cotton, wool, rubber, petroleum, etc.

In view of the accelerated pace at which the Japanese manufacturing industry has been expanding of late, it may be pertinent to refer to the influence on the future supply of raw materials of the depreciation of the yen which has led to a sharp price advance of imported materials; of the political and economic situation throughout the world, with every nation tending towards a nationalistic policy; and to the international tension created by the Manchurian incident.

Under these circumstances, it is evident that Manchoukuo is of great importance to Japan as a source of raw materials and a market for her manufactured articles.

CHAPTER VI

CAPITALIZATION

1. Sources of Capital

Japan is at present little dependent on foreign countries for the supply of capital. The development of her industries practically proceeds without outside help, the capital required for industrial exploitation and development being almost entirely of her own, and national savings form the fountainhead of this supply. A correct estimation of the amount of national savings is very difficult, but according to a calculation based on the method sponsored by Prof. S. Hijikata[1], national savings in Japan were on the increase until 1928, and after a period of a few slack years again reverted to an increasing turn in 1932, as shown in Table 46.

The national investment, which decreased during the period from 1926 to 1932, showed a sharp advance in 1933. However, the largest part of this advance was in national loans issued during the period, the capital invested directly in purely industrial enterprises constituting only an insignificant fraction of the total investment.

In general, investments surpass savings in prosperous years, while a contrary development may be looked for in times of depression. In recent years both investments and savings increased remarkably, but only during the period from 1919 to 1923 and in the two years 1925 and 1926 did national investments exceed national savings. Moreover, taking into consideration the huge issue of Government bonds in recent years, it will be seen that the present industrial activity is only partially attributable to some particular cause, and can not be said to reflect general industrial prosperity.

Banking funds, financial resources of the Deposit Bureau of the Ministry of Finance, insurance and trust concerns, co-operative credit societies, etc., exclusive of minor money organs for the poorer classes such as money lenders, pawnshops, mutual aid financial associations,

(1) Cf. Prof. S. Hijikata, *The Structure of National Income* (in Japanese), 1933.

TABLE 46

ESTIMATE OF NATIONAL INCOME, NATIONAL SAVINGS AND NATIONAL INVESTMENT

	National income (a)		National savings (million yen)			
	Total (million yen)	Income per capita (yen)	Increase in deposits and money in trust	Insurance premiums, etc.	Negotiable securities subscribed by individuals	Total
1919	10,657	189	1,581	167	670	2,418
1928	12,424	200	1,291	675	774	2,740
1929	11,918	189	785	672	496	1,953
1930	10,470	162	− 158	720	323	885
1931	9,421	144	− 96	639	490	1,033
1932	10,080	152	346	720	669	1,735
1933	11,776	175	1,019	782	918	2,719
1934	12,351	181	1,136	819	802	2,757
1935	12,817	185	...	...	...	...

	National investment (million yen)			
	Government and local loans	Company debentures and securities	Increase of short-term loans	Total
1919	371	1,284	2,610	4,265
1928	629	780	− 386	1,023
1929	419	686	− 72	1,033
1930	223	513	78	814
1931	370	339	114	823
1932	948	316	− 462	802
1933	1,344	290	180	1,814
1934	1,132	644	− 333	1,443
1935	...	...	...	...

(a) 1919-1931 based on the results of researches by Prof. S. Hijikata; from 1932 calculated on the aggregate combined index of commodity prices, bank clearings, wages and total value of exports and imports.

etc., constitute the main reservoir for financing new enterprises. Bank deposits contribute about 63%, post office and postal transfer account savings 13%, legal and payment reserves of insurance companies 8%, trust companies 7% and co-operative credit societies 5%, to the total supply of funds.

Foreign capital imports take the shape of either investments in Japanese national or city bonds and company debentures, or are a consequence of direct investments by foreigners in the country. The greater part of such foreign capital is invested in national and

TABLE 47

FUNDS AVAILABLE FOR INVESTMENT PURPOSES

(in million yen)

	1919	1928	1929	1932	1933	1934
Bank deposits and debentures. . . .	10,633	14,010	14,439	14,133	14,561	15,098
Money in trust . .	—	1,004	1,169	1,226	1,378	1,575
Postal savings incl. savings transfer account .	732	1,792	2,106	2,769	2,869	3,021
Co-operative credit societies savings . .	186	1,011	1,108	1,063	1,179	1,179*
Insurance, legal and payment reserves . .	397	1,302	1,455	1,832	1,986	1,986*
Post-office life insurance and life annuity reserves	9	376	484	815	950	950*
Total . . .	11,956	19,494	20,760	21,837	22,925	23,809*
Increase on previous year	2,105	1,395	1,266	1,077	1,088	884

* Estimated figures.

TABLE 48

FOREIGN CAPITAL INVESTMENTS

(in million yen)

	National bonds in foreign currencies	National domestic bonds held abroad	Local bonds	Debentures	Total
1913	1,524·6	74·6	177·1	166·9	1,824·6
1920	1,428·3	34·3	140·3	47·5	1,650·4
1924	1,514·3	26·0	127·4	193·5	1,861·1
1928	1,453·1	31·4	254·2	470·4	2,209·0
1929	1,446·9	31·8	245·7	465·6	2,190·0
1930	1,567·3	84·2	245·2	455·9	2,352·5
1931	1,477·3	59·2	240·7	506·0	2,283·2
1932	1,398·3	51·4	235·5	467·8	2,153·0
1933	1,421·2	50·0	231·0	383·1	2,085·3
1934	1,408·3	49·8	226·5	356·0	2,040·6

Taken from *Financial and Economic Annual* (*Kin-yu Jiko Sanko-sho*), compiled by the Ministry of Finance. Excluding share capital (estimated figures being 26 million yen in 1913 and 114 million yen in 1927).

local Government bonds. As regards company debentures subscribed abroad, those of Japanese electric enterprises (lighting and power supply) and the gas industry represent the greatest shares.

As will be seen from Table 48, foreign investments in Japan, excluding share holdings, approximate 2,000 million yen. However, the entire amount is not held by foreigners, about one-third of the total, mainly bonds and debentures, having been repatriated by Japanese nationals.

Foreign capital investments decreased from the time of the World War until about 1922, during which period there was a reduction of over 400 million yen, but the inflow was again resumed after the great earthquake of 1923, resulting in an increase of 827 million yen by 1930. The situation was, however, reversed in 1931, and after 1932 the inflow of foreign capital (long-term loans) entirely stopped.

TABLE 49

FOREIGN LOANS ISSUED AND REDEEMED

(In 1,000 yen)

	Issue			Redemption		
	National loans	Local loans	Debentures	National loans	Local loans	Debentures
1928	—	—	242,326	7,139	3,532	87,316
1929	—	—	22,968	6,198	4,542	27,989
1930	264,463	—	—	144,032	5,068	9,557
1931	—	—	60,381	89,890	3,981	10,337
1932	—	—	—	79,037	8,589	38,150
1933	*39,052	—	—	16,137	6,414	*84,644
1934	—	—	—	12,908	5,180	27,235
1935	—	—	—	35,417	3,592	15,755

Based on returns of the Bank of Japan. The loan of ¥ 39,052,000 marked * represents the South Manchuria Railway Sterling Loan of 1932 which was taken over by the Government in 1933; accordingly it cannot be considered as a new issue. It is therefore included in the redemption column of the same year.

Accurate information regarding business concerns operated wholly or partly with foreign capital is not available, but the majority of these concerns are established under Japanese law. Some of them are entirely capitalized and controlled by foreigners, whilst there are some joint enterprises comprising Japanese and foreign capital in which the foreign capital predominates, but the general tendency is for foreign capital to decrease. Electric engineering accounts for most of the foreign capital invested, American capital being predominant.

There are also foreign concerns which are practically, as well as legally, branch establishments of foreign juridical persons having their headquarters in foreign countries. Most of these enterprises

are trading concerns and insurance companies with a comparatively small capitalization.

2. Accumulation of Capital

The total capitalization, comprising paid-up capital and partnership funds, of all companies in Japan proper at the end of 1933, was 14,547 million yen, or 17,540 million yen if reserve funds are included. Besides, there were outstanding company debentures aggregating 4,336 million yen.

Business promotion has shown an increasing tendency from the year 1894. From then up to the present time there has been a successive increase annually in the number of companies newly established as well as in total capitalization. In the year 1894 there existed throughout the country 2,844 companies with a paid-up capital aggregating 245 million yen. During the period of twenty years from 1894 to 1913 inclusive, capitalization increased by 1,738 million yen, or at an annual average of 90 million yen. The great industrial expansion during the World War brought about a rapid increase in company capitalization, the total augmentation up to 1920 amounting to 6,155 million yen, corresponding to an average annual increase of 879 million yen. However, the post-war reaction, the great seismic disaster of 1923 and the world-wide depression in later years retarded the growth of business promotion and the expansion of business capitalization. During the ten years from 1921 to 1930,

TABLE 50

Development of Company Capitalization

(in million yen)

	Number of companies	Authorized capital	Paid-up capital	Reserves	Debentures	Ratio to total capitalization		
						Paid-up capital	Reserves	Debentures
1913	15,406	—	1,983	542	—(a)	%	%	%
1920	29,917	13,478	8,238	1,913	1,226	72·3	16·8	10·8
1928	41,702	18,969	13,161	2,759	3,703	67·1	14·0	18·9
1929	46,692	19,666	13,791	2,874	4,110	66·4	13·8	19·8
1930	51,910	19,634	13,947	2,891	4,323	65·9	13·7	20·4
1931	57,226	19,552	13,960	2,892	4,489	65·4	13·6	21·0
1932	65,041	19,485	14,047	2,935	4,514	65·3	13·7	21·0
1933	71,196	19,960	14,547	2,993	4,336	66·5	13·7	19·8

Based on *Company Statistics* compiled by the Ministry of Commerce and Industry.
(a) Extracted from the returns of the Revenue Bureau of the Ministry of Finance.

the increase in capitalization was only 5,709 million yen, despite a large addition in the number of companies. The increase of capitalization in the period after 1930 was even much lower, dropping to 14 million yen in 1931. In 1933 the industrial recovery made itself felt, and capital expansion for that year again exceeded 500 million yen.

Until about 1928, the *kabushiki kaisha*, or joint-stock company, (including the *kabushiki goshi kaisha*, or joint-stock limited partnership) occupied the foremost position in business organizations, the *goshi kaisha*, or limited partnership concerns, coming next. In recent years, however, limited partnerships have remarkably increased, and now occupy the position formerly held by joint-stock companies and joint-stock limited partnerships. Still, in respect of paid-up capital, joint-stock companies take by far the greatest share, their combined paid-up capital at the end of 1933 representing 85% of the total. The paid-up capital of both joint-stock companies and joint-stock limited partnerships is on the increase, while investments in *gomei kaisha*, or partnerships tend to decrease despite the increment in the number of establishments.

According to the returns of the Bank of Japan, joint-stock companies and joint-stock limited partnerships in Japan proper and Japanese dependencies numbered 31,923 in November, 1935, with an aggregate paid-up capital of 15,318 million yen. In addition, the face value of debentures amounted to 5,497 million yen at the end of 1935.

Business capital invested in the Japanese dependencies has shown a gradual increase in recent years, notably in 1933, when the total

TABLE 51

NUMBER AND PAID-UP CAPITAL OF COMPANIES

	Number of companies			Paid-up capital (in million yen)		
	Joint-stock companies and joint-stock limited partnerships	Limited partnerships	Partnerships	Joint-stock companies and joint-stock limited partnerships	Limited partnerships	Partnerships
1920	16,228	8,989	4,700	7,280	378	580
1928	18,273	16,971	6,458	11,206	837	1,119
1929	18,995	20,318	7,379	11,763	880	1,148
1930	19,390	23,995	8,525	11,853	907	1,186
1931	19,698	27,855	9,673	11,863	940	1,157
1932	20,057	34,059	10,925	11,898	977	1,172
1933	20,814	38,038	12,344	12,346	1,033	1,168

Ibid.

capitalization amounted to 1,610 million yen, an addition of 225 million yen to the figure of the previous year. This conspicuous increase is chiefly attributable to the capital expansion carried out by the South Manchuria Railway Co., but in part reflects the prosperous condition of the dependencies. The capital invested in business promotion and extension in Chosen has steadily increased since 1927, the total reaching 431 million yen in 1933. In Taiwan, where business promotion was declining for some time, a recovery has been recorded in recent years, the total investment aggregating 310 million yen in 1933. The situation in the Kwantung Leased Territory and the South Manchuria Railway Zone was similar, the combined total capitalization in 1933 amounting to 810 million yen, an increase of 200 million yen over the previous year. The figures for Karafuto and the South Sea Mandated Islands are rather insignificant. The total investment in 1933 was 40 million yen in Karafuto and 18 million yen in the Mandated Islands.

Conspicuous as was the growth of business promotion, the average capitalization per establishment, which kept on increasing steadily until 1926, has since gradually decreased. The average capitalization in 1926 was 335,000 yen as against 275,000 yen in 1920, but the corresponding figure at the end of 1933 declined to 204,000 yen, which approximates the level of 1918. The diminution of the per company capitalization is partly accounted for by the progress of business adjustment carried out during the depression period and partly by a proportionate increase in the number of small enterprises in recent years. The declining tendency is more notable in limited partnerships and unlimited partnership companies than in joint-stock companies and joint-stock limited partnerships.

Commercial concerns, including those engaged in banking and other monetary business, head the list both in the number of establishments and in the volume of capitalization, followed by industrial companies. The combined capitalization of these two branches represents over 80% of the total. Next in order are transportation and mining, which respectively take 10·7% and 5·0% of the total capitalization, followed by agriculture and fishery with a capitalization scarcely exceeding 1%. It is noteworthy that the predominant position in capitalization of commercial concerns is gradually being lost to industrial companies. The rôle of agriculture as a form of capitalized enterprise is naturally insignificant, which does not detract from its fundamental importance in the national economy.

The companies grouped under the head of commerce include banks, insurance companies, trust companies, holding companies, etc.

TABLE 52

COMPANIES CLASSIFIED ACCORDING TO CAPITALIZATION

	Less than ¥50,000	¥50,000 to 100,000	¥100,000 to 500,000	¥500,000 to 1,000,000	¥1,000,000 to 5,000,000	¥5,000,000 to 10,000,000	Over ¥10,000,000
	Number of companies						
1920	14,753	3,855	6,520	2,076	2,182	531	
1928	23,453	5,144	8,143	2,051	2,199	321	391
1929	27,740	5,477	8,427	2,079	2,236	325	408
1930	32,465	5,809	8,638	2,048	2,217	327	406
1931	37,667	6,034	8,650	1,985	1,164	319	407
1932	45,252	6,262	8,690	1,931	2,190	312	404
1933	50,626	6,599	9,065	1,995	2,198	308	405
	Paid-up capital (in million yen)						
1920	162	149	641	577	2,013	4,696	
1928	258	236	990	711	2,414	1,264	7,289
1929	296	254	1,036	733	2,470	1,267	7,735
1930	334	274	1,079	734	2,489	1,285	7,752
1931	370	286	1,090	725	2,462	1,259	7,767
1932	423	300	1,107	717	2,530	1,270	7,706
1933	467	321	1,167	758	2,576	1,253	8,010

Ibid.

with an aggregate capital approximating 3,000 million yen. The capitalization of purely commercial establishments in a narrow sense is only about one-half of the total. The capitalization of banks, quasi-banking establishments, insurance and holding companies, etc. shows a decreasing tendency, while investments in purely commercial concerns are increasing.

In industry, gas and electric enterprises hold a predominant position with a capitalization aggregating 2,237 million yen, or nearly half of the total industrial capitalization. Notable is the advance of investments in the chemical, ceramic, metal and mechanical engineering industries, which shows the directions of recent industrial development.

In Chosen, Taiwan and the South Sea Mandated Islands, the largest capitalization is in industrial enterprises, with transportation ranking next. In Chosen, banking and similar enterprises formerly occupied the leading position, but in recent years industrial enterprises have forged ahead, and at the end of 1933 represented about 25% of the total capitalization. The growth of agricultural and forestry enterprises is also noteworthy. In Taiwan, industries take 63% of the

TABLE 53

COMPANY CAPITALIZATION ACCORDING TO BUSINESS

	Agriculture	Fishery	Mining	Industry	Commerce	Transportation	Total
	Number of companies						
1920	787	259	457	11,829	14,530	2,055	29,917
1928	761	251	371	15,271	21,427	5,621	41,702
1929	813	269	394	16,623	24,481	4,112	46,692
1930	867	283	376	18,205	27,691	4,488	51,910
1931	1,005	294	383	19,969	30,794	4,781	57,226
1932	1,370	309	389	22,575	35,315	5,083	65,041
1933	1,548	316	427	24,717	38,850	5,338	71,196
	Paid-up capital (in million yen)						
1920	114	39	642	3,057	3,597	790	8,238
1928	117	90	711	5,193	5,667	1,382	13,161
1929	125	106	773	5,399	5,910	1,478	13,791
1930	129	89	712	5,519	6,009	1,489	13,947
1931	120	84	712	5,604	5,937	1,503	13,960
1932	120	110	711	5,584	5,994	1,527	14,047
1933	123	108	732	5,950	6,077	1,558	14,547

Ibid.

total capitalization, being closely followed by commercial enterprises. More than half of the capital investment in the Kwantung Leased Territory and the South Manchuria Railway Zone represents the business interests of the South Manchuria Railway Co. Investments in other enterprises are comparatively limited, though industrial capitalization in that region is on the increase.

3. RECENT DEVELOPMENT OF CAPITAL INVESTMENT

An examination of the development of new capital investment classified by enterprises, reveals that industry leads all other groups with a very conspicuous increase in the amount of capital absorbed. Investments in new industrial enterprises increased sharply by 525 million yen in 1933, and by 1,082 million yen in 1934. The increase in 1933 was mainly due to business extension, while the total in 1934 includes the promotion of the Japan Steel Manufacturing Co. Investments in commercial enterprises also increased from 1933 though not to the same extent as for industrial enterprises, the total

in 1934 reaching 223 million yen. In the mining industry, new investments rose to 130 million yen in 1934. Investments in the transportation business also increased though to a limited extent. In banking and insurance, promotion is on the decline excepting for some temporary activity in 1933. The increase in agriculture, forestry and fishery was rather insignificant.

As regards limited and unlimited partnerships, commercial and

TABLE 54

NEW CAPITALIZATION OF JOINT-STOCK COMPANIES AND JOINT-STOCK LIMITED PARTNERSHIPS

(Paid-up capital; in 1,000 yen)

	1929	1931	1932	1933	1934	1935 (Jan.-Nov.)
Agriculture and forestry	8,245	2,360	3,717	5,404	11,251	19,075
Fishery	11,080	5,158	41,789	9,055	18,464	7,691
Mining	79,153	18,389	17,689	70,731	130,351	174,986
Industry	350,244	307,538	170,399	525,531	1,082,550	563,111
Metals	30,909	31,460	3,149	50,646	470,459	102,773
Machines and tools	21,828	17,496	17,485	39,211	113,858	81,338
Shipbuilding and repairing	14,635	120	16,577	64,300	28,031	7,569
Chemicals	32,543	82,643	29,450	90,717	143,347	142,979
Textiles	29,551	35,257	27,093	54,207	95,625	42,345
Foods and beverages	10,394	20,335	6,060	23,142	30,298	37,490
Paper	3,386	7,217	1,012	66,995	22,685	6,558
Ceramics	9,096	3,503	8,995	6,298	20,474	14,191
Electric power	133,925	85,271	43,246	78,688	104,961	78,424
Banking and insurance	83,602	43,321	43,470	135,210	38,976	22,484
Transportation	154,662	57,212	40,508	55,011	60,751	64,119
Commercial, etc.	209,969	154,208	123,065	169,543	222,810	256,799
Total (incl. other industries)	896,965	583,192	440,642	970,488	1,565,159	1,108,269

Based on returns of the Bank of Japan; figures show the total of new promotion, increase of capital and calls on unpaid shares in Japan proper, Chosen, Taiwan, Karafuto and South Manchuria. In addition to the above figures, new capitalization of limited and unlimited partnerships amounted to ¥ 83,868,000 in 1932, ¥ 140,829,000 in 1934 and ¥ 146,698,000 in the first eleven months of 1935.

industrial establishments show the largest total investment, followed by mining which registered a marked increase in 1934.

Business dissolutions and capital reduction reached the highest mark in 1930, with a total of 580 million yen, this figure representing only joint-stock companies. There has since been a gradual decrease of business failures. Industrial, banking and commercial enterprises

TABLE 55

Business Dissolutions and Capital Reductions

(Joint-stock Companies and Joint-stock Limited Partnerships)

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935 (Jan.-Nov.)
Agriculture and forestry	5,507	4,494	6,950	2,414	3,352	2,224
Fishery	1,936	10,448	11,083	11,128	22,491	4,162
Mining	33,515	16,925	18,118	19,323	20,983	25,459
Industry	108,677	188,633	162,655	185,822	152,310	145,942
Banking[a] and insurance, etc.	67,210	84,058	74,941	112,875	54,013	53,148
Transportation	319,977	34,679	20,996	29,782	34,543	26,747
Commercial and miscellaneous	72,392	144,603	54,544	67,537	50,229	90,959
Total	330,812	483,845	349,293	428,884	337,926	348,647

Ibid. (*a*) Figures for banking include limited and unlimited partnerships.

TABLE 56

Issues and Redemptions of Debentures

(in million yen)

	1928	1931	1932	1933	1934	1935
Bank debentures						
Issue	694·8	313·2	390·5	673·0	357·6	424·7
Redemption	605·6	240·1	256·2	850·8	499·4	479·0
Outstanding (end of year)	1,837·1	2,153·6	2,287·9	2,110·1	1,968·3	1,914·0
Corporation debentures						
Issue	1,219·4	264·9	287·5	924·0	1,469·4	849·1
New issue	292·4	84·8	73·6	76·8	215·9	...
Conversion issue	927·0	180·0	213·8	847·1	1,253·5	...
Redemption	687·7	137·3	251·5	989·4	1,257·6	655·5
Outstanding (end of year)	2,675·8	3,064·0	3,038·7	2,967·5	3,177·3	3,365·7
Total						
Issue	1,914·2	578·2	678·0	1,597·0	1,827·0	1,273·8
Redemption	1,293·2	377·4	507·7	1,840·2	1,757·0	1,134·5
Outstanding (end of year)	4,512·8	5,217·6	5,326·6	5,077·6	5,145·6	5,279·6

Ibid.

were particularly affected. In agriculture, forestry and fishery, dissolutions and capital reductions were of limited extent.

The issue of bank and company debentures, which showed a decreasing tendency from the maximum of 1,910 million yen in 1928, turned to increase from 1933, the figures for 1933 and 1934 being 1,600 million yen and 1,900 million yen respectively. In 1935, however, the total again declined to 1,274 million yen. This expansion in debentures has been particularly noticeable in company debentures. Redemptions have increased remarkably since 1933, and, as regards bank debentures, exceeded the total of new issues.

4. Japanese Investments in Manchuria

Japanese investments in Manchuria have grown apace since the establishment of the new State of Manchoukuo. This event has offered an opportunity for the expansion of economic activity and the introduction of Japanese capital.

Japanese overseas investments have been almost limited to China and Manchuria, investments in these localities being roughly estimated at 90% of the total investment abroad. Owing to the lack of available data, exact figures of the total investment up to date are not obtainable, but there are reliable estimates which are given in Table 57.

TABLE 57

Japanese Investments in China

(at the end of 1930; in 1,000 yen)

	North China	South China	Manchuria(a)
Loans	695,598	126,411	
Enterprises of juridical persons	37,842	266,995	
Individual enterprises	unavailable	unavailable	
Total	733,440	393,406	1,616,966

Taken from *Shigen*, March, 1932. (a) Compiled by the East Asiatic Economic Investigation Bureau.

The withdrawal of Chinese funds from Manchuria after the Manchurian incident has facilitated the advance of Japanese capital in Manchuria, the total Japanese investments during the three years from 1932 to 1935 approximating 730 million yen. When investments in small commercial and industrial enterprises by individuals

and the funds disbursed by the military are considered, the total must be huge, but an estimate is very difficult. Japanese capital invested in Manchuria during the past four years is shown below :—

TABLE 58

JAPANESE INVESTMENTS IN MANCHURIA

(in 1,000 yen)

	1932	1933	1934	Total	1935 Jan.- Oct.	Total
South Manchuria Railway Co.						
Increase of capital .	50,000	36,000	36,000	122,000	36,000	158,000
Loans. . . .	40,000	20,200	130,000	190,200	114,800	305,000
Loans raised by companies affiliated with S. M. R. Co. . . .	—	1,700	30,450	32,150	27,000	59,150
Share capital paid-up of newly established companies	8,957	30,034	37,617*	76,607	9,393*	86,000*
Loans by the Mitsui and Mitsubishi Interests .	20,000	—	—	20,000	—	20,000
Manchoukuo Government bonds						
Kenkoku bonds. . .	—	30,000	—	30,000	—	30,000
Special industrial bonds .	—	—	10,000	10,000	—	10,000
North Manchuria Railway bonds. . . .	—	—	—	—	60,000	60,000
Total . . .	118,957	117,934	244,067	480,957	247,193	728,150

Based on returns of the Bureau of Manchurian Affairs and the Ministry of Finance.
* Rough estimate.

Formerly, the field of Japanese investments in Manchuria was mainly confined to agriculture, forestry, mining, commerce, banking, etc., investments in industrial enterprises being insignificant, but lately investments in industry have shown a marked increase.

CHAPTER VII

ECONOMIC FACTORS AFFECTING COST OF PRODUCTION

In endeavouring to survey the influence of the cost of production on Japan's competitive power in world markets, it will be impossible, on account of the lack of reliable data, to give concrete figures. An analysis must, therefore, be confined to the principal basic conditions affecting the cost of production. A study of official factory statistics published by the Ministry of Commerce and Industry makes it possible to calculate the cost of raw and other materials used in production, the total of wages and salaries, the consumption of fuel etc., as against the entire value of industrial output. However, the cost of gas is not included in the consumption of fuel as figures relating to gas and power consumption are not available. In a general way, the cost of materials represents about 60% to 70%, wages and salaries around 10%, and fuel consumption only approximately 2% of total production cost. Costs of materials showed a marked increase during recent years, while the percentage for wages registered a decline. On the other hand, it appears that

TABLE 59

COMPARISON AND RELATION OF MANUFACTURING COST ELEMENTS

	Indices based on 1929=100				Percentage in relation to total industrial production			
	Total value of industrial production	Cost of materials used	Wages paid	Fuel consumption	Total value of industrial production	Cost of materials used	Wages paid	Fuel consumption
1929	100·0	100·0	100·0	100·0	100·0	60·7	9·7	1·8
1930	76·7	76·2	85·8	92·5	100·0	60·3	10·8	2·2
1931	66·7	64·5	73·4	71·2	100·0	58·7	10·6	2·0
1932	77·1	72·3	74·9	73·5	100·0	56·9	9·4	1·8
1933	101·5	99·8	85·6	98·6	100·0	69·7	8·1	1·8

Based on *Factory Statistics* compiled by the Ministry of Commerce and Industry; electric and gas industries, Government and municipal factories excluded.

the productive power of labour was greatly enhanced through the improvement in technique. A further percentage increase in the cost of materials is probable in the future, due to the advance in prices.

A short reference may be made here to the cost factor in industrial production in Great Britain and the United States, though it is somewhat difficult to compare the figures of these countries with those of Japan as the methods employed in the survey are not the same. According to the census in Great Britain of 1930, the combined total of the cost of materials and wages corresponded to 59·7% of the total cost of the gross output. In the United States, the cost of raw materials, fuel and motive power in 1931 was 52·0% and the total payment of wages 17·4%.(1) Comparing these figures, it will be seen that the cost of raw materials in Japan is relatively higher than in Great Britain and the United States, while the expenditure on wages is much less in Japan than in the United States.

1. Cost of Materials

As a large part of the raw material requirements of Japanese industry is imported, the cost of such materials is high and tends to advance on account of the decline of the yen.

The advance in the cost of raw materials from 56·9% in 1932 to 69·2% in 1933 probably continued in 1934. An examination of the undernoted table will show that industries such as cotton spinning, timbering and metal working now spend relatively more on the item of materials.

Industrial production experienced a rapid advance after the re-imposition of the gold embargo, but as the advance in prices of raw materials was much slower, manufacturers were in a position to reap good profits. However, while the prices of manufactured goods reached a peak in January, 1933, raw materials kept on advancing, and this tendency became even more pronounced in 1934.(2)

The domestic price advance of raw materials was not only due

(1) Cost of Production in Great Britain and the United States

(Great Britain, 1930)		(United States, 1931)	
Total value of production (£1,000,000)	2,448	Total value of production ($1,000,000)	41,350
Total payment for raw materials and wages (£1,000,000)	1,484	Consumption of raw materials, fuel and power ($1,000,000)	21,484
Percentage to total output	59·7	Percentage to total output	52·0
		Wages paid ($1,000,000)	7,186
		Percentage to total output	17·4

Based on Fourth Census of Production, 1930, by Board of Trade; Statistics of 1931 by Bureau of Census, Department of Commerce.

(2) Cf. Table 11. Price Movement of Raw Materials and Manufactures shown on p. 20.

TABLE 60

RAW MATERIALS IN RELATION TO TOTAL PRODUCTION

	Indices based on 1929=100						Percentage of materials used to gross output		
	Industrial production			Consumption of raw materials					
	1931	1932	1933	1931	1932	1933	1929	1931	1933
Textiles	60·7	69·7	91·9	57·4	63·6	91·4	72·6	68·6	72·3
Metals	61·7	84·6	125·7	87·0	87·6	131·9	59·4	83·7	62·3
Machines and tools	67·7	81·4	120·8	64·8	84·4	133·9	36·1	34·5	40·1
Ceramic industries	64·8	72·4	98·8	43·1	47·5	70·6	37·9	25·2	27·1
Chemicals	75·6	86·8	119·3	66·5	81·2	116·5	54·0	47·6	52·8
Timbering and woodworking	71·2	77·0	91·9	67·7	70·4	87·0	73·9	70·3	70·0
Printing and bookbinding	91·2	91·8	93·7	91·4	86·1	85·9	52·0	52·1	47·6
Foods and beverages	72·7	77·6	88·3	68·9	78·1	86·6	55·4	52·5	54·3
Other industries	72·2	92·9	109·1	75·9	88·4	107·5	61·4	64·5	60·5
Total	66·7	77·1	101·5	64·5	72·3	99·8	60·7	58·7	69·2

Based on *Factory Statistics*; electric and gas industries, Government and municipal factories excluded.

to the depreciation of Japanese exchange rate, but also to higher quotations in foreign markets. The price increase of raw materials is necessarily reflected in the export price, and it may be assumed that the competitive power of Japanese goods in foreign markets will be to a growing extent handicapped by the advance in production cost, while the comparatively low prices of manufactured goods will diminish the profits of industry. Without an increase in labour efficiency, the cheaper cost of production, one of the greatest advantages of Japanese industry, might conceivably be lost in the future.

2. LABOUR CONDITIONS

Wages. According to *Factory Statistics*, the total payment of wages turned to increase after a decline to the lowest level in 1931, the rise in 1933 being very sharp. However, when compared with production, the advance has been slow. While output in 1933 had already increased by 1·5% compared with 1929, the total payment of wages was about 14·4% lower than in the latter year. The textile industry in particular witnessed a decrease of 35·2%.

Payments of wages, although rising in absolute figures with the increase of output, registered a decline in ratio to total production. The gain in absolute figures was, of course, due to an increase in the number of operatives and working hours, while wages per hour declined. The number of operatives increased from 1,652,000 at the end of 1931 to 1,893,000 at the end of 1933, and working hours from 4,668,000,000 in 1931 to 5,367,000,000 in 1933. On the other hand, wages declined from ¥ 0·14 per hour in 1929 to ¥ 0·12 during the years from 1931 to 1933. Printing and bookbinding alone witnessed an increase to ¥ 0·21, other industries experiencing a decrease all round, the textile industry from ¥ 0·10 to ¥ 0·07 per hour.

TABLE 61

WAGES IN RELATION TO TOTAL PRODUCTION

	Indices of wage payments (1929=100)			Percentage of wages paid to gross output			Average wage per hour (Unit: sen)		
	1931	1932	1933	1929	1931	1933	1929	1931	1933
Textiles . .	67·9	62·6	64·8	9·3	10·4	6·5	10	8	7
Metals . . .	78·6	85·1	107·8	9·5	12·1	8·1	24	20	19
Machines and tools	70·7	82·8	109·0	19·1	20·0	17·3	24	20	20
Ceramic industries	65·9	73·6	85·8	14·7	15·0	12·8	17	15	14
Chemicals . .	89·5	92·3	107·3	5·7	6·8	5·2	16	15	14
Timbering and woodworking .	60·4	61·5	66·3	17·6	14·9	12·7	21	13	13
Printing and bookbinding .	89·4	85·9	100·1	17·5	17·1	18·7	21	18	21
Foods and beverages . . .	83·2	81·2	83·8	4·2	4·8	3·9	16	14	13
Other industries .	84·3	93·9	96·4	12·9	15·1	11·4	13	11	10
Total . .	73·4	74·9	85·6	9·7	10·6	8·1	14	12	12

Ibid.

The economic depression and rationalization of industry brought about a decline in wages through the replacement of male by female labour, and of skilled and high-waged operatives by cheaper labour. This general tendency naturally forced down the entire scale of wages. The wage decline has, however, been counterbalanced to some extent by the later activity in industry which resulted in new opportunities for employment and a gradual decrease in the number of unemployed.

Actual earnings, moreover, followed a different course. Though

the index registered a gradual decline up to 1931, it has since shown an increasing tendency due to the industrial activity and an increase in working hours. This tendency was checked for a time in 1933 on account of new employment, but in 1934 the grant of bonuses to skilled workers, the extension of working hours, etc. brought about a marked rise in actual earnings together with a further expansion of new employment.

The low fixed wage of female labour compared with male workers are striking. The average wage per day of male workers in 1934 was ¥1·35, while that of female workers was only ¥0·68. The average of actual earnings for male workers was ¥2·17, and that for female labour ¥0·70. Moreover, wages for female labour have been declining sharply in the past few years.

TABLE 62

WAGES PER DAY IN PRINCIPAL INDUSTRIES

(Unit: yen) m.=male, f.=female

		Fixed wages				Actual earnings			
		1929	1931	1934	1935 (Jan.-Nov.)	1929	1931	1934	1935 (Jan.-Nov.)
Textiles	m.	1·337	1·198	1·117	1·115	1·611	1·469	1·376	1·346
	f.	·851	·705	·623	·627	1·005	·769	·675	·670
Machines and tools	m.	1·892	1·778	1·593	1·537	2·926	2·572	2·751	2·692
	f.	·889	·863	·763	·738	1·187	1·090	·983	·959
Chemicals	m.	1·588	1·489	1·384	1·362	2·106	1·911	1·802	1·791
	f.	·789	·737	·672	·660	·943	·852	·760	·769
Foods and beverages	m.	1·611	1·536	1·462	1·428	2·045	1·901	1·859	1·842
	f.	·814	·765	·704	·692	·953	·907	·822	·796
Miscellaneous	m.	1·854	1·699	1·529	1·493	2·282	2·072	1·952	1·900
	f.	·968	·898	·759	·735	1·078	·971	·837	·806
Average	m.	1·593	1·470	1·348	1·326	2·302	2·059	2·171	2·149
	f.	·863	·771	·681	·672	1·008	·790	·700	·698

Based on returns of the Bank of Japan.

Employment and Working Hours. The state of employment in Japanese industry has considerably improved in recent years. According to the employment index of the Bank of Japan, there had been a decrease from 1926 to 1931 of 25·6%. The subsequent advance has carried the average index figure substantially beyond the level reached in 1919. There have, however, been considerable

changes in the intensity of employment among the various branches of industry.

TABLE 63

EMPLOYMENT INDEX

(Base : 1925=100)

	1929	1931	1934	1935 (Jan.—Nov.)
Male operatives	98·6	81·0	98·4	108·3
Female operatives	83·8	68·0	84·3	91·5
Average	91·1	74·4	91·3	99·7
Silk reeling	94·6	70·8	60·2	61·8
Spinning	82·3	62·3	69·4	74·2
Weaving	80·7	65·2	75·9	79·6
Machines	111·8	96·5	168·8	196·9
Shipbuilding	113·5	78·1	101·9	117·1
Metals	107·5	90·3	117·2	132·5
Ceramic industries	91·7	69·9	80·7	85·7
Paper manufacture	90·6	76·2	80·4	84·3
Pharmaceutical products	102·7	91·5	124·2	133·9
Rubber	118·5	122·0	148·5	147·8
Foods and beverages	90·7	79·8	84·5	89·8

Ibid.

The decrease in the number of workers employed up to 1931 was especially pronounced in the textile industry, while in the case of machinery and other heavy industries, employment having shown some increase up to 1929, the subsequent decline was all the more rapid. On the other hand, the increase in employment after 1933 was especially striking in the heavy industries such as machinery, metal work, etc., but the rise was rather slow in the textile industry. The decrease in employment up to 1931 was chiefly the outcome of the adjustment and weeding-out of workers under the pressure of the economic depression, but this process was hastened by the rationalization of industry. The result of rationalization may be clearly seen in the reduction of workers in the textile industry and the subsequent slow gain in employment during the years of recovery. The number of spindles per female worker increased from 35·3 in 1926 to 46·5 in 1929, and to 61·1 in 1934, and a similar advance in per capita efficiency may be discerned in weaving.

The adjustment and weeding-out process has led to an increase in female labour, particularly in the cotton industry. The proportion

TABLE 64

NUMBER OF SPINDLES AND LOOMS PER FEMALE OPERATIVE

	Working spindles (Unit : 1,000)	Number of female operatives	Working spindles per operative	Number of looms	Number of female operatives	Number of looms per operative
1926 (average)	5,003	141,787	35·3	65,699	48,177	1·36
1929 „	5,784	124,449	46·5	68,640	34,209	2·01
1931 „	5,904	98,008	60·1	64,392	23,024	2·80
1934 „	7,503	122,761	61·1	79,630	30,709	2·59
1935 (Jan.-Nov.)	8,196	134,160	61·1	82,325	32,224	2·55

Compiled by the Japan Cotton Spinners' Association.

of female labour in this industry advanced from 77·5% in 1929 to about 83·8% in 1933.

Hours of work were on the average reduced from 9·75 in 1926 to 9·33 hours per day in 1931. A comparison of working hours by industries shows that the curtailment was rather slight in the machinery and chemical industries, and greater in the textile industry, especially in cotton spinning, due to the abolition of midnight work in this industry. Since 1932, however, this situation has been altered, for, although little change is seen in the working hours of the textile industry, hours in the chemical and mechanical industries have been greatly lengthened, and indeed are now the longest in Japanese industry, a fact which reflects the industrial prosperity of the past few years.

TABLE 65

NET WORKING HOURS PER DAY

	1926	1929	1931	1932	1933	1934	1935 (Jan.-Nov.)
Textiles . .	10·33	10·01	9·49	9·47	9·48	9·50	9·50
Spinning . .	*9·84*	*8·95*	*8·52*	*8·48*	*8·48*	*8·49*	*8·50*
Machines and tools[a] . .	9·28	9·36	9·15	9·38	9·69	9·94	9·97
Chemicals . .	9·40	9·40	9·35	9·40	9·44	9·45	9·49
Foods and beverages .	9·26	9·28	9·20	9·25	9·26	9·30	9·32
Miscellaneous .	9·32	9·32	9·22	9·27	9·33	9·40	9·41
Total average.	9·75	9·50	9·33	9·38	9·45	9·50	9·51

Taken from returns of the Bank of Japan. (a) Includes metal works.

Productivity of Labour. The remarkable reduction in production costs, due to greater efficiency and lower wages, is reflected in the

increased production value in relation to number of workers, working hours and wages. The cotton spinning industry, in particular, affords a good example of this development.

TABLE 66

PRODUCTIVITY OF LABOUR

(Unit : yen)

	Output per worker			Output per working hour			Output ratio to wages (wage unit = ¥ 1·00)		
	1929	1931	1933	1929	1931	1933	1929	1931	1933
Textiles	3,180	2,144	3,211	1·06	0·76	1·12	10·77	9·63	15·28
Metals	7,684	5,120	6,993	2·48	1·65	2·36	10·54	8·28	12·29
Machines and tools	3,867	3,145	3,562	1·26	1·00	1·18	5·23	5·01	5·79
Ceramic industries	3,185	2,551	3,101	1·18	0·98	1·12	6·80	6·69	7·83
Chemicals	8,835	6,668	7,868	2·81	2·28	2·68	17·44	14·72	19·39
Timbering and woodworking	3,496	2,593	2,853	1·18	0·88	1·00	5·69	6·72	7·90
Printing and bookbinding	3,725	3,440	3,383	1·17	0·94	1·10	5·72	5·83	5·35
Foods and beverages	8,054	6,275	7,150	3·88	2·98	3·36	24·02	20·99	25·32
Other industries	2,782	2,051	2,469	0·99	0·71	0·90	7·75	6·64	8·78
Average	4,259	3,125	4,151	1·45	1·11	1·46	10·35	9·41	12·27

Taken from *Factory Statistics*.

The increase in productive efficiency continued in 1934 as evidenced by the cotton spinning industry which shows the following development :—

TABLE 67

AVERAGE DAILY OUTPUT PER OPERATIVE IN COTTON SPINNING MILLS

(Unit : *momme*)

	1926	1929	1931	1934	1935 (Jan.—Nov.)
Output per female operative	2,964	3,911	4,619	4,966	4,795
Average output per male and female operative	2,302	3,049	3,721	4,308	4,209

Compiled by the Japan Cotton Spinners' Association.

International Comparison of Wages and Working Hours. A comparison of Japanese labour conditions, especially of wages, with those of other countries can hardly yield definite conclusions, but may illustrate the general trend in the past few years. Comparing the wage indices of Japan, Great Britain and the United States, it will be found that the decrease was greater in Japan than in Great Britain, but rather less than in the United States.

However, from the viewpoint of competition in foreign markets, Japanese wages have been additionally cheapened by the greater decline in exchange rates. On account of divergent conditions as regards welfare work, retirement allowance, etc., international comparisons of

TABLE 68

COMPARISON OF WAGES IN JAPAN, GREAT BRITAIN AND THE UNITED STATES

Wage Indices (Base: 1929=100)

	1930	1931	1932	1933	1934
Great Britain	100	98	96	95	96
United States	91	79	60	62	71
Japan	95	87	85	86	88

Wage per Week (in December, 1934) m.=male f.=female

Great Britain	s.	U. S. A.	$	Japan[b]	yen
Cotton	31·9	Cotton, North m.	17·75	Textiles and dyeing m.	9·00
Wool	36·6	Cotton, North f.	13·95	Textiles and dyeing f.	4·44
Machinery[a]		Silk m.	22·11	Cotton spinning m.	8·89
Fitters, turners	59·1	Silk f.	13·59	Cotton spinning f.	4·36
Iron moulders	62·4	Iron and steel. m.	17·81	Machines and tools m.	18·68
Patternmakers	63·4	Foundries and machine shops m.	21·18	Machines and tools f.	6·44
Labourers	42·1	Foundries and machine shops f.	14·77	Machinery. m.	18·97
Shipbuilding[a]		Electrical manufacturing m.	23·94	Machinery. f.	7·82
Shipwrights	60·0	Electrical manufacturing f.	14·72	Metals m.	19·15
Ship joiners	60·0	Automobiles m.	24·45	Metals f.	6·49
Labourers	41·0	Automobiles f.	15·42	Chemicals m.	11·89
Electrical installation[a]	71·5	Chemicals m.	24·49	Chemicals f.	5·06
Building[a]		Chemicals f.	17·61	Foods and beverages m.	11·98
Bricklayers	65·6	Rubber m.	27·48	Foods and beverages f.	5·40
Carpenters and joiners	65·5	Rubber f.	16·26	Miscellaneous m.	13·26
Painters	65·1	Total average m.	21·54	Miscellaneous f.	5·42
Labourers	49·4	Total average f.	15·09	Total average m.	14·74
				Total average f.	4·63

Taken from *Ministry of Labour Gazette* (Great Britain); returns of N.I.C.B. (U.S.A.); returns of the Bank of Japan. (*a*) Recognized time rates. (*b*) Figures are worked out by multiplying actual earnings per day for a week of 6½ days.

wages are scarcely accurate, but rates in Japan are roughly half of those paid in the other two countries at par of exchange, and this disparity is widened by the greater actual depreciation of the yen and the fact that female labour represents more than 50% of the total employment in Japan.

The foregoing figures provide only fractional data, but they afford a basis for reference. In the following statistics concerning the cotton industry, wages paid to workers engaged in the spinning of yarns up to 40 counts are compared. It will be found that wages paid in Great Britain and Switzerland correspond to 230%, while those in the United States rise to about 370% of the rates in Japan.

TABLE 69

COMPARISON OF WAGES FOR OPERATIVES ENGAGED IN SPINNING OF YARNS UP TO 40 COUNTS

(in the latter part of 1932)

	Paid per week per worker (at par)	Number of workers per 1,000 spls.	Paid per week per 1,000 spls. (at par)	Output per week per 1,000 spls.	Wages per bale	Percentage relation to Japanese wages
	yen		yen	bale	yen	
Japan	5·8	6·1	35·5	2·7	13·2	100
U. S. A.	35·0	3·4	119·0	2·4	49·6	376
British India	5·5	15·0	82·5	2·4	34·4	260
Netherlands	14·0	5·5	77·0	2·3	33·5	254
Great Britain	18·0	4·0	72·0	2·3	31·4	238
Switzerland	14·0	5·0	70·0	2·3	30·4	230
France	12·0	5·5	66·0	2·4	27·5	208
Germany	13·0	4·5	58·0	2·3	25·4	192
Italy	11·0	5·5	60·5	2·4	25·2	191

Taken from a survey by the Fuji Gas Spinning Company.

According to an investigation made by the Industrial Club of Japan, in the first half of 1931, the relative cost of wages, welfare work and family allowances was 78·5%, 18·7% and 2·8% respectively.

Working hours in Japan are longer than in Great Britain and the United States, the average net hours of work per week being 62·21 hours, compared with 46–48 hours in Great Britain and 39 hours in the United States. This comparison refers to conditions at the end of 1934, and the fact should be taken into consideration that activity in the Japanese industry was then much greater than in the other two countries.

3. FUEL AND POWER

Japan's export trade centres on textiles which require a comparatively small fuel and power outlay. In the recently developed

industries such as machinery, metal works and chemicals, the cost of fuel and power assumes a greater importance.

Fuel. According to *Factory Statistics*, fuel costs, excluding gas, in Japanese industry amount to 2% of the total value of the gross output on an average. The highest fuel consumption is shown by the cement, ceramic and glass industries, followed by metals, chemicals and machinery. The recent tendency points to a gradual absolute

TABLE 70

PERCENTAGE OF FUEL CONSUMPTION IN RELATION TO INDUSTRIAL PRODUCTION

	1929	1931	1933		1929	1931	1933
Textiles	1·5	1·6	1·2	Printing and bookbinding	0·6	0·6	0·4
Metals	2·6	3·3	2·9	Foods and beverages	1·5	1·4	1·3
Machines and tools	1·3	1·2	1·3	Other industries	0·8	1·7	0·7
Ceramic industries	10·2	11·3	10·4				
Chemicals	2·0	2·4	2·1				
Timbering and woodworking	0·3	0·3	0·5	Total	1·8	2·0	1·8

Taken from *Factory Statistics*.

TABLE 71

CONSUMPTION OF GAS

(in 1,000 c.m.)

	1929	1931	1933
Textiles	110,803	38,830	47,155
Metals	939,363	1,203,156	1,633,820
Machines and tools	268,506	77,855	82,204
Ceramic industries	179,247	222,619	156,477
Chemicals	92,192	305,296	56,313
Timbering and woodworking	1,019	310	2,286
Printing and bookbinding	68,202	13,268	23,728
Foods and beverages	358,163	41,382	32,150
Other industries	7,986	3,357	3,118
Total	2,025,481	1,906,074	2,037,251
Production by self-supplying plants	1,055,876	1,239,652	1,828,687
Supplies from gas companies	969,605	666,422	208,564

Ibid.

increase, but relative expenditure, in view of the great expansion of production, appears to move in a downward direction.

Coal is the leading factor, representing more than 70% of the total fuel consumption, coke and petroleum being next in importance. The advance in coal prices (Kyushu coal per metric ton from ¥12·72 in 1932 to ¥17·35 in 1935) represents therefore a serious burden for Japanese industry, particularly the iron and steel, and cement industries.

The cost of coal is augmented by the high charges of freight and haulage ruling in Japan. According to a survey conducted by the Federation of Coal Mine Owners' Associations, the cost of Kyushu coal per metric ton at mine was ¥5·50 in 1931, while the same coal was quoted at ¥9·70 ex lighter in Tokyo. Respective quotations for Hokkaido coal were ¥4·50 and ¥10·20.

Gas is now widely used as fuel in some industries, particularly in metal works. The figures relating to consumption are, however, unknown.

Power. Before the World War, steam power greatly exceeded the supply of electric power which represented only 30% of the total. At present electricity has effectively supplanted steam as a source of industrial power, the relative share in 1933 being, electric power 84%, steam 14%, internal combustion 2% and water wheels 0.5%. Printing and bookbinding showed the highest degree of electrification, and the proportion of electric power in the machinery, metal and textile industries also exceeded 90%. The ceramic and woodworking industries were still consuming about 20–30% of steam power.

The consumption of electric power registered a marked development due to the recent industrial expansion. More than 80% of this power consumption was supplied by power companies. The generation of power by Diesel engines, which was once thought promising

TABLE 72

VOLUME OF HORSE-POWER IN OPERATION

(in 1,000 H.P.)

	Electric power	Steam	Gas	Water wheels	Total
	%	%	%	%	
1929	4,070 (91·5)	331 (7·4)	26 (0·6)	22 (0·5)	4,449
1931	2,852 (89·1)	297 (9·3)	29 (0·9)	24 (0·8)	3,202
1933	2,649 (87·5)	315 (10·4)	49 (1·6)	16 (0·5)	3,029

Ibid.

and which reached 20·3% of the total power consumption in 1931, has since declined.

The largest consumers of power are the chemical and textile industries. Power generated in self-supplying plants was greatest in the ceramic industries.

TABLE 73

CONSUMPTION OF ELECTRIC POWER

(in 1,000 kw.h.)

	Power generated in self-supplying plants	Supply from power companies	Total	
1929	601,380	4,640,549	5,241,928	
1931	1,244,821	4,892,842	6,137,664	
1933	1,364,883	7,157,177	8,522,060	
By industries in 1933				%
Textiles	76,693	1,071,548	1,778,242	20·9
Metals	20,139	924,054	944,194	11·1
Machines and tools	121,503	475,240	596,743	7·0
Ceramic industries	478,031	189,489	667,519	7·8
Chemicals	585,428	3,332,754	3,918,182	46·0
Timbering and woodworking	884	120,532	121,416	1·4
Printing and bookbinding	526	36,653	37,179	0·4
Foods and beverages	80,308	304,285	384,592	4·5
Other industries	1,371	72,621	73,992	0·8
Total	1,364,883	7,157,177	8,522,060	100·0

Ibid.

The chemical industry shows the greatest outlay for electric power in relation to cost of production. Even in the cotton spinning industry, the expenses for power rise to about 20%, which accounts for the important bearing of power rates on the cost of production. The price of power is usually subject to special agreements, and rates are not always uniform. In some cases, power is supplied at such a low rate as ¥ 0·005 or ¥ 0·007 per kw.h. regardless of cost. Even apart from these special cases, there are wide differences according to load factors and the volume of energy supplied.

The wholesale prices now quoted by power companies range between ¥ 0·01 and ¥0·02 per kw. h. With the exception of some special cases, this may be regarded as approximately the standard level for power cost. As a general statement, it may be said that the cost of energy shows a downward tendency at present. A com-

parison of the cost of power with that in foreign countries is not an easy matter, but so far as the unit price is concerned, the cost in Japan is probably lower.

4. Capital and Taxation

Cost of Capital. The importance of interest rates on borrowed funds naturally varies according to industries and scale of operation. In view of the fact, however, that debentures and bank loans of over 300 companies (excluding insurance companies and stock exchanges) covered by the survey of the Mitsubishi Economic Research Bureau, amount to from 20% to 30% of the total working capital of these companies, it is evident that the rate of interest has an important bearing upon the cost of production and thus on business results.

Rates of interest in Japan showed a gradual decline in sympathy with the general trend in world monetary markets, and this tendency has become more pronounced since 1926, especially after the middle of 1932. The average minimum rate of discount on bills dropped from 5·18% per annum in 1932 to 3·88% in 1935, the decline in the maximum

TABLE 74

Interest Rates

(% per annum)

	1924	1928	1931	1932	1933	1934	1935
Discount on commercial bills (average of minimum rates) . .	8·76	4·10	4·21	5·18	3·86	3·79	3·88
Interest on advances on securities (average rate) . .	9·75	8·80	7·85	8·07	7·81	7·41	7·04
Yield of company debentures .	9·19	6·34	6·49	6·56	5·54	4·79	4·49

rate being even more pronounced. The rate on advances declined from 8·07% to 7·04% in the corresponding years. These rates are considerably lower than the discount rate of 8·76% and the rate on loans of 9·75% which ruled in 1924. The yield of company debentures declined from 9·19% in 1924 to 6·56% in 1932, and again to 4·49% in 1935.

The lower cost of money which made possible the conversion of debentures has appreciably lightened the financial burden of companies. At the end of 1926, debentures bearing a rate of interest of from 7 to 8% p. a. represented 34·7% and those of from 8 to 9%, 35·7%

of the total. At the end of 1934, debentures of under 5% were in the proportion of 40·7%, while those of from 5 to 6% represented 38·8%. It may be assumed that the proportion of debentures bearing an interest rate of less than 5% will reach more than 50% of the total at the end of 1935.

TABLE 75

COMPANY DEBENTURES CLASSIFIED BY RATE OF INTEREST

(at the end of each year)

	Total amount (1,000 yen)			Percentage to total		
	1924	1932	1934	1924	1932	1934
Under 5%	5,000	45,223	1,292,476	0·4	1·5	40·7
5% and above	101,742	624,130	1,232,834	7·9	20·5	38·8
6% „	206,577	1,958,142	570,540	16·0	64·4	18·0
7% „	449,383	368,878	71,261	34·9	12·1	2·2
8% „	460,403	33,104	2,189	35·7	1·1	0·1
9% „	50,981	2,936	1,097	4·0	0·1	—
10% „	13,786	6,020	5,151	1·1	0·2	0·2
Total	1,287,871	3,038,533	3,175,548	100·0	100·0	100·0

Figures for 1924 taken from a survey made by the Industrial Bank of Japan, other figures from statistics of the Bank of Japan.

Reduced rates of interest, combined with the return of prosperity, led to a reduction in industrial indebtedness. This is revealed by statistics on the burden of company debentures and bank loans relative to total capitalization, which declined from 21·3% in the latter half of 1931 to 13·1% in the first half of 1935 for manufacturing companies.

Considered in the light of national wealth and different financial organization, rates of interest in Japan are naturally higher than in Great Britain and the United States, particularly as the decline in interest rates has been paralleled in these two countries to an even greater extent.

TABLE 76

COMPARISON OF MONEY RATES IN JAPAN, GREAT BRITAIN AND THE UNITED STATES (%)

	Discount on commercial bills			Advances on securities		Yield of debentures	
	Japan	Great Britain	U.S.A.	Japan	U.S.A.	Japan	Great Britain
1931 (average)	4·21	3·55	1·73	7·85	4·22	6·49	6·33
1934 („)	3·79	0·83	0·32	7·41	3·33	4·79	4·48

As the result of the decline in money rates, it has to some extent become easier to raise industrial funds, which has in turn facilitated the mechanization of plants, and the replacement of obsolete equipment. It may also be pointed out that the development of the domestic machinery industry permitted the acquisition of equipment at very reasonable prices.

Taxation. With the expansion in national expenditure and industrialization, the taxation system in Japan has become greatly diversified. Taxes have grown more numerous and heavier than before, and their effect on the cost of production is fairly serious.

The most general and important are the income tax and the business profit tax. There also exists a special profit tax which was sanctioned by the Diet for a limited term. The rate of income tax, when applied to companies, is 5% of ordinary income. In case such ordinary income exceeds 10% of the average net assets at the time of calculation, an additional tax of from 4 to 20% is levied on the excess amount. The business profit tax is assessed on net profits at the rate of 3·6% for companies.

TABLE 77

NATIONAL AND LOCAL TAXATION

(in 1,000 yen)

National (1934–35 actual receipts)		Local (1934–35 budget)	
Income tax	196,382	Rates on income tax	40,628
Land tax	57,646	Rates on land tax	113,537
Business profit tax	48,648	Rates on business profit tax	44,386
Capital interest tax	14,872	Local business tax and rates	14,375
Succession tax	27,173	Rates on mining tax	1,709
Mining tax	4,247	Rates on bourse business tax	502
Taxes on liquors	218,435	Special land tax and rates	14,471
Table water tax	3,484	Household tax and rates	130,127
Sugar excise	74,967	House tax and rates	100,967
Textile consumption tax	35,696	Miscellaneous tax and rates	103,229
Tax on bourses	14,548	Other minor taxes	24,739
Customs duties	144,433	Services and goods valued	703
Tonnage dues	2,649	Imposts in cities, towns and villages	3,963
Miscellaneous	2		
Total	843,183	Total	593,335
Stamp receipts (Stamp duties, registration tax, etc.)	78,027		

From Table 78 it may be inferred that the income tax is about 6%, and the business profit tax about 3%. On a net profit of 100 yen, therefore, national taxes approximate 9 yen, to which must be added prefectural and municipal taxation. The prefectural income tax may not exceed 24% of the national taxation, and the municipal income surtax is limited to 7%. With regard to the business profit tax, the prefectural surtax cannot exceed 41% of the analogous national taxation, while the municipal surtax may rise to a rate not exceeding 60%. The average rate of the local income tax during the period from 1928 to 1933 was 56·5% of the national taxation and that of the business profit tax, 214·9%. The total of these two taxes on corporations, national and local, is estimated at about 19% of the net profit.

Besides these taxes, there are numerous other national and local taxes. It may, however, be admitted that the burden of taxation in

TABLE 78

TAXES IN RELATION TO CORPORATION INCOME

(In million yen)

	Income tax			Business profit tax		
	Amount of income	Amount of tax	Percentage to income	Amount of net profit	Amount of tax	Percentage to net profit
1928	1,067	65	6·08	1,002	33	3·24
1929	957	54	5·66	942	30	3·19
1930	1,015	63	6·20	955	31	3·22
1931	617	33	5·38	615	19	3·13
1932	668	38	5·64	640	20	3·07
1933	781	51	6·53	736	22	3·06

Taken from *Annual Return of Statistics* of the Taxation Bureau of the Ministry of Finance.

Japan is, in general, lighter than in other leading manufacturing countries, and this disparity must have widened in the past few years.

A factor which should also be taken into consideration in connection with the cost of raw materials is the rate of customs duties. The Japanese customs tariff is, on the whole, based upon protective lines, and rates are comparatively low on raw materials and high on finished goods. Of over 1,700 items, only 175 are not subject to duty; thus about 90% of the total list of commodities is subject to duty. However, duties collected amount to only 6% of the total value of imports and to 20% of dutiable imports. In the United States, the percentage of duties collected on dutiable imports is 41·5%

and in the United Kingdom duties on total imports reach 30%. A comparison will show that duties in Japan are much lower than in these countries.

TABLE 79

COMPARISON OF IMPORT DUTIES IN JAPAN, THE UNITED STATES AND GREAT BRITAIN

	Japan (million yen)			U. S. A. (million dollars)			Great Britain (million £)		
	1931	1934	1935	1931	1934	1935	1931	1934	1935
Total imports .	1,236	2,283	2,472	2,088	1,636	2,039	861	731	675
Dutiable imports.	464	653	764	697	645	833	—	—	—
Duties collected .	112	138	153	354	289	346	154	219	204
Percentage of									
total imports .	9·0	6·0	6·2	17·0	17·7	17·0	17·9	30·0	30·2
dutiable imports.	24·1	21·1	20·0	50·9	44·8	41·5	—	—	—

Based on *Monthly Return of the Foreign Trade of Japan; Monthly Summary of Foreign Commerce of the United States; Accounts Relating to Trade and Navigation of the United Kingdom.*

5. FREIGHT

Sea Freight. Japan being a sea-girt island, the import of raw materials and the export of manufactured goods are entirely dependent upon the shipping trade. The rapid development of shipping has placed Japan in the third position among the world shipping next to Great Britain and the United States. According to the trade returns of the Ministry of Finance, the cargo carried by Japanese vessels was 69·7% in the export trade and 63·7% in the import trade in 1934. Export goods are mostly carried by regular liners, and with the exception of European and American routes, all other regular services are wholly or largely occupied by Japanese vessels. Tramp vessels are generally engaged in the transport of timber, grain, heavy industrial goods, mineral ores, oil-cakes, coal, etc., and it can be said that the greater part of import goods is brought by tramp vessels. Most of the raw cotton and wool, however, is imported by regular liners under the Japanese flag.

It is difficult to work out freight charges in foreign trade, but a basis may be found by an examination of charges on goods carried by one of the leading shipping companies in Japan. In 1930, the average freight per ton of export goods was ¥12·60, which increased to ¥17·24 in 1932, and to ¥19·08 in 1933, with a slight decline to ¥18·62

in 1934. The increase in freight charges is of course due to longer distances caused by the expansion of the Japanese export trade, and to the depreciation of the yen, as freight rates are usually quoted in foreign currencies.

While rates in the regular services are arranged by conference, the fluctuations in the rates of tramp vessels reflect the actual situation of shipping markets. Conference rates are almost entirely quoted in foreign currencies, except on Chinese routes, in which agreements are limited to ships under the Japanese flag. Freight rates of tramp vessels have also advanced on the strength of the continued prosperity in industry and trade.

TABLE 80

FREIGHT RATES ON PRINCIPAL ROUTES

		1927	1931	1932	1933	1934	1935
Wakamatsu-Yokohama .	highest	2·10	1·30	2·20	2·10	2·50	2·30
Coal (in yen per ton) . .	lowest	0·65	0·60	0·70	1·05	1·35	1·60
Karafuto-Japan proper .	highest	210·00	130·00	120·00	150·00	170·00	160·00
Timber (in yen per 100 *koku*) .	lowest	90·00	45·00	65·00	85·00	100·00	120·00
U. S. A.–Japan . . .	highest	11·75	8·00	5·50	5·75	7·50	7·00
Timber (in dollars per 1,000 B.M.)	lowest	8·25	4·75	3·25	3·50	5·00	5·00
U. S. A.–Japan . . .	highest	5·75	3·50	3·00	3·25	2·75	—
Wheat (in dollars per ton) .	lowest	3·75	2·50	1·70	2·00	2·25	—
Dairen–Europe . . .	highest	37/–	29/–	30/–	28/6	28/–	26/–
Soya beans (in shillings per ton)	lowest	27/6	22/6	19/6	16/6	20/–	14/6

Taken from a survey of the Japan Shipping Exchange.

Although freight charges have advanced considerably, they are as yet much lower, in respect of the principal Japanese markets, than the corresponding rates on competing goods. The following comparison of rates made in May, 1935, by the Nippon Yusen Kaisha

TABLE 81

COMPARISON OF FREIGHT RATES

Shipping lines	Freight rates
Raw cotton (per 2,000 lbs.)	Yen
Bombay—Japan	15·00
Gulf-ports—Japan	16·53
Gulf-ports—Great Britain	21·82

TABLE 81.—*Continued*

Shipping lines	Freight rates
	Yen
Cotton goods (per 40 cft.)	
Japan—Calcutta, Bombay	15·30
Great Britain and Continent—Calcutta, Bombay	33·83
Rubber (per 50 cft.)	
Straits Settlements—Japan	12·97
Straits Settlements—U.S.A., Atlantic ports	38·02
Straits Settlements—Great Britain and Continent	44·19
Rubber shoes (per 40 cft.)	
Japan—Australia	43·20
New York—Australia	82·64
Rayon goods (per 40 cft.)	
Japan—Argentine	45·00
Great Britain—Argentine	66·47
Japan—British India	19·35
Great Britain—British India	33·83
Wool (per lb.)	
Australia—Japan	0·029
Australia—Great Britain	0·059

(N.Y.K.) will show that freight rates on Japanese ships are lower than on British and American vessels both in the import and export trade.

Railway Freight. The scaling system of railway freight rates is extremely complicated, and an analysis of railway freight rates in general and a comparison with those prevailing abroad is, therefore, very difficult.

Freight rates on State railways were raised at the time of the World War, and there was a revision of some rates in 1930. On the whole, however, rates have remained unchanged in Japan since the close of the War, and may be considered to be lower than in leading foreign countries.

TABLE 82

RAILWAY FREIGHT RATES PER METRIC TON AND KILOMETRE

	1917	1921	1929	1931	1934
Average carriage per metric ton (km.)	166·1	165·1	162·9	175·0	172·3
Average freight per metric ton (yen)	1·77	2·85	2·79	2·87	2·78
Average freight per metric ton-kilometer (sen)	1·07	1·72	1·71	1·64	1·62

Taken from a report of the Ministry of Railways.

CHAPTER VIII

THE ORGANIZATION OF INDUSTRY

1. Development of Industrial Policies

Already in the early years of the present century, economic tendencies throughout the world showed signs of shifting from a policy of *laissez-faire* to one of organized control of industry, more or less influenced by Governments. But it was only after the close of the World War, in consequence of the economic difficulties created by that conflict, that this tendency became marked, and the idea of central economic control was widely propagated. There seemed to be no possibility in the *laissez-faire* policy, hitherto followed, for coping with the economic crisis, with the feverish expansion of industry and the consequent unbalanced state of supply and demand which led to disastrous overproduction. Under such circumstances, Government intervention became inevitable.

Government control of industry in Japan may be said, in a sense, to have been operative for quite a long time, but such control took a definite shape in connection with the Government's efforts in 1930 to bring about the rationalization of Japanese industry. In June, 1930, the Japanese Government took a positive step in this direction by the establishment, in accordance with the findings of the Provisional Industrial Advisory Council, of the Bureau of Rationalization as part of the Ministry of Commerce and Industry. Through this measure the Government was in a position to supervise the regulation of production in the chief export industries and, in particular, to exercise control over small and medium enterprises. It was later found necessary to promote the development of cartels among large enterprises, and, accordingly, the Major Industries Control Law was promulgated in June, 1931, marking an epoch in the movement for industrial organization. The centralized control, which was thus brought about, soon revealed a tendency of embracing also the export trade.

Organization of Medium and Small Industries. These form the bulk of Japanese industries and occupy an important position both industrially and commercially. Without central organization, they were often involved in cut-throat competition which brought discredit to Japanese industry generally, and hampered the growth of foreign trade.

In view of this serious situation, the Government instituted a system of inspection of staple export articles after the World War, and in 1925, promulgated the Export Industries Association Law with the object of encouraging the formation of associations to promote rational management, and to facilitate the joint and economical installation of modern equipment in the export industries. In a sense, this marked the first step toward the realization of centralized industrial organization. The functions of the associations organized under this Law were similar in nature to those of the co-operative societies, but also extended to agreements on production and sales, as embodied in the comprehensive provisions of Art. 3 of the Law. Obviously, the purpose of the Law was not only to afford facilities for improved equipments, but also to encourage the voluntary enforcement of centralized control.

In order to free the export trade from the evils arising from the almost complete dependence upon the production of small enterprises, the best expedient appeared to be the effective control over such enterprises. On account of the existing conditions, however, control through industrial associations proved ineffective. With the intensification of the depression, the Bureau of Rationalization at last organized several committees for the supervision and reform of small industries engaged in the manufacture of staple articles for export. Manufacturers and other interested parties are members of these committees whose task is to devise concrete plans for centralized control. The branches of industry included in this control organization are striped drill, cotton flannel, cotton crape, *habutae*, superphosphate of lime, china and earthenware, enamelled ironware, rubber shoes, bicycles, towels, fine earthenware, tiles, porcelain pipes and electric bulbs. Centralized control was effected through the amalgamation of local associations into national federations.

The Export Industries Association Law included a provision for the control of industries, which was to comprise outsiders in addition to members, according to Art. 8. Coincidental with a further readjustment of the regulations for industrial control, the Government extended this Law to include other manufacturers engaged in the production of goods for the home market, by changing the name of the Law to Industrial Association Law, which change was carried

into effect in July, 1931. On and after June 1st, 1933, the right of issuing controlling orders even to members of the association was entrusted to the competent Minister while, at the same time, a further development of industrial control was secured by the formation, with the approval of the Government, of the Central Union of Industrial Associations.

Centralized Control in Large-Scale Industries. The evil effects of unfair competition were also evident in large-scale industries and grew worse with the intensification of the depression until a situation arose which demanded immediate action.

Parallel to the development in other countries, large-scale industries early evinced a tendency to form cartels. The first cartel in Japan was the Paper Manufacturers' Association organized in 1880, but it was only after the close of the World War that cartellization attained any noticeable development in the various industries. With the expansion of industry during the War, the balance between supply and demand was disturbed, overproduction ensued, and competition grew so intense that the adoption of some measure of control over production and sales through agreement became imperative.

Cartels organized after the War were numerous, covering, in 1931, cotton yarn, spun silk, rayon, silk, bleaching powder, superphosphate of lime, calcium cyanamide, cement, coal, copper, iron and steel, sugar, canned foods, hardened oil and petroleum.

The control exercised by these cartels brought about a great improvement in the organization of industry, agreements having been secured not only on total production, but also on production quotas, selling prices, selling conditions, the division of markets, centralized distribution, the joint purchase of raw materials and joint storage of manufactured goods. But control through these cartels rested merely on mutual consent, and there were frequent cases of violation of agreements, particularly by outsiders. On the other hand, there still were many large-scale industries in which no cartel had been formed owing to the conflicting interests of the manufacturers concerned, although it was recognized that some measure of control was necessary to protect the industries against overproduction.

In view of this situation, the Bureau of Rationalization found it necessary to exercise some measure of Government control over the hitherto autonomous cartels to assist the healthy development of industry. The Government first attempted to apply the Export Industries Association Law, which was originally intended for small enterprises, so as to cover also large-scale industries, but, owing to

the divergent problems involved, the Law was eventually replaced by the Major Industries Control Law, which was enacted on April 1st, 1931, to be effective for five years from August 11th of the same year.

The Major Industries Control Law, regulating organized control in the important industries, provides that, for the purpose of promoting control, manufacturers in any specified industry, who enter into an agreement with the participation of more than half of the whole number of manufacturers, must report to the competent Minister. The Minister may, on application from more than two-thirds of the participants of the agreement, and when the necessity from the viewpoint of the particular industry and the national economy is recognized, declare such agreement binding not only on members, but also on non-members, any case of violation being subject to a fine. The Law further provides that the cartel agreement shall be subject to modification by the competent Minister when found prejudicial to the reasonable interests not only of the industry in question, but also of the intimately allied industries and the public welfare. The Law embraces all industries in which cartel control was already in force at the time of the promulgation, namely, the industries engaged in the production of cotton yarn, spun silk, paper, paper board, carbide, bleaching powder, sulphuric acid, oxygen, hardened oil, cement, wheat flour, pig-iron, iron-alloys, steel bars, steel angles, steel plates, wire rods, sheets of copper and brass, etc. With the assistance of the Government, cartel control gradually extended to other industries; carbon bisulphide, refined sugar and gasoline being in November, 1932 added to the list of industries subject to the Law, while beer and coal industries were also included in May, 1934.

Centralized Control in the Export Trade. As in the case of industry, the Japanese export trade is principally carried on by medium and small firms. The necessity of devising measures for the control of exporters soon became as acute as in industry. This task was, however, beset with difficulties until the control of industrial production had been organized. The main object, therefore, of the Exporters' Association Law as enacted in 1925 was to encourage co-operation by uniting the exporters in a self-governing body. Like the Industrial Association Law, it authorised the association to control members as well as non-members, but actually supervision by the association was confined to the quality of manufactured goods for export, and no measures of control affecting quantity or prices were enforced. In about 1931, some associations started to adopt measures of control over the volume and prices of export goods, this tendency growing very much marked after 1933.

With the remarkable advance in foreign trade and the subsequent restrictions against Japanese goods in foreign markets, the control of exports was considered imperative. The Japanese Government endeavoured to secure agreements with foreign countries to protect the export trade, the first result of which was the Indo-Japanese Commercial Convention. An informal understanding was also reached with the United States, limiting the export of pencils, cotton blankets, matches and cotton tissues, and with Great Britain, restricting the shipment to that country of electric bulbs. Part of the Exporters' Association Law was revised in 1931, followed by a further revision in March, 1934, operative from July 1st, with a view to remedy some defects in the clauses respecting quantity and prices which had been revealed as a result of the tightening of export control. The main point in the revision was that restrictive agreements in regard to quantity and price should be notified to the competent Minister and should be subject to alteration as occasion called for and deemed expedient by the Minister. As in the case of the Industrial Association Law, the Law was revised so as to invest the Minister with the power of issuing controlling orders to non-members as well as to members of the associations.

2. Present Situation of Industrial Control

As will be seen from the above outline, the system of organized control in Japan is based upon autonomous supervision on the part of cartels or associations, subject to a certain degree of Government inspection. There are numerous laws and regulations regarding supervision and control, but the legal basis for industrial control are the Major Industries Control Law, the Industrial Association Law and the Exporters' Association Law.

Note:—

The Commercial Association Law was promulgated in 1932 in order to control medium and small merchants. The Law was similar in nature to the Industrial Association Law, although the controlling power is less extensive. The Important Products Trade Association Law (1900), the Co-operative Society Law (1900) and the Aquatic Products Association Law (1916) did not aim directly at the control of industry, but the associations exercise controlling functions to some extent. The Raw Silk Industry Law (1911), the Raw Silk Industry Association Law (1931), the Raw Silk Reeling Industry Law (1932), the Government Control of Silkworm Eggs Law (1934), the Export Raw Silk Marketing Law (1934) and the Rice Control Law (1933) are the most important special laws having as their object the control of industries. The Japan

Steel Manufacturing Company Law promulgated in 1933 marked an epoch in the organization of the steel industry, and affords the only instance of industrial control by means of a trust. The Petroleum Industry Law as enacted in 1933 has been drafted from the viewpoint of national defence.

Control through Cartels under the Major Industries Control Law. Industrial control in the form of the existing cartels developed primarily after the close of the World War, the greatest advance having been made since 1930. With the promulgation of the Major Industries Control Law, the leading cartels are at present subject to this Law. The following table is of interest as showing the organs of control, their membership and the agreements as registered in January, 1936, according to the various industries specified under the Law.

TABLE 83

PRESENT SITUATION OF ORGANIZED CONTROL IN VARIOUS INDUSTRIES AS SPECIFIED BY THE MAJOR INDUSTRIES CONTROL LAW

(January, 1936)

	Control organs	Membership	Non-members	Agreements made on:
Cotton yarn	The Japan Cotton Spinners' Association	60	9	Restriction on production
Spun silk yarn	The Spun Silk Yarn Spinners' Association	12	1	Restriction on production
Rayon	The Japan Rayon Manufacturers' Association	13	1	Restriction on production: sales volume(joint storage)
Paper (printing paper, writing paper, simili)	The Japan Paper Manufacturers' Association	11	0	Restriction on production: sales volume: (joint storage). selling prices
Paper board (of more than five ounces)	The Japan Yellow Board Manufacturers' Association	21	1	Restriction on production: selling prices
	The Brown Board Control Association	15	0	Restriction on production: selling prices
Carbide	The Carbide Manufacturers' Association	18	5	Selling prices: sales volume
	The Carbide Sales Association	14	9	Restriction on production: (restriction on installation and extension of equipment). joint sales (sales quotas: purchase and sale of manufactured goods: fixing of selling prices: joint calculation)
	The Carbide Conference	4	19	Sales volume: selling prices

TABLE 83—*Continued*

	Control organs	Mem. ber-ship	Non-mem-bers	Agreements made on:
Bleaching powder	The Bleaching Powder Manufacturers' Association	13	4	Restriction on production: joint sales
Sulphuric acid	The Eastern Sulphuric Acid Sales Company The Kwansai Sulphuric Acid Sales Company	13	1	Selling prices: markets: selling quotas
Oxygen	The All-Japan Oxygen Manufacturers' Association	18	8	Markets: selling quotas: selling prices
Hardened oil	The Hardened Oil Manufacturers' Association The Hardened Oil Sales Company	10	0	Joint sales
Cement	The Cement Manufacturers' Association	17	6	Restriction on installation and extension of equipment: restriction on production: selling quotas: orders allotment: selling prices: markets. joint calculation
	The Japan Cement Export Association	16	7	Distribution of orders: prices: markets: selling quotas
Carbon bisulphide	Carbon Bisulphide Manufacturers' Association	9	10	Selling prices. markets: selling quotas: selling volume
Sugar refining	The Japan Sugar Manufacturers' Association	5	1	Restriction on production
Iron-alloys	The Iron-Alloys Manufacturers' Association	8	8	Joint sales (selling quotas: collection and allotment of orders: selling prices)
Steel bars	The Steel Manufacturers' Association	6	5	Production allotment: selling prices
	The Kwanto Steel Manufacturers' Sales Association	3	1	Joint sales (purchase and sales of manufactured goods: fixing of selling prices: joint calculation)
Steel angles	The Steel Angles Joint-Sales Association	4	5	Joint sales (selling quotas: collection and allotment of orders: fixing of selling price and volume)
Steel plates	The Japan Thick Steel Plates Joint-Sales Association	4	3	Joint sales (selling quotas: collection and allotment of orders: fixing of selling prices): spheres of production

TABLE 83—*Continued*

	Control organs	Membership	Non-members	Agreements made on:
	The Medium Steel Plates Joint-Sales Association	2	4	Joint sales (selling quotas: collection and allotment of orders: fixing of selling prices)
Wire rods . .	The Japan Wire Rods Joint-Sales Association	2	3	Joint sales (selling quotas: collection and allotment of orders: fixing of selling prices and volume)
Gasoline manufacture and sale (*a*) . .	The Japan Gasoline Association	3	3	Selling quotas and sales volume: selling prices
Beer brewing .	The Beer Joint-Sales Company	2	2	Limitation of production: joint sales (selling prices: selling quotas: markets)
	Agreement among Dai-Nippon, Kirin and Sakura Brewery Companies	3	1	Selling prices
	Agreement among Dai-Nippon, Kirin and Tokyo Brewery Companies	3	1	do
	The Japan Beer Brewers' and Exporters' Association	—	—	do
Coal mining and distribution (*b*).	The Federation of Coal Mine Owners' Associations	26	4	Regulation of coal supply: determination of Fushun coal imports
	The Showa Coal Company	27	12	Selling prices

Based on investigations conducted by the Bureau of Rationalization of the Ministry of Commerce and Industry.

(*a*) Incl. members who produce or sell usually over 100,000 boxes per month.

(*b*) Incl. members who produce or sell usually over 150,000 tons per year.

As will be seen from the above table, the most important control agreements now in effect relate to production and joint sales. The number of outsiders is comparatively large and exceeds in some industries the regular membership.

The cement industry so far affords the only case in which the clauses of the Major Industries Control Law, which provide for the issuance of Government instructions, have been operated, but a warning was given to the paper, sugar and iron and steel manufacturing industries against the raising of prices.

Organized control through cartels is voluntarily accepted even in

many industries which are not specified by the Control Law, but such organizations are not often strong enough to withstand the pressure from outsiders. On the other hand, there are still some industries specified by the Control Law, which do not yet come within the purview of the Law, being unable to satisfy all the requirements prescribed by it. For instance, gasoline manufacturers or distributors are required to show a minimum production or sales capacity of 100,000 cases per month to be included in the Control Law, which effectively bars a great number of small enterprises, and they have made agreements of their own. Moreover, there are occasionally more than one cartel organized in industries specified by the Industrial Association Law, such as in superphosphate of lime.

TABLE 84

CARTEL AGREEMENTS NOT COVERED BY THE MAJOR INDUSTRIES CONTROL LAW

	Control organs	Principal agreements
Woollen yarn	Japan Woollen Industry Association	Production curtailment
Flax yarn	Agreement between Teikoku Seima Co. and Taisho Seima Co.	Production curtailment: control of sales
Ramie	Ramie Spinners' Association	Production curtailment
	Ramie Yarn Joint-Sales Company	Joint sales
Alcohol	Agreement among Taiwan Sugar Refining Companies	Restriction of supply: supply quotas
Superphosphate of lime	Superphosphate of Lime Manufacturers' Association	Selling prices, volume and quotas
Sulphate of ammonia	Sulphate of Ammonia Association	Production quotas: selling price: negotiations with foreign companies
Calcium cyanamide	Calcium Cyanamide Joint-Sales Association	Production curtailment: joint sales: restriction of shipment: selling prices
Glycerine	Glycerine Joint-Sales Company	Joint sales
Japanese paper	Japanese Paper Manufacturers' Association	Production curtailment: selling prices
Copper	*Suiyokai* Society of Copper Manufacturers	Control of supply: selling prices
Coal	Society of Coal Mine Owners in the Chikuho district	Control of output: agreement with the Federation of Coal Mine Owners' Associations
Gasoline	Japan Gasoline Association	Control of supply: selling prices
Light oil and machine oil	Mineral Oil Refiners' Association	Control of supply: selling prices

TABLE 84—*Continued*

	Control organs	Principal agreements
Heavy oil . . .	Agreement among leading companies	Selling volume and prices
Canned food . .	Crab Joint-Sales Company	Joint sales
	Japan Sardine Joint-Sales Company	do
	Japan Salmon and Trout Joint-Sales Association	do
	Japan-France Salmon and Trout Joint-Sales Association	do
	Japan Tuna Sales Corporation	do
	Japan Export Shell-Fish Joint-Sales Company	do

In addition to the above, cartel control is also enforced over banking, fire and marine insurance, shipping and the electric power industry.

Control by Industrial Associations. In contradistinction to the large cartels functioning under the Major Industries Control Law, these associations comprise manufacturing enterprises on a small scale coming within the scope of the Industrial Association Law. These associations are, as has been related elsewhere, a development of the Export Industries Associations Law, amplified to cover small industries. The principal functions of these associations are inspection, control of production and prices, joint purchases and sales, joint utilization of equipment, etc. Government supervision under the Industrial Association Law, is in practice, stricter than under

TABLE 85

SOME PRINCIPAL EXAMPLES OF NATIONAL CONTROL BY INDUSTRIAL ASSOCIATIONS

	Control organs	Principal Agreements
Cotton tissues .	The Japan Federation of Cotton Tissue Manufacturers' Associations	Restriction on production: centralized sales agency: regulation of manufacturing and markets. (Striped drill, crapes, flannel, sarong, printed and dyed tissues)
	The Japan Federation of Cotton Tissue Dyers' Associations	Dyeing volume: dyeing charges: regulation of markets
	The Japan Federation of Towel Manufacturers' Associations	Regulation of production and markets

TABLE 85—*Continued*

	Control organs	Principal agreements
Silk tissues . .	The Japan Federation of Export *Habutae* Manufacturers' Associations	Regulation of production
	The Japan Federation of Pongee Manufacturers' Associations	do
Artificial silk tissues . . .	The Japan Federation of Export Tissue Dyers' Associations	Dyeing: Dyeing charges: joint acceptance of orders: joint credit collection
	The Japan Federation of Artificial Silk Manufacturers' Associations	Regulation of production
Knitted goods .	The Japan Federation of Export Knitted Goods Manufacturers' Associations	do
Metal manufactures	The Japan Federation of Old Iron Rerolling Associations	Regulation of production: selling prices
	The Japan Radiator Manufacturers' Association	Regulation of production: joint sales
	The Japan Smoothing-Iron Manufacturers' Association	Regulation of production: selling prices
	The Japan Filament Manufacturers' Association	Regulation of Production: joint sales
Bicycle parts .	The Japan Federation of Bicycle Manufacturers' Associations	Regulation of production: selling prices: markets: joint sales
Electric bulbs . (for export)	The Japan Federation of Electric Bulb Manufacturers' Associations	Regulation of production: joint sales
Pottery . . .	The Japan Federation of Pottery Manufacturers' Associations	Regulation of production: selling prices: production spheres: joint sales
Enamelled ironware . . .	The *Seiho* Enamelled Ironware Manufacturers' Association	Regulation of production
Rubber manufactures (Rubber shoes, tyres, inner tubes, belts)	The Japan Federation of Rubber Manufacturers' Associations	Regulation of production: selling prices: joint sales
Matches . .	The Japan Match Manufacturers' Association	Regulation of production
Carbonate of calcium . .	The Japan Carbonate of Calcium Grinding-Powder Manufacturers' Associations	do
Superphosphate of lime . . .	The Phosphate Manufacturers' Association	Regulation of production: joint purchase of raw materials: selling prices
Plaits . . .	The Japan Federation of Export Hemp Plait Manufacturers' Associations	Regulation of production: joint sales
Pencils . . .	The Japan Federation of Export Pencil Manufacturers' Associations	Regulation of production

TABLE 85—*Continued*

	Control organs	Principal agreements
Wood-pipes for spinning and weaving . .	The Japan Federation of Spinning and Weaving Pipe Manufacturers' Associations	Selling prices: joint sales: production shares
Toys . . .	The Nagoya Export Musical Toy Manufacturers' Association	Regulation of production: joint sales
Bread . . .	The Bakeries' Association	Selling prices
Mizu-ame and glucose . . .	The Federation of *Ame* Manufacturers' Associations	Regulation of production: selling prices
Measuring instruments and meters . . .	The Japan Federation of Measuring Instrument and Meter Manufacturers' Associations	Joint shipments and exports
	The Japan Scale Manufacturers' Association	Regulation of production
	The Japan Measuring Instrument Manufacturers' Association	do
	The Japan Weighing Instrument Manufacturers' Association	do
	The Japan Thermometer Manufacturers' Association	Regulation of production: selling prices
	The Japan Clinical-Thermometer Manufacturers' Association	Regulation of production

the Major Industries Control Law, and both Laws show some important divergences according to the different natures of the enterprises covered.

Industrial associations have increased from 100 (of which ten were federations) at the end of 1930 to 334 (of which 23 were federations) at the end of 1933, and 662 (of which 36 were federations) at the end of 1935, covering about 70 industries. Most of these associations have only local importance.

Control by the Exporters' Associations. As in the case of industrial associations, there has been a marked increase in the number of exporters' associations from 14 at the end of 1930 to 85 (of which 4 were federations) at the end of 1935. At the same time, the industries governed by the Exporters' Association Law increased from 36 at the time of the promulgation of the Law to 50 at the present time. Of the total number of exporters' associations, 40 relate to goods, 28 to markets, and 17 to goods and markets. Associations which exercise control over the whole country number 34, while 51 are of local character. Of the associations relating to markets the regional classification is as follows:

Manchoukuo (13), Soviet Union (2), United States and Canada (5), Central America (8), Argentine (2), Europe (3), British India (3), Africa, Balkans and Near East (4), Balkans and Near East (1), Philippines (2) and South Asia (2).

The function of the exporters' association is, as has already been stated, to co-operate in the economical installation of equipment, to supervise export goods, and to regulate foreign trade. These activities at times inevitably conflict with the control exercised over production by the industrial association, although measures have been taken to straighten out the difficulties as best as possible. In view of the recent trend of Japanese foreign trade, the control exercised by the exporters' associations does not appear to be effective enough, as is clearly indicated by the recent increase in the number of cases in which compulsory control instructions by the competent Minister, as provided for in Art. 9 of the Exporters' Association Law, have been issued.

TABLE 86

PRESENT SITUATION OF ORGANIZED CONTROL BY EXPORTERS' ASSOCIATIONS

(December, 1935)

Control organs	Control function	Control markets
The Japan-India Cotton Tissues Exporters' Association	Control over volume	British India
The Japan Federation of Silk and Rayon Tissue Exporters' Associations	do	Central and South America, Netherlands East Indies, Iraq
The Japan-Central and South America Cotton Yarn and Tissue Exporters' Association	Establishment of trade compensation fund	Central and South America
The Japan-U.S.A. Silk Pongee Exporters' Association	Control over volume	U. S. A.
The Japan Dyed Cotton Sarong Exporters' Association	do	Netherlands East Indies
The Japan Blanket and Sheeting Exporters' Association	do	Principal markets
The Japan-U.S.A. Carpet and Rug Exporters' Association	Control over volume and prices	U. S. A.
The Japan-Philippine Knitted Goods Exporters' Association.	Control over volume	Philippine Islands
The Japan-Philippine Cotton Tissue Exporters' Association	do	do
The Japan Knitted Goods Exporters' Association	do	Netherlands East Indies, British New Guinea, British North Borneo, Straits Settlements

TABLE 86—*Continued*

Control organs	Control function	Control markets
The Japan Towel Exporters' Association	do	Netherlands East Indies
The Federation of Pottery Exporters' Associations	Control over volume and prices	Principal markets
The Japan Bicycle Exporters' Association	do	do
The Japan Brush Exporters' Association	do	do
The Electric Bulb Exporters' Association to Great Britain	do	Great Britain
The Japan Electric Bulb Exporters' Association	Control over volume	Netherlands East Indies
The Japan Artificial Pearl and Glass-bead Exporters' Association	Control over volume and prices	Principal markets
The Japan-U.S.A. Match Exporters' Association	do	U. S. A.
The Japan Rubber Goods Exporters' Association	Control over volume of rubber shoes	Principal markets
The Japan Beer Brewers' and Exporters' Association	Control over price; control over volume for Siam	U.S.A., Guam I., Siam, Hong Kong, Straits Settlements, Netherlands East Indies, British India
The Japan-Soviet Exporters' Association	Control over volume and prices(*a*)	U. S. S. R.
The Hokkaido Bean Exporters' Association	Control over volume	Principal markets
The Japan-U.S.A. Orange Exporters' Association	do	U. S. A., Canada
The Japan Federation of Orange Sales Co-operative Societies		
The Eastern Japan-Argentine Exporters' Association	Establishment of trade compensation fund	Argentine
The Western Japan-Argentine Exporters' Association	do	do
The Federation of Japan-Central and South America General Goods Exporters' Associations	do	Central and South America

(*a*) Covers Manila ropes, fishing nets, cotton and thread for fishing nets.

3. Reform Projects

The promulgation of the Major Industries Control Law marked an important step in the organization of industries in Japan. The economic recovery of the past few years since the reimposition of the gold embargo, as well as the expiration of the term of enforce-

ment of the Major Industries Control Law this year, has given rise to earnest discussions as to the desirability of reconsidering the whole system of measures now in force. While a return to the *laissez-faire* economy is desired by some interests, others advocate a further consolidation of organized control, pointing to various defects in the measures hitherto adopted. Still others oppose legal control, desiring a purely voluntary organization. It should be remembered that the organized control of industry was an outcome of the intensified depression after the World War, and that in recent years much of its original significance has been lost, for the urgency of the need for adopting measures to protect and assist the formation of cartels in various branches of industry has been greatly reduced on account of the progress in industry and foreign trade. In view of this situation, it is even maintained that the enforcement of industrial control is a hindrance rather than a help towards industrial progress.

The viewpoint of outsiders is that, since the control of industry through the Major Industries Control Law and the Industrial Association Law has as its main object the promotion of agreements on production and selling prices, old as well as new companies have been brought under the same system of control, with the result that in times of brisk business as at present, new enterprises, whose production costs are often particularly low, have been compelled to withdraw from membership in order to obtain freedom of action. At the same time, the business recovery has given these outsiders opportunities to exploit new spheres of activity, with the result that a large number of new companies have been established, a development which runs counter to the original expectations at the time of the enforcement of industrial control.

In connection with the question of outsiders, it may be observed that industries in Chosen and Taiwan are not subject to Government control, and this has often adversely affected the home industry and upset the control exercised by the exporters' associations. The advisability of enforcing industrial control in the colonies is therefore urged in some quarters. This would still leave unsolved the problem of Manchoukuo, where, since the creation of the new State, rapid industrial progress has been made which, in some instances, constitutes a menace to Japanese industry.

The enforcement of centralized organization in industry naturally brought about the quasi-monopolization of markets, and it is therefore suggested that it would be more important to supervise the cartels than assist their development which could only be detri-

mental to the consumer. Art. 3 of the Control Law which is intended to protect the consumer has so far remained a dead letter, for no steps have been taken by the Government to apply the provision, except in one case when it was applied, together with Art. 2, against the cement manufacturers. It is true that warnings have been given to several industries, which at the time they were given, proved effective. But the real defect in the Law lies in the lack of provisions for fixing prices fairly as a basis for measures to be taken in accordance with Art. 3, which authorizes the Government to order alterations in the prices fixed by the manufacturers. Much cannot be expected in this connection from the activities of the present Control Committee organized under the Law.

Finally, there appears to be a lack of co-operation between the various organized bodies. There is rarely any contact between the leading cartels under the Major Industries Control Law and the industrial associations, or between branches of a single industry dealing with raw materials, semi-manufactured goods, and manufactured goods. But it is a conflict between the control of exports and the control of production which constitutes the most serious problem at present. In view of the control of export volume and prices by the exporters' associations, the manufacturers protest that the exporters are reaping all the profits derived from the export business. A conflict of this nature arose in 1934 in regard to the export of oranges to the United States, but the complications between the Japan Cotton Spinners' Association and the Japan-Netherlands East Indies Cotton Tissue Exporters' Association were even more productive of fanning the movement against the control of industry in certain quarters.

The suggestions put forward in regard to a revision of organized control generally include compulsory membership for outsiders, an extension in scope and power of the Control Committee, the establishment of a central control organ, and specific control laws for different industries.

CHAPTER IX

THE RATIONALIZATION OF INDUSTRIES

The earliest form of industrial rationalization was the introduction of scientific management which was first developed in the United States. The first attempt to apply scientific methods of management to industrial enterprises was made about the year 1920. These efforts were, however, half-hearted, for Japanese industry was then enjoying unprecedented prosperity due to the World War. A few years later, Tokyo, Yokohama and the outlying districts were overtaken by the great seismic disaster of 1923, which completely dislocated the industrial organization of the afflicted areas. The attention of industry was for a time entirely absorbed by rehabilitation work, and progress in industrial organization and management was confined to a few large factories in Osaka and other industrial centres of Western Japan.

From about 1924, the rationalization movement which was started in Germany attracted the attention of industrial circles in Japan and gradually produced important results. As far as the management of individual factories was concerned, there was nothing novel in the movement, the merit of rationalization consisting rather in introducing rational organization to the whole range of industries, and this feature commended itself to the instinct for group organization of Japanese modern business. Economically, Japan was then in the throes of the post-war depression, which was later aggravated by the return to the gold standard in January, 1930. This difficult situation provided a compelling motive for the serious study of the problems of rationalization. Rationalization as resorted to in those early days was, however, in most cases confined to the adjustment or amalgamation of companies, particularly the weeding out of small concerns whose financial condition had become unsound, and the closing down of unprofitable and redundant plants.

In view of the importance of industrial rationalization, the Government created, in January, 1930, a new official organ, the Provisional Industrial Advisory Council, and submitted several questions for

deliberation. The questions submitted were as follows:—

i Which industries should be subjected to State control for the purpose of reorganization in connection with the changed situation of the national economy, and which are the best ways to exercise such control, with special reference to small-scale industries?

ii What measures should be adopted to effect the standardization and simplification of manufactures and promote manufacturing efficiency through technical improvements and reforms of management?

iii What measures should be taken for the improvement of banking facilities in connection with the rationalization of industry, with special reference to small-scale industries?

iv What measures should be taken to stimulate the use of domestic products in preference to foreign manufactures?

The Council appointed special committees to deliberate on the problems submitted by the Government and embodied its reply in resolutions presented to the Government before the end of June, 1930, a part of which are given below:—

i Industrial Organization.

(a) The control of enterprises by industrial associations should not be confined to the principal export goods, but ought to be extended to all important industrial products.

(b) Control should be exercised by associations of manufacturers engaged in the same line of industry.

(c) Membership of industrial associations shall be voluntary, but the application of control or restrictions should, if the necessity arises, be extended to non-members.

(d) Important industrial products should be subject to direct State inspection or to inspection through the federations of industrial associations, for the purpose of eliminating unfair competition.

ii Standardization and Simplification.

(a) In order to promote standardization, a draft schedule of standards should be prepared through the co-operation of a representative board of manufacturers and scientific institutions, and an association should be organized for the purpose of popularizing such standards with manufacturers and consumers.

(b) A special organ should be instituted to investigate the problem of simplification of goods and trade methods, such organ to consist of manufacturers, distributors, consumers and other interests. Measures should also be taken to enlist the assistance of private bodies, associations, etc.

(c) As the Government and public offices are large consumers

of merchandise, measures should be taken for the standardization and simplification of articles required.

iii Credit Organization.

Financial facilities for minor industrial enterprises may best be granted through industrial associations and co-operative societies functioning as financial organs for their members. For this purpose it will be necessary to reorganize the present system of associations and societies, while, on the other hand, taking the following measures for securing a satisfactory supply of funds:

(a) The sphere of business operations of industrial associations should be enlarged so as to include the custody of money deposited by members, the supply of funds to members, the guaranteeing of loans raised for industrial purposes by members, warehousing, etc.

(b) The mortgaging capacity of the association should be strengthened by encouraging the establishment of common facilities, and enlarging the responsibilities of members by making them liable up to a certain amount exceeding the sums subscribed by them.

(c) The Government should take steps to establish a central bank for industrial associations and enlist the support of special banks to provide appropriate channels for affording financial accommodations to small enterprises.

iv Popularization of National Products.

In order to remove the mistaken idea that foreign goods are necessarily superior to national products, the following measures should be taken:—

(a) Domestic manufactures should be selected which compare favourably with foreign goods either in quality or price for popularizing home-made articles. The selection of such articles should be entrusted to private bodies and associations of different lines of industry, and the items thus selected should be submitted to the verdict of an authoritative organ to be created for the express purpose, the result to be made public. Furthermore, a special organ should be established for the comparative study of foreign and domestic manufactures as to quality.

(b) Measures should be taken by the Government as well as the communal authorities in all parts of the country to adopt domestic manufactures for their own use.

(c) Steps should be taken to enable the public to easily distinguish domestic manufactures.

(d) It is important to apply salient features of technical skill and ingenuity peculiar to Japanese industry to the manufacture of

export goods, and thus to promote the export trade of the country.

Later, the Industrial Council advised the Government on the necessity of exercising control over shipbuilding and the iron and steel industries.

Most of the recommendations of the Council were adopted by the Government, and measures were eventually taken to carry out such recommendations.

In pursuance of the suggestions of the Council, the Bureau of Rationalization was established as part of the Ministry of Commerce and Industry, its function being to attend to and deal with all matters mentioned in the recommendations of the Council, excepting those measures relating to industrial associations which were commissioned to the Bureau of Industry of the same Ministry.

The composition of the Bureau is in many respects similar to that of the *Reichskuratorium für Wirtschaftlichkeit* in Germany, the only important difference being that the Bureau is a Government office and that it includes among its functions the regulation of cartels. The Bureau is divided into two departments, one attending to the regulation of cartels, the application of scientific management, the improvement of financial facilities, and other matters relating to the rationalization of industries; the other attending to standardization and the simplification of merchandise, propaganda for national products and the improvement and co-ordination of industrial research institutions. For the execution of the projected reforms, several committees have been organized.

(1). Regulation of Cartels. The supervision of cartels by the Bureau of Rationalization is carried out chiefly in two ways. Firstly, by virtue of the Major Industries Control Law the Bureau may, when the situation in any industry makes such a course advisable, order outsiders, in the name of competent Minister, to abide by the cartel agreements concluded among the members. Secondly, the Bureau may take the initiative in calling upon manufacturers engaged in the same line of industry to organize industrial associations and conclude agreements for the better co-ordination of production prices. As a result of the efforts of the Bureau, co-operation and control have been established in almost all leading industries.

(2). Improvement in Management. With the view of bringing about improved methods of management, two standing committees, i.e. the Committee on Factory Management and the Committee on Financial Administration, were established. Another committee was organized in September, 1934, by the name of the Retail Trade Improvement Committee, the object of which is to investigate ways and

means for the improvement of the retail trade.

The Factory Management Committee carries on research work concerning scientific methods of factory management in close contact with the Social Bureau of the Ministry of Home Affairs, and submits recommendations which may be put into practice in Japanese factories in general.

The Committee on Financial Administration, composed of accountants and men of experience in this particular line, in the initial stage of its functions, prepared models of balance sheets, inventories, cost accounting, etc. both for industrial and commercial companies.

(3). Industrial Standardization and Simplification. A Committee on Industrial Standardization was formed in April, 1921, which still exists to-day. The Committee consists of about seventy members, including high technical experts of various Government departments, representatives of scientific societies and technical experts of leading factories. Besides the standing members, temporary members may be appointed when necessity arises. The Committee is presided over by the Minister of Commerce and Industry, who holds the post of chairman ex-officio and is assisted by a deputy-chairman. The organization is divided into four sections, i.e., 1, Department of metallic materials, 2, Department of non-metallic materials, 3, Department of electric machines and apparatus, etc., and 4, Department of general machinery and apparatus, etc. The number of standards so far established is 329, including 42 cases of revised standards. Since the establishment of the Bureau of Rationalization the tendency towards simplification of articles has been amplified.

(4). Protection of National Products. Upon the establishment of the Bureau of Rationalization, the propaganda work in favour of national products was transferred to this institution. Activities in the direction of encouraging the use of home-made goods were greatly assisted by the depreciation of the yen and the consequent price advance in imported articles. The Bureau of Rationalization has appointed a special committee for fostering the movement, the latter distributing awards to especially deserving productions. The committee has compiled a list of home-made articles which can be used as substitutes for foreign manufactures and is sponsoring exhibitions in different localities of both Japanese and foreign manufactures. The committee is also endeavouring to replace foreign manufactures used at Government offices, companies, factories, etc. with home-made articles.

The rationalization movement in Japan is at present entering the second period. In the first period, efforts were mainly devoted to

financial adjustment and the improvement of equipment and management of individual enterprises. The scientific reorganization of factories and workshops continues, but particular attention is now being directed to the collective control of industries, to a combined policy for overcoming problems of production and prices, and to promoting the export trade.

Although the mechanization of industry has made great strides, there is an optimum which, in view of the present condition of cheap and fairly efficient labour, cannot be overreached without defeating the objects of rationalization. A remarkable example is the rationalization of the overhauling of locomotive engines in the workshops of the Government railways. No new machinery was installed, but by a systematic mapping-out of overhauling operations the time required for overhauling an engine was reduced from 28 days to 5 days.

The rationalization movement is sponsored privately by the Japan Industrial Society (Nippon Kogyo Kyokai) which takes the initiative and selects subjects for study and consideration. A meeting is held under its direction twice a year, in which articles relating to rationalization are published and discussed.

CHAPTER X

INDUSTRIAL PROFITS(1)

1. General Survey

Reviewing the business situation since 1928, it is seen that the depression was most acute during the two years from the opening of 1930, that is, immediately after the removal of the gold embargo, to the close of 1931 when the embargo was reimposed. Wild disturbances in prices, sharp declines in both production and exports, as well as other adverse factors, combined to depress enterprise to such an extent as to entail extensive readjustment and even bankruptcy. In 1932, however, there appeared some signs of a favourable turn when the Government, adopting the financial policy embodied in the Emergency Relief Bill and the extended Military Budget, began to spend money lavishly. Moreover, due to the reimposition of the gold embargo, exchange rates continued to depreciate, money became cheaper, exports revived, and encouraging reports of American business recovery helped to create a more hopeful outlook. The first industries to show activity in response to these favourable factors were those connected with armaments, mining and the export trade, and such improvement eventually led to a general recovery of business which reached its zenith in 1935.

An analysis of the business results of 350 representative companies covering various industries, and representing about 50% of the total paid-up capital of joint-stock companies throughout the country, shows that with net profits of 285 million yen and a profit ratio of 11·1% in the first half of 1929 as the highest level, a sudden downward tendency set in in the second half of the same year. In 1930–31 profits were again reduced by half, and appropriations from reserve funds were utilized to pay dividends. An upward tendency, how-

(1) Cf. *Analysis of the Business Results of Japanese Companies*, semi-annually issued, by the Mitsubishi Economic Research Bureau.

ever, ensued in the first half of 1932, the period immediately following the reimposition of the gold embargo, and this tendency has grown more and more marked every term up to the first half of 1935.

TABLE 87

BUSINESS RESULTS OF COMPANIES

	Number of companies investigated	Net worth (in million yen)	Paid-up capital (in million yen)	Net profits (in million yen)	Profit rate (% per annum)		Dividend rate (% per annum)	Ratio of profits left in business
					to net worth	to paid-up capital		
								%
1928 1st half	386	6,609	4,972	245	7·4	9·8	8·3	14
2nd half	388	6,734	5,052	242	7·2	9·6	8·6	8
1929 1st half	392	6,822	5,126	285	8·4	11·1	8·5	21
2nd half	392	6,941	5,233	246	7·1	9·4	8·3	7
1930 1st half	386	6,886	5,243	155	4·5	5·9	6·8	Dr. 22
2nd half	379	6,785	5,175	116	3·4	4·5	5·9	Dr. 36
1931 1st half	359	6,639	5,042	157	4·7	6·2	5·7	6
2nd half	354	6,579	5,040	106	3·2	4·2	5·4	Dr. 32
1932 1st half	355	6,633	5,069	174	5·3	6·9	5·4	19
2nd half	355	6,706	5,095	196	5·9	7·7	5·5	26
1933 1st half	350	6,739	5,065	230	6·8	9·1	6·0	32
2nd half	354	6,183	5,424	264	7·4	9·7	6·2	33
1934 1st half	351	7,345	5,484	279	7·6	10·2	6·6	31
2nd half	349	7,945	5,940	332	8·4	11·2	7·1	35
1935 1st half	350	8,238	6,062	367	8·9	12·1	7·5	32

The recent prosperity is most apparent in the manufacturing and mining industries, which, in the second half of 1934, showed a profit rate of 15·4%, and 13·2% respectively. Commerce has been marked by fluctuations, showing a somewhat depressed state since the second half of 1933, when the best results were registered. Public utilities continued on a downward grade from 1930 until very recently when a favourable turn appeared. Banks and other financial companies were adversely affected by the great loss incurred through the depreciation of security holdings in the second half of 1931, which amounted to nearly 4·5% of the total paid-up capital, but later, in spite of cheap and easy money conditions, a profit rate of from 12% to 13% could be maintained.

A comparison of business results in Japan and other countries shows that recovery was earlier in Japan and that economic activity advanced in 1934 to a level above 1929. In Great Britain, the United States and Germany the depression was most acutely felt in 1932,

TABLE 88

NET PROFITS IN JAPAN, GREAT BRITAIN, UNITED STATES AND GERMANY

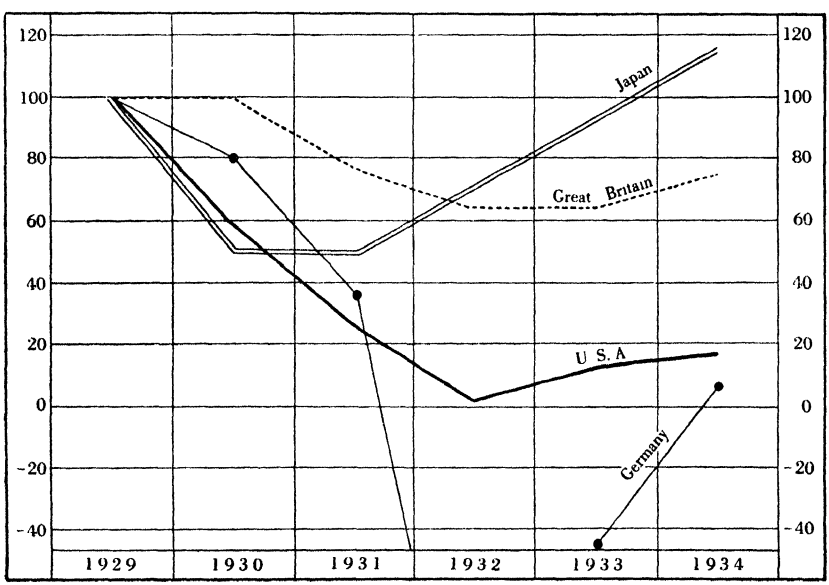
(%)

		1929	1930	1931	1932	1933	1934
Japan	Rate of net profit to paid-up capital	10·3	5·2	5·3	7·5	9·5	10·9
	Net profit index	100	51·0	49·5	69·8	93·0	115·0
Great Britain	Rate of net profit to paid-up capital	10·5	9·8	7·2	5·7	6·7	7·2
	Net profit chain index	100	99·4	77·1	63·1	63·4	73·9
U. S. A.	Rate of net profit to net worth	11·3	6·0	2·6	0·3	2·1	3·6
	Net profit chain index	100	58·3	25·7	2·0	12·6	16·7
Germany	Rate of net profit to net worth (— loss)	6·0	4·8	2·2	− 8·7	− 2·7	0·4

Compiled from figures investigated by the M.E.R.B. (Japan), *The Economist* (Great Britain), the National City Bank of N. Y. (U. S. A.) and the *Statistisches Reichsamt* (Germany).

INDEX CHART SHOWING INTERNATIONAL COMPARISON OF NET PROFITS

(Base: 1929=100)



and, although there has since been an upward tendency, recovery has not been so rapid as in Japan.

2. Capital and Assets

Analysis of Capital Employed. The total net worth of the companies investigated revealed an upward tendency up to the second half of 1929, but later was on a downward grade, reaching the lowest level in the second half of 1931. From the first half of 1932, the net worth advanced again, reaching 8,238 million yen in the first half of 1935. During the period from the second half of 1931 up to the second half of 1934, paid-up capital increased by 20%, reserves, carry-over and profits by 40%, respectively. The rate of paid-up capital to net worth in the first half of 1935 was 74% as against 77% in the second half of 1931. The improvement in net worth is therefore apparent.

The total capital employed by industrial companies other than banks and financial companies expanded considerably in the years 1928 and 1929, after which period there was a temporary decline followed by another advance from 1932, the total in the first half of 1935 being returned at 11,185 million yen, or an increase of 21%

TABLE 89

Net Worth of Companies

(in million yen)

	Paid-up capital	Reserves and amounts carried forward	Profits	Total net worth
1928 1st half . . .	4,971·8	1,381·8	255·6	6,609·2
2nd half . . .	5,051·5	1,434·1	248·0	6,733·6
1929 1st half . . .	5,125·5	1,398·3	298·6	6,822·4
2nd half . . .	5,233·3	1,460·5	246·7	6,940·5
1930 1st half . . .	5,242·6	1,487·5	155·6	6,885·7
2nd half . . .	5,174·9	1,490·8	118·8	6,784·5
1931 1st half . . .	5,041·7	1,436·6	161·1	6,639·4
2nd half . . .	5,040·4	1,431·6	107·0	6,579·0
1932 1st half . . .	5,068·6	1,383·9	180·1	6,632·6
2nd half . . .	5,094·8	1,410·0	201·2	6,706·0
1933 1st half . . .	5,064·6	1,438·9	235·6	6,739·1
2nd half . . .	5,423·1	1,495·1	264·2	7,183·1
1934 1st half . . .	5,483·8	1,580·3	281·3	7,345·4
2nd half . . .	5,940·0	1,665·3	340·1	7,945·4
1935 1st half . . .	6,062·3	1,808·3	367·3	8,237·9

compared with the first half of 1928. The rate of net worth and outside liabilities to total capital employed declined from 57:43 in the first half of 1928 to 55:45 in the years 1929 and 1930; but in the second half of 1933 an upward tendency began to appear, and in the corresponding half of 1934 a marked improvement was effected, the relation being registered as 61:39. This may be accounted for by the fact that whereas outside liabilities, reaching the highest level in the years 1929 and 1930, declined in 1931 and thereafter remained stationary, there has been a marked increase in net worth due to the recent business prosperity. It is noteworthy that in the second half of 1934 the net worth suddenly increased from about 5,000 million yen to 6,600 million yen.

Of outside liabilities, long-term indebtedness, such as debentures and bank debts, reached the highest level in the second half of 1930, since when there was a gradual decrease. Long-term indebtedness in the total outside liabilities increased from 50% in the first half of 1928 to 64% in the second half of 1931, but there has been a pronounced decline in recent years owing to considerable repayments in view of the improved position of industrial companies.

TABLE 90

ANALYSIS OF CAPITAL EMPLOYED BY INDUSTRIAL COMPANIES

(in million yen)

	Analysis of capital employed			Outside liabilities		
	Net worth		Outside liabilities	Long-term indebtedness		Current liabilities
	Value	Ratio		Value	Ratio	
		%			%	
1928 1st half . . .	5,322	57	3,935	1,952	50	1,984
2nd half . . .	5,426	57	4,044	2,194	54	1,851
1929 1st half . . .	5,469	55	4,407	2,348	53	2,059
2nd half . . .	5,572	56	4,385	2,425	55	1,960
1930 1st half . . .	5,504	55	4,448	2,482	56	1,966
2nd half . . .	5,461	55	4,398	2,642	60	1,756
1931 1st half . . .	5,304	56	4,139	2,590	63	1,549
2nd half . . .	5,301	57	4,058	2,578	64	1,480
1932 1st half . . .	5,333	56	4,144	2,589	62	1,555
2nd half . . .	5,388	56	4,203	2,602	62	1,601
1933 1st half . . .	5,410	56	4,192	2,593	62	1,600
2nd half . . .	5,856	58	4,277	2,580	60	1,698
1934 1st half . . .	5,997	59	4,235	2,500	59	1,734
2nd half . . .	6,573	61	4,272	2,435	57	1,837
1935 1st half . . .	6,808	61	4,377	2,361	54	2,016

Analysis of Assets. Total assets of industrial companies fluctuate in direct proportion to the capital employed, and the recent tendency has been towards a marked expansion.

Fixed assets totalled 5,400 million yen in the first half of 1928, and thereafter gradually increased, maintaining roughly a level of 6,000 million yen during the period from 1930 up to the first half of 1933. The recent economic advance brought about a further increase, the total rising sharply to 6,700 million yen in the first half of 1935.

Current assets declined gradually from the peak reached in the first half of 1929, the rate to total assets dropping from 42% to 35% up to the second half of 1931. The principal cause was a decrease in total stocks from 1,140 million yen to 610 million yen. From the first half of 1932, however, a recovery set in, securities and investments steadily increasing every term; bills receivable and accounts also registered a gradual increase from the lowest level in the second half of 1931; and cash and deposits showed an upward tendency. Total current assets increased from 3,300 million yen in the second half of 1931 to 4,500 million yen in the first half of 1935, the ratio to total assets also rising to 40%. The ratio to current

TABLE 91

ASSETS OF INDUSTRIAL COMPANIES

(in million yen)

	Fixed assets				Current assets		Total assets
	Value	Ratio to total assets	Ratio to net worth	Ratio of redemption	Value	Ratio to current liabilities	
		%	%	%			
1928 1st half . . .	5,439	59	102	1·6	3,794	1·9	9,233
2nd half . . .	5,616	59	104	1·6	3,829	2·1	9,445
1929 1st half . . .	5,756	58	105	1·7	4,104	2·0	9,860
2nd half . . .	5,954	60	107	1·7	3,991	2·0	9,945
1930 1st half . . .	6,077	61	110	1·5	3,854	2·0	9,931
2nd half . . .	6,214	63	114	2·0	3,640	2·1	9,854
1931 1st half . . .	6,030	64	114	1·7	3,409	2·2	9,439
2nd half . . .	6,034	65	114	1·7	3,317	2·2	9,351
1932 1st half . . .	6,070	64	114	2·0	3,399	2·2	9,469
2nd half . . .	6,074	63	113	2·6	3,514	2·2	9,588
1933 1st half . . .	6,005	63	111	3·5	3,593	2·2	9,598
2nd half . . .	6,298	62	108	3·9	3,832	2·3	10,130
1934 1st half . . .	6,212	61	104	3·9	4,017	2·3	10,229
2nd half . . .	6,590	61	100	3·8	4,255	2·3	10,845
1935 1st half . . .	6,662	60	98	3·9	4,523	2·2	11,185

liabilities increased from 1·9 times in the first half of 1928 to 2·3 times.

3. Business Results

Revenue and Expenditure. The total revenue of industrial companies dropped from 1,900 million yen in the first half of 1929 to 1,300 million yen in the second half of 1931. Due to the return of prosperity after the reimposition of the gold embargo, revenues have since advanced, reaching 2,200 million yen in the second half of 1934. Accordingly, there has been a corresponding improvement in the ratio of expenditure to revenue, which gradually progressed favourably from 95% in the second half of 1930 to 88% in the second half of 1933, and further to 87% in the second half of 1934. The turnover of the capital employed showed a deterioration in the second half of 1931, but has since improved, rising to 0·42 in the first half of 1935.

Net Profits. Net profits of industrial companies reached the lowest level with 76 million yen in the second half of 1930. Since then there has been a continuous and sharp improvement to 316 million yen in the first half of 1935. The profit rate showed a decline from 11·1%

(Cf. Table 87).

TABLE 92

Total Revenue and Profit of Industrial Companies

	Total revenue (million yen)	Ratio of expenditure to revenue (%)	Turnover of capital employed	Net profit (million yen)	Rate of net profit (%)
1928 1st half . . .	1,773	88	0·38	210	10·1
2nd half . . .	1,804	89	0·38	197	9·4
1929 1st half . . .	1,892	88	0·38	236	11·1
2nd half . . .	1,875	89	0·38	200	9·2
1930 1st half . . .	1,689	93	0·34	119	5·5
2nd half . . .	1,477	95	0·30	76	3·5
1931 1st half . . .	1,388	92	0·29	117	5·5
2nd half . . .	1,307	91	0·28	120	5·7
1932 1st half . . .	1,358	90	0·29	129	6·1
2nd half . . .	1,482	90	0·31	149	7·0
1933 1st half . . .	1,631	89	0·34	181	8·5
2nd half . . .	1,856	88	0·37	218	9·4
1934 1st half . . .	1,933	88	0·38	226	9·8
2nd half . . .	2,196	87	0·41	281	10·9
1935 1st half . . .	2,350	87	0·42	316	12·1

TABLE 93

PROFIT RATE IN MANUFACTURING INDUSTRIES

(% per annum)

	Textiles	Ceramics	Chemicals	Machinery	Metals	Food and beverage
1928 1st half . . .	13·6	7·6	11·2	7·3	6·1	7·4
2nd half . . .	20·0	10·3	11·9	- 8·7	5·5	3·1
1929 1st half . . .	18·8	13·0	11·6	7·3	7·4	12·7
2nd half . . .	9·3	11·4	10·8	3·0	6·8	8·1
1930 1st half . . .	2·4	5·1	8·4	3·6	5·2	11·9
2nd half . . .	0·7	1·2	6·2	- 4·4	- 1·6	7·5
1931 1st half . . .	12·5	2·1	2·8	- 7·1	- 1·1	8·7
2nd half . . .	12·3	3·5	4·2	0·5	0·6	7·1
1932 1st half . . .	14·2	4·3	5·8	- 1·9	2·6	10·3
2nd half . . .	8·4	6·7	7·3	1·4	5·6	11·7
1933 1st half . . .	17·3	11·7	13·5	8·7	14·2	13·8
2nd half . . .	17·7	11·7	15·8	8·8	19·1	12·8
1934 1st half . . .	19·2	13·5	18·5	10·7	6·1	8·6
2nd half . . .	16·8	13·3	15·6	11·8	17·0	8·7
1935 1st half . . .	17·9	13·6	15·0	12·9	19·8	16·7
Average for 15 terms	13·4	8·6	10·6	3·6	7·6	9·9

— Deficit.

in the first half of 1929 to 3·5% in the second half of 1930, since when there has been a sharp increase to 12·1% in the second half of 1934.

Of the companies investigated, 29 suffered losses in the first half of 1928. The situation grew worse thereafter, the number of companies whose business resulted in a loss reaching 96 in the second half of 1930, or 25% of all companies under survey. There was a great improvement in later years parallel to the economic recovery. Manufacturing and mining companies made a particularly good showing in recent years.

Appropriation of Profits. Parallel to the marked increase in profits, dividends paid to shareholders advanced from 5·4% in the second half of 1931 to 7·5% in the first half of 1935. The rate of dividends paid to shareholders in relation to total profits was over 90% in and immediately after the second half of 1928. In the first half of 1930 and the second half of 1931, dividends were often paid out of fictitious profits, disclosing indications of unhealthy business conditions. Since the first half of 1933, however, the rate of outside appropriation has been lowered to 60%, and, although this has reduced

TABLE 94

TOTAL DIVIDENDS PAID TO SHAREHOLDERS AND PROFIT LEFT IN BUSINESS

(in million yen)

	Dividends		Profit left in business			
	Value	Rates (% per annum)	Reserves	Amount carried forward	Total amount	Rates (%)
1928 1st half	207·0	8·3	42·6	Dr. 6·8	35·8	14
2nd half	216·7	8·6	33·5	Dr. 14·7	18·8	8
1929 1st half	217·2	8·5	56·0	5·6	61·6	21
2nd half	217·8	8·3	39·6	Dr. 22·3	17·3	7
1930 1st half	179·5	6·8	3·5	Dr. 37·1	Dr. 33·6	Dr. 22
2nd half	153·3	5·9	Dr. 2·1	Dr. 40·3	Dr. 42·4	Dr. 36
1931 1st half	144·3	5·7	(a) 25·2	Dr. 15·6	9·6	6
2nd half	135·3	5·4	Dr. 24·0	Dr. 10·5	Dr. 34·5	Dr. 32
1932 1st half	137·9	5·4	28·2	6·6	34·8	19
2nd half	140·7	5·5	40·5	12·0	52·5	26
1933 1st half	151·5	6·0	51·4	23·2	74·6	32
2nd half	167·3	6·2	65·5	20·9	86·4	33
1934 1st half	181·0	6·6	77·2	11·4	88·6	31
2nd half	209·4	7·1	95·7	22·3	118·0	35
1935 1st half	228·1	7·5	105·8	11·3	117·1	32

(a) Inclusive of cancellation of 42·5 million yen reserve funds by banks.

TABLE 95

RATE OF DIVIDEND IN LEADING INDUSTRIES

(% per annum)

Half-years	1928	1929	1930	1931	1932	1933	1934		1935
	I	I	I	I	I	I	I	II	I
Cotton spinning	19·5	19·2	14·1	12·6	13·3	13·9	16·2	15·0	15·5
Woollen textiles	8·0	5·6	4·7	5·6	6·2	6·9	8·3	6·7	8·6
Cement	6·6	9·4	3·9	1·8	5·0	7·4	8·3	7·7	7·6
Rayon	6·2	6·6	7·7	7·0	7·8	16·4	15·9	15·8	14·5
Paper	11·4	11·4	8·1	4·8	3·8	9·8	10·1	8·9	9·4
Fertilizer	10·2	10·0	7·4	4·9	4·0	7·2	7·8	7·8	7·8
Electric machinery	1·9	2·2	1·1	0·6	0·7	2·3	8·5	10·4	9·8
Shipbuilding	2·3	2·9	1·8	0·4	0·2	0·4	1·9	4·1	4·6
Iron and steel	1·6	2·2	1·6	0·1	0·7	2·8	10·2	10·7	7·0
Sugar	9·3	7·8	8·6	7·7	7·7	7·6	8·7	9·0	9·0
Wheat flour	6·6	8·0	8·9	8·5	9·0	9·3	8·5	8·2	10·1
Mining	6·4	7·4	5·6	2·8	3·4	6·4	9·9	10·3	10·5
Electric power	8·6	8·9	7·5	6·3	5·1	2·8	2·9	4·4	5·7

the rate of dividend below the level of 1928 and 1929, there is evidence of a prudent disposal of profits.

The cotton spinning industry was able to maintain the highest dividend, but distribution by the rayon industry has increased remarkably. Save for a setback in about 1930–31, the woollen, paper, and fertilizer industries also maintained a relatively high level. The heavy industries, such as electric machinery, shipbuilding and iron and steel, have shown a low rate of dividend since 1928, and in the years 1930 to 1932, were mostly unable to make any distribution, but since 1933 there has been a marked upward tendency. The rate of dividend in the mining industry was also very low in the years 1931 and 1932, but there has been some improvement in recent years. The electric power industry witnessed the worst depression one or two years later than other industries, the lowest rate of dividend being registered in the first half of 1933.

PART THREE

BASIC INDUSTRIES

CHAPTER XI

AGRICULTURE

THE extraordinary progress achieved in modern industry has placed Japan in the front rank among the leading industrial countries, and in some branches she has even succeeded in outstripping the older nations. In sharp contrast, there has been little or no progress in agriculture, which has been regarded from times immemorial as the pillar of the State; so much so that the impoverished condition of the rural communities has at last become an acute social problem. During the past several years, this situation has been growing worse, particularly when contrasted with the rapid advance of industry. But this deterioration does not detract from the important position of agriculture in the national economy of the country. As regards the number of the population engaged in it and in other respects, the position of agriculture as the economic backbone of the country remains solid and secure, which fact, apart from other considerations, demonstrates the gravity of the agrarian problem with which the nation is now confronted. No one can fail to see to what extent the future development of Japan, which is now in the throes of a serious economic and social crisis, depends upon the future of agriculture. The gravity of the situation will be more clearly perceived when one considers the recent trend of social and economic policies of other nations, marking a noteworthy change from a *laissez-faire* policy to nationalism, and the abandonment of free trade for internal self-sufficiency.

1. GENERAL CHARACTERISTICS

Fundamental Conditions in Japanese Agriculture. In the matter of climate, geographical features and soil, which form the basis of agriculture, Japan is not particularly favoured. The country extends in a long, narrow line from Karafuto in the subfrigid zone to Taiwan in the tropical zone. Although the greater part of Japan proper

is situated in the temperate zone, the area suitable for cultivation is limited as the country is traversed by great mountain ranges, and the soil is poor. In spite of these adverse factors, agriculture is carried on wherever possible, owing to the innate diligence of the people.

The total area of Japan, including colonies, is 681,000 square kilometres, of which that of Japan proper is computed at 382,300 square kilometres. At the end of 1933, only 15·6% of this total in Japan proper was under cultivation; the ratio rising to 17·4% when the cultivated areas of the colonies are included. Compared with other countries, this ratio is strikingly small (Great Britain 22·3%, Germany 43·7%, France 39·4%, Italy 41·4%). Even the United States, where a considerable portion of arable land still remains uncultivated, the cultivated area is 18%. The cultivated area per capita of population in Japan including colonies is 0·122 hectares, while that of Japan proper alone is 0·086 hectares. These figures are hardly comparable to those for Great Britain, Germany, France, Italy and the United States which are 0·124, 0·314, 0·512, 0·315, and 0·362 hectares respectively. Geographical features are also responsible for the generally small size of farms which in turn leads to intensive farming.

TABLE 96

RATIO OF CULTIVATED AREA TO TOTAL AREA AND PER CAPITA OF POPULATION

(at the end of 1933)

	Japan proper	Chosen	Taiwan	Karafuto	Kwantung and S. M. Ry. Zone	Mandated Islands	Total
Cultivated area (in 1,000 hectares).	5,979	4,816	820	33	203	15	11,866
Ratio to total area (%) .	15·6	21·8	22·8	0·9	80·7	7·0	17·4
Cultivated area per capita (in hectares) .	0·086	0·232	0·062	0·111	0·144	0·182	0·122

In spite of the already painstaking methods of cultivation employed, it is considered that there is a possibility of extending the area under cultivation. According to investigations made by the Temporary Industrial Investigation Bureau in 1918, the possible additional area capable of being brought under cultivation was estimated at 1,650,000 *cho*. With the view of attaining a national self-

sufficiency in foodstuffs, the Commission for Research into the Population and Food Problem, whose report was published in 1927, envisaged an extension of the cultivated area, under the then existing possibilities, of 714,000 *cho*, which was to be increased to 1,244,000 *cho* under more favourable conditions, while a further augmentation of 200,000 *cho* in the future was anticipated. Such extensions, if realized, would increase the present cultivated area by about one-third. Even then the arable land would be percentually much smaller than the present area under cultivation in other principal countries.

At the end of 1934, the total area under cultivation in Japan proper was given as 6,038,000 *cho*, of which 53·3% were rice-fields. Due to Government assistance, the area under cultivation increased up to 1921, when a gradual downward tendency set in and continued until 1929.

In the colonies, there has been an annual increase in the area under cultivation, which was given as 5,936,000 *cho* at the end of 1933, showing an increase of 700,000 *cho* during the last ten years. Except for Taiwan, the cultivated areas are mostly ordinary crop fields.

TABLE 97

AREA UNDER CULTIVATION

(in 1,000 *cho*)

	Japan proper[a]			Dependencies[b]		
	Irrigated fields	Unirrigated fields	Total	Irrigated fields	Unirrigated fields	Total
1905	2,841	2,542	5,383	—	—	—
1923	3,067	2,973	6,039	1,917	3,309	5,237
1929	3,193	2,705	5,897	2,017	3,654	5,671
1930	3,204	2,712	5,916	2,046	3,666	5,712
1931	3,212	2,742	5,954	2,057	3,663	5,721
1932	3,220	2,772	5,992	2,102	3,633	5,735
1933	3,226	2,803	6,029	2,125	3,811	5,936
1934	3,218	2,819	6,038	...	...	...

(*a*) Based on returns of the Ministry of Agriculture and Forestry. (*b*) Based on returns of the Ministry of Colonial and Overseas Affairs.
1 *cho*=2·45 acres=99·17 ares.

Importance of Agriculture. The importance of agriculture in the national economy of Japan can be demonstrated from various points of view.

Nearly one half of the total population is engaged in agriculture. According to the census returns of 1930, the total population was given

as 64 million, of which 29 million were engaged in occupational work. Of the total number, 14 million or 47·85% were engaged in agriculture (tillage, sericulture and stock-raising). The percentage shows a reduction, but an increase in absolute numbers, compared with the ratio of 50·91% in the first census taken in 1920.

Agricultural households, too, which occupied 44% of the total number of households in 1934, show a similar decrease in percentage.

TABLE 98

NUMBER OF AGRICULTURAL HOUSEHOLDS

	1893	1914	1920	1930	1934
Agricultural households (1,000)	5,359	5,456	5,485	5,600	5,617
Ratio to total number of households (%)	64·1	56·9	52·4	46·0	44·4

Based on returns of the Ministry of Agriculture and Forestry.

The fact that the best part of productive labour, nearly 45% of the total population, is engaged in agriculture, goes to show, on the one hand, that the impoverishment of rural communities constitutes in itself a serious social and political problem affecting the entire nation, and, on the other hand, the development of commerce and industry depends to a very great extent upon the purchasing power of the rural communities.

The annual total volume of agricultural production in Japan proper during the period of five years from 1929 to 1933 averaged 2,700 million yen, including breeding products amounting to 600 million yen. The total for the Japanese Empire amounts to about 3,900 million yen, including 1,170 million yen for the colonies, among which Chosen accounts for 860 million yen, Taiwan for 290 million yen and other colonies for 20 million yen. As compared with the total production value of 6,100 million yen in 1925 (of which Japan proper accounted for 4,470 million yen), this shows a marked decline, and, consequently, a perilous shrinkage in the income of farmers.

An analysis of the results obtained during the same period in fishing and mining reveals that the combined total production value was far lower than in agriculture. Only the manufacturing industry, as a whole, shows a higher production value at 6,900 million yen for Japan proper alone, and about 7,700 million yen if the colonies are included. To outward appearance, this total is far larger than that for agricultural products, but from the viewpoint of net value, there is not much difference between the two. Deducting 60% from the total out-

put value of the manufacturing industry, for raw and other necessary materials (this is computed from the volume of raw materials used in the manufacturing industry), and 6–7% for depreciation charges, and if, on the other hand, the total cost of manure, seedlings, silkworm eggs, fodder and depreciation expenses for barns and agricultural implements which is calculated at 30% of the total amount of agricultural products, the net value of agriculture would be slightly superior to that of the manufacturing industry.

Agriculture in Japan is of relatively little importance in the export trade, its main function being to satisfy the domestic demand for foodstuffs. The serious price decline of the past few years has certainly been disastrous to the farming community, but it has indirectly promoted the export trade by increasing the competitive power of commerce and industry in foreign markets.

Characteristics of Japanese Agriculture. Agriculture, as carried on in Japan, consists mainly of the cultivation of the soil; silkworm-raising and stockbreeding are only of secondary importance. Owing to natural conditions, products show a great variety. These products, including Chosen and Taiwan, are of 365 different kinds, according to investigations undertaken by Dr. Masao Akemine, Japan proper alone growing 80 varieties. However, the most important product is rice, followed by other cereals, vegetables and fruits, while the cultivation of agricultural raw materials for industrial purposes is relatively unimportant. The total area of rice plantations comprises more than 40% of the crop area, and the annual average of the rice-crop during the last five years was 47% of the total value of agricultural products, which shows the important position of rice in agricultural economy. In the principal colonies rice growing is only slightly less extensive, the area in Taiwan being nearly the same as in Japan proper. Together with other cereals, which in Japan proper account for 11% of the total amount of agricultural products, the total grain crop constitutes 58% of the whole production value of agricultural economy. It is noteworthy, however, that there has been a gradual increase in recent years in the production of vegetables and fruits as compared with that of wheat and other grains.

The most important branch, other than pure agriculture, is sericulture. The breeding of cattle, sheep, horses, pigs and poultry, which is so important a feature in farm husbandry in the West, has made little progress. Sericulture holds a position only second to rice, the average production value during the last five years being 15% of the total of agricultural products.

Natural conditions in conjunction with economic and social factors have produced a special type of farming, the most conspicuous characteristic of which is smallness of scale. Indeed, some of the difficult problems arising are attributable to this fact. At the end of 1933, the area under cultivation per household in Japan proper was only 1·07 *cho*, which must be reduced to 0·97 *cho*, if the comparatively newly settled region of Hokkaido is excluded. Even the latter figure decreases as we go westward from Central Japan. Small farms of under 0·5 *cho* and those of from 0·5 *cho* to 1 *cho* average 34·2% and 34·3%, respectively, thus more than two-thirds of the total area under cultivation is held by small farmers cultivating less than 1 *cho*. Farms of from 1 to 2 *cho* constitute 22·2%, and homesteads of more than 2 *cho* only 9·4% of the total agricultural area. Moreover, recent indications show a tendency for small farmers to increase, as against a decline in the number of farms of more than 2 *cho*. Agriculture has from immemorial times been dependent upon family labour, especially in Japan proper, where large-scale farming, involving the use of machinery, is strictly limited for technical and economic reasons.

According to investigations of the Imperial Agricultural Society, (Teikoku Nokwai) conducted in 1932 on the basis of total working days in agriculture, family hands accounted for 91·7% of the labour on small farms of 1·6 *cho*, and to 82·5% on medium-sized farms of an average of 2·93 *cho*. Of the total number of households engaged in agriculture, 27% were tenant farmers, and 42% tenants as well as proprietor farmers, while purely proprietor farmers constituted 31%. About 47% of the total area under cultivation was rented, showing that tenant management is comparatively prevalent.

TABLE 99

TENANTS AND PROPRIETOR FARMERS (%)

	Households			Area under cultivation	
	Proprietors	Tenants	Tenants and proprietors	Proprietors	Tenants
1910	33·4	27·4	39·2	54·8	45·2
1920	31·3	28·1	40·6	54·1	45·9
1930	31·1	26·5	42·3	52·3	47·7
1931	31·2	26·5	42·3	52·7	47·3
1932	31·1	26·6	42·3	52·8	47·2
1933	31·1	26·7	42·3	52·9	47·1
1934	31·0	26·8	42·2	53·0	47·0

Based on returns of the Ministry of Agriculture and Forestry.

The employment of machine power is not only limited by natural conditions, but the need for labour-saving devices is not yet either urgent or profitable. However, there can be no doubt that modern machinery has begun to penetrate the domain of agriculture. This is clearly seen in the marked increase from 2,468 in 1920 to 91,764 in 1931 in the number of motors installed for agricultural purposes (petroleum engines and electric motors of less than 5 H.P.). A similar tendency has appeared in the use of motor power implements and mechanical tools. During the period from 1927 to 1933, threshing machines increased from 29,820 to 67,259, hulling machines from 39,089 to 107,754, rice and wheat cleaning machines from 25,151 to 53,097, flour milling machines and vermicelli manufacturing machines from 3,264 to 8,432, and pumps from 17,413 to 32,700.

2. Agricultural Production and Trade

Agricultural Production. Except for some setbacks in certain quarters, there has been a gradual increase in the volume of agricultural production as a whole, due to extension of the area under cultivation, as well as to the improvement in agricultural methods.

A comparison of the average crop area, as distinct from the cultivated area, during the five years periods from 1923 to 1927 and from 1929 to 1933 reveals a marked increase of 144,000 *cho*, from 7,768,000 *cho* to 7,912,000 *cho*. There was an increase in the crop area of rice, wheat, potatoes, vegetables, fruits and mulberry leaves, as against a decrease in barley, rye, products for industrial purposes and tea. More recently, there is a tendency toward a somewhat greater production of materials for industrial purposes.

The extension of crop areas in the colonies has been more marked than in Japan proper. There has been an increase in rice, wheat, barley, vegetables and fruits, while the production of other cereals, beans and special products decreased, as in Japan proper. The extension of the area for fruit cultivation in Chosen is worthy of special notice.

As against the upward tendency in the volume of agricultural products, values have shown a gradual decline annually, dwindling from 4,484 million yen in 1925 to 2,046 million yen in 1931, a decrease of 54%. Due to the increase in volume and also to a slight recovery in prices, the value of agricultural products has since gradually improved, reaching about 3,000 million yen in 1933. Of this total, products of the soil accounted for 2,290 million yen and breeding products for 714 million yen. As classified by kinds, the value of rice occupied 48%

of the total value, being followed by 17% for cocoons. Other important products were wheat, barley and other cereals, beans, sweet and other potatoes, other vegetables, products for industrial purposes, fruits, meat and eggs.

It is evident from the above that cereals, particularly rice, and cocoons are the principal factors in deciding the value of agricultural products. These products are most liable to seasonal influences. As compared with the value for 1925, that of rice and other cereals

TABLE 100

CLASSIFIED VALUE OF AGRICULTURAL PRODUCTS

(in million yen)

	1925	1929	1931	1932	1933	1934
(A) Agricultural products						
Rice	2,133·8	1,584·7	913·2	1,235·0	1,433·6	1,384·6
Wheat	144·8	96·8	53·6	66·6	114·0	121·7
Barley, rye and oats	256·0	174·3	101·5	91·5	107·8	134·9
Other cereals	48·7	29·4	17·9	21·7	25·1	19·8
Beans	121·3	90·2	47·5	57·2	73·3	64·0
Sweet potatoes and potatoes	147·6	113·9	78·7	95·5	102·4	93·1
Other vegetables and flowers	246·5	225·4	153·3	155·6	175·2	176·2
Fruits	81·9	81·8	62·7	66·2	76·0	71·2
Products for industrial purposes	130·7	110·0	77·1	78·9	97·3	103·4
Crops for green manure	35·1	29·8	22·9	22·0	22·3	20·2
Young fruit and mulberry trees	14·6	6·1	2·9	2·5	4·4	4·2
Tea	36·4	30·5	18·9	18·5	21·2	22·9
Straw products	48·9	41·2	26·4	27·5	30·9	33·8
Tinned fruits and vegetables	10·3	5·0	3·6	4·1	5·5	8·0
Total	3,426·5	2,619·1	1,580·0	1,942·8	2,289·2	2,258·1
(B) Breeding products						
Cocoons (incl. wild cocoons)	824·3	655·0	275·6	296·8	500·2	203·9
Meat and dairy products	233·6	247·0	190·9	185·7	213·8	222·4
Total	1,057·9	902·0	466·4	482·5	714·0	426·3
Grand total	4,484·4	3,521·2	2,046·4	2,425·4	3,003·1	2,684·3

declined by 58% in 1931, and that of cocoons by 67%. Although there was some recovery in 1932 and 1933, the sharp decline of the rice crop volume and cocoon prices led to a marked decrease in the total value of agricultural products in 1934.

Foreign Trade in Agricultural Products. The annual export of purely agricultural products in recent years has varied from about 50 to 70 million yen and even less when cotton re-exports are excluded. The total, however, reaches about 500 million yen when manufactured agricultural products are included. In 1935 this figure amounted to 593 million yen. The most important manufactured agricultural product is raw silk, followed by flour, sugar, tea, vegetable oils, menthol and menthol crystals. The fact must be taken into consideration that these articles are also manufactured from imported raw materials (wheat flour and sugar). Imports of agricultural products reach a very high total value annually, 628 million yen being registered for 1931, a minimum record in recent years, which increased to 1,232 million yen in 1935. Raw cotton and wool come first on the list, followed by other vegetable fibres, oil seeds, wheat and soya beans, fodder and oil-cake. (See Table 101 on next pege).

As exemplified by cotton and woollen manufactures, a considerable amount of the raw material imported is re-exported after being manufactured in the country. According to the trade balance for 1935, as against imports of raw cotton of 714 million yen, (of which 23 million yen was re-exported), and of wool of 192 million yen, Japan exported cotton manufactures worth 602 million yen and woollen manufactures of 43 million yen, or more than 70% of the import value of raw materials.

3. Demand and Supply of Agricultural Products

Rice. There has been an increase in the rice crop from about 42 million *koku* before the Russo-Japanese War to an average of about 61 million *koku* in recent years. Crops have been on the whole very abundant in the past several years, a high record of 66·8 million *koku* being reached in 1930, which was even exceeded in 1933 when a bumper harvest of 70·8 million *koku* was recorded. In 1934, due to storms, floods, and exceptionally cold weather, the crop declined to 51·8 million *koku*, and in 1935 the yield, although higher, was below the recent years' average at a total of 57·4 million *koku*.

There was a gradual increase in the consumption of rice per capita of the population up to 1926, but the level then reached has not always

TABEL 101

Exports and Imports of Agricultural Products (Japan Proper)

(in 1,000 yen)

	Exports						Imports					
	1929	1931	1932	1933	1934	1935	1929	1931	1932	1933	1934	1935
Crude products												
Foodstuffs:—												
Grains	16,166	21,387	11,187	9,699	18,067	12,643	183,124	85,045	109,985	108,857	99,256	131,640
Vegetables and fruits	13,013	8,056	9,690	11,652	15,381	17,940	2,061	1,662	1,631	1,597	1,571	1,912
Meat	—	—	—	—	—	—	7,160	8,764	4,480	5,267	6,877	6,115
Eggs	5	117	274	539	336	626	3,983	2,960	43	17	1	—
Fodder	—	—	—	—	—	—	24,645	19,594	26,061	26,815	39,959	28,231
Raw materials:—												
Products for industrial purposes	34,897	19,240	40,526	26,971	30,533	34,546	648,145	335,558	485,992	662,091	797,915	796,843
Cocoons	279	192	61	98	16	218	1,757	988	302	179	52	611
Wool (incl. bristles)	1,978	1,054	1,336	2,915	3,601	4,716	104,076	87,429	89,374	168,934	192,765	198,796
Total	66,338	50,046	63,074	51,874	67,934	70,689	974,951	542,000	717,868	973,757	1,138,396	1,164,148
Manufactured products												
Grain flour and starch	27,215	9,792	20,801	35,399	29,139	34,757	5,763	2,855	2,818	2,354	2,380	2,337
Tinned provisions	936	467	667	792	4,203	5,323	885	878	588	291	533	849
Sugar	29,975	14,863	7,797	14,909	13,532	17,577	31,160	15,603	3,332	12,794	9,679	12,701
Sake, miso, soy	3,913	2,793	4,169	3,996	4,612	7,641	—	—	—	—	—	—
Tea, coffee, cocoa	12,028	8,233	8,173	8,450	9,557	11,419	3,273	2,686	3,662	3,610	3,958	4,111
Milk foods	138	400	430	743	1,538	2,205	4,442	2,987	2,053	921	862	531
Grease, oil-cakes, drugs	21,526	9,702	12,287	17,924	21,448	43,657	78,332	45,575	36,195	44,256	45,659	43,053
Raw silk, floss silk	794,083	357,787	384,199	392,921	289,086	390,059	1,847	1,903	1,200	1,091	714	1,013
Side-line products	9,437	3,927	5,695	10,697	12,902	9,879	2,278	1,596	1,197	1,181	920	1,238
Total	899,251	407,964	444,218	485,831	386,017	522,517	127,985	74,083	51,045	66,498	64,705	65,833
Grand total	965,589	458,010	507,292	537,705	453,951	593,206	1,102,936	616,083	768,913	1,040,255	1,203,101	1,229,981

been maintained in the following years. There has been a marked increase in the total amount consumed, due to the increase in population, the average being about 70 million *koku* in recent years as against 40 million *koku* prior to the Russo-Japanese War. With the increase in population, a deficiency in the supply of rice manifested itself from about the year 1897. As against an average of 34 million *koku* during the period of twenty years from 1877 to 1896 with an excess of 208,000 *koku* over demand, the average for the twenty-one years from 1897 recorded 47 million *koku* with a deficiency of 2·6 million *koku* in the annual supply. The situation was further aggravated during the ten years from 1918 to 1927 when the average registered 57 million *koku* with a deficiency of 7·4 million *koku*, and during the seven years from 1928 to 1934 with a supply of 62 million *koku* and a shortage of 10 million *koku*.

TABLE 102

DEMAND AND SUPPLY OF RICE IN JAPAN PROPER

(in 1,000 *koku*)

	Average 1877–1896	Average 1897–1917	Average 1918–1927	Average 1928–1934
Production . . .	34,136	47,033	57,708	62,182
Imports(incl. dependencies) .	311	3,140	8,157	11,270
Exports(incl. dependencies) .	519	504	741	908
Excess or deficiency .	+ 208	- 2,636	- 7,416	- 10,362

The above table demonstrates the relation between demand and supply in Japan proper. If the colonies are taken into consideration, there results, in spite of the recent sharp decline in imports, a considerable excess of supply over demand, the level of 5 million *koku*, the ideal volume of stock to be carried over to the following year, having been exceeded since 1928. In 1934, the volume carried forward reached 16·4 million *koku* owing to a bumper crop in Japan proper plus shipments of 14 million *koku* from the colonies. In 1935, however, the carryover declined to 9·9 million *koku* owing to the poor harvest of the previous year. Although the crops in Japan proper are not sufficient to satisfy the home demand, shipments from Chosen and Taiwan are enough or even more than enough to meet the entire demand, the excessive supplies from the colonies having a disastrous effect on rice prices and constituting, in some years, the main difficulty of the rice problem.

No prediction can be made as to the future relation between the demand and supply of rice, but so much can be said that even if

supplies including shipments from Chosen and Taiwan continue to increase at the same rate as during the last twenty years, the rapidly expanding population will be able to absorb them.

TABLE 103

DEMAND AND SUPPLY OF RICE IN JAPAN PROPER

(in 1,000 *koku*)

Crop year	1929	1930	1931	1932	1933	1934	1935
Production .	60,303	59,558	66,876	55,215	60,390	70,829	51,840
Stocks . .	7,840	7,028	5,719	9,140	8,907	9,008	16,431
Imports . .	8,909	8,602	11,522	11,604	12,748	14,249	13,018
Imports from dependencies	*7,631*	*7,332*	*10,691*	*10,617*	*11,749*	*14,076*	*12,946*
Exports (incl. dependencies) .	557	558	1,998	706	624	905	790
Carried forward (to following year)	7,028	5,719	9,140	8,907	9,008	16,431	9,936
Consumption .	69,468	68,910	72,978	66,345	72,414	76,750	70,564

Based on returns of the Ministry of Agriculture and Forestry. 1 *koku*=4·96 bushels.

Other Cereals, Beans, etc. Other important cereals are wheat, barley and rye, followed by soya and other beans. There has been a gradual decline in the production of cereals other than wheat since the World War, but wheat production has risen in the past few years, due to an increase in the import tariff, which, in conjunction with improved qualities and other protective measures adopted by the Government, makes it possible to compete on better terms with foreign wheat. The acreage devoted to wheat increased from an annual average of 481,000 *cho* during the five years before the World War to an average of 688,000 *cho* in 1931–35. Crops increased in proportion from 4,900,000 *koku* to 8,005,000 *koku*, the years since 1933 witnessing the most conspicuous advance. During the same period the acreage for barley and rye decreased from 1,301,000 *cho* to 808,000 *cho*, and crops from 17,490,000 *koku* to 13,400,000 *koku*. There has been similar falling off in soya and other beans, millet, Deccan grass, Indian corn and buckwheat.

The reduced acreage for barley and rye is due to a decline in the demand on account of a change in the popular taste, to which must also be attributed the increase in wheat. Other products are mostly imported, particularly soya beans. The reason for the decline in soya bean cultivation in spite of large imports, may be found in the extension of mulberry tree plantations, orchards and vegetable farming.

TABLE 104

DEMAND AND SUPPLY OF CEREALS (EXCLUDING RICE) AND BEANS

	Quantity (1,000 *koku*)			Value (¥1,000)		
	1933	1934	1935	1933	1934	1935
Wheat						
Production	8,013	9,451	9,660	114,033	121,744	131,091
Net exports or imports						
Foreign countries	- 3,749	-3,588	- 3,264	-44,384	-40,749	-43,199
Dependencies	- 26	+ 27	+ 181	- 40	+ 2,251	+ 2,925
Wheat flour (converted into wheat)						
Net exports or imports						
Foreign countries	+ 3,145	+ 2,623	+ 2,845	+34,837	+28,306	+33,373
Dependencies	+ 416	+ 561	+ 954	+ 6,632	+ 8,799	+15,453
Barley (incl. malt)						
Production	6,917	6,796	7,288	44,127	51,165	57,101
Net exports or imports						
Foreign countries	- 30	- 92	- 32	- 312	- 978	- 336
Dependencies	+ 113	+ 32	+ 534	+ 990	+ 339	+ 6,491
Soya beans						
Production	2,808	2,164	...	34,584	29,185	...
Net exports or imports						
Foreign countries	- 3,364	- 4,240	- 4,043	-37,940	-42,922	-53,665
Dependencies	- 1,443	- 1,440	- 980	-19,062	-17,996	-17,184
Other cereals and beans						
Production	—	—	—	1,539,032	1,499,928	...
Net exports or imports						
Foreign countires	—	—	—	-16,923	+ 864	- 22,494
Dependencies	—	—	—	-216,422	-319,677	-338,235

Considerable quantities of cereals are obtained from abroad, the average annual net imports during the last five years amounting to ¥ 42,168,000 for wheat, ¥ 36,233,000 for soya beans, and ¥ 5,659,000 for other beans and peas. However, there is a large offsetting export of wheat flour made from imported raw materials, which reduced the excess of imports in the matter of wheat to nearly two-thirds.

Vegetables and Fruits. Vegetables and fruits are next in importance on the list of principal agricultural products, the production in Japan proper being valued at 341 million yen (349 million yen when tinned provisions are included) in 1934, or 14% of the total value of agricultural products. The area under vegetable and fruit cultivation

has been on the increase, rising from 837,000 *cho*, the average for the five years from 1923 to 1927, to 945,000 *cho* in 1934, with a parallel increase in crops.

TABLE 105

PRODUCTION, EXPORTS AND IMPORTS OF VEGETABLES AND FRUITS (INCL. TINNED GOODS)

(in 1,000 yen)

	Production average for 1930–1934	Exports			Imports		
		1933	1934	1935	1933	1934	1935
Vegetables (Fresh and dried)	257,783	7,327	10,134	12,390	411	404	519
Fruits and seeds	67,868	4,325	5,247	5,545	1,186	1,168	1,392
Tinned vegetables and fruits	5,087	798	3,737	4,630	22	27	28
Total	330,838	12,450	19,118	22,570	1,169	1,598	1,939

In view of the development of the production of vegetables and fruits, there is now a surplus left for export after meeting the home demand. The export returns for the last five years reveal that there has been an annual average of vegetable and fruit exports of ¥15,658,000, including tinned provisions, the highest record being reached in 1934 with ¥22,570,000. Compared with exports, imports are negligible, the annual import value in recent years amounting to less than 2 million yen.

Live-stock and Poultry. Stimulated by an ever-increasing demand for animal food due to the improvement in the national standard of living, the stock farming industry has shown some progress in recent years. During the ten years up to 1934, the number of live-stock (cattle, horses, pigs, sheep and goats) increased from 3,900,000 to 4,360,000, and that of poultry from 37,630,000 to 53,880,000. The utilization of domestic animals is, of course, not confined to food. However, there has been a marked increase in the number of animals slaughtered, and also of cows kept for milking purposes. Compared with Western countries, the value of live-stock used for food is insignificant, amounting to only 222 million yen, or 8% of the total value of agricultural production in 1934.

As shown in the following table, Japan is not yet entirely self-supporting in live-stock and poultry, and is obliged to import a

TABLE 106

PRODUCTION OF LIVE-STOCK AND POULTRY

	Slaughtered meat (1,000 *kwan*)	Animal milk (1,000 *koku*)	Poultry meat, etc. (1,000 *kwan*) (*a*)	Eggs (millions)	Honey & Beeswax (1,000 *kwan*)	Dairy products (1,000 *kin*)	Meat manufactures (1,000 *kin*)	Tinned meats (1,000 *kwan*)
Quantities								
1925	27,578	702	8,204	1,630	334	18,660	4,070	682
1929	27,154	902	9,745	2,271	428	27,967	3,754	644
1932	31,631	1,079	9,785	3,572	596	28,838	3,712	655
1933	31,064	1,184	12,001	3,421	640	37,489	4,134	629
1934	30,223	1,313	9,885	3,551	706	42,728	3,983	699
Values (1,000 yen)								
1925	94,847	28,461	24,786	70,038	827	9,395	2,287	2,964
1929	84,611	28,275	25,671	89,199	920	13,820	1,852	2,660
1932	65,579	22,908	14,147	64,341	979	11,981	1,530	2,248
1933	75,446	25,880	19,598	70,895	1,057	16,532	2,205	2,217
1934	75,884	27,878	16,798	77,304	1,153	18,483	2,406	2,470

Taken from returns of the Ministry of Agriculture and Forestry. (*a*) Estimated figures.

TABLE 107

EXPORTS AND IMPORTS OF ANIMAL MEAT, CHICKENS AND DAIRY PRODUCES

(in 1,000 yen)

	Exports				Imports			
	1932	1933	1934	1935	1932	1933	1934	1935
Fresh meat . . .	—	—	...	...	4,480	5,267	6,877	6,115
Other animal and poultry meat . .	11	16	...	...	20	17	...	...
Ham, bacon, etc. . .	17	14	...	...	97	75	...	...
Tinned meat . .	126	155	124	162	466	223	442	738
Eggs	274	539	336	626	43	17	1	...
Egg powder and liquidized eggs . . .	—	—	...	...	280	531	...	...
Cheese and butter .	98	61	...	...	239	295	...	...
Condensed and powdered milk . .	430	743	1,538	2,205	1,944	779	826	516
Other products . .	1	1	1	...	168	204	...	...
Total	957	1,529	...	...	7,737	7,407	...	...

Based on *Monthly Returns of the Foreign Trade of Japan* and returns of the Ministry of Agriculture and Forestry.

considerable quantity annually. There has, however, been a marked decrease in the import of eggs and dairy products which were formerly important articles of import, so much so, that in more recent years there has been an excess of exports over imports. This tendency is most conspicuous in the trade of eggs. In 1925 Japan bought eggs worth 12·6 million yen, but the situation has been completely reversed, there being exports of ¥626,000 in 1935 and practically no imports. Japan is now nearing self-sufficiency in the production of meat with the single exception of fresh beef.

Sericulture. Cocoons are the most important agricultural product used as raw material for the manufacturing industry, completely overshadowing all other items. Average returns for the latest five years reveal that, as against a total of 316 million yen for cocoons, the total value of other agricultural products for industrial purposes was only 89 million yen. Although figures for animal hair, hides and fats are not available, there is every reason to believe that the volume of wool produced in 1933 totalled only about 200,000 lbs., whereas the quantity of animal hides produced was undoubtedly smaller in view of the number of animals slaughtered, of which the figure for cattle is given at 325,652 for 1934.

The premier position occupied by Japan in the industry of sericulture is undeniable, Japan proper alone producing more than 70% of the total volume of cocoons in the world, or about three quarters, when that of Chosen and Taiwan is included. According to investigations by the International Institute of Agriculture the total world production of cocoons in 1933 was 535 million kg., Japan proper alone accounting for 379 million kg., or 401 million kg., if the volume of Chosen and Taiwan is included.

The position of sericulture in Japanese national economy is very important. According to recent investigations, the number of households engaged in sericulture in Japan proper is nearly 2 million, or 37% of the total number of agricultural households, while the average value of cocoons for the five years up to 1934 was 13% of the total value of agricultural production. In 1933, the receipts of agricultural households from cocoons were 15% of the total agricultural revenue, or 24% of the total receipts derived from marketing agricultural products. These few facts will amply illustrate to what extent the entire agricultural economy is affected by the vicissitudes of the sericultural industry.

The sericultural industry in Japan dates back to very early days, but a great expansion took place during and after the World War

up to 1930, both in the number of households engaged in the industry and in the area under mulberry-tree cultivation. Returns for the period from 1915 to 1930 show that the ratio of households engaged in sericulture to those engaged in agriculture generally rose from 30·2%, to 39·6%, while that of the area under mulberry to the total area under cultivation also increased from 7·7% to 12·1%. This expansion was paralleled by an increase from 46 million to 106 million *kwan* in the quantity of cocoons produced. Various factors contributed to this sudden development, but the principal cause was the rapid increase in the demand for raw silk in the United States. During the five years from 1925 to 1929, Japanese production of raw silk amounted to 9,829,000 *kwan* annually, 82·5% being exported. The United States accounted for 95% of the total export value of raw silk, which is ample proof of the importance of that market to the Japanese sericultural industry. Under these circumstances, sericulture and the closely allied industries were severely affected by the sudden decline in the demand for raw silk in the United States owing to the onset of the depression in the autumn of 1929. Reflecting the situation in America, the production of cocoons in Japan in 1931 showed a sudden decline of over 50% in value, notwithstanding an increase in quantity. The worst effect of the American depression upon the Japanese sericultural industry was seen in the value of cocoons produced, the lowest figure since the World War being recorded in 1934. A remarkable decrease in the quantity produced was partly responsible for this great decline, but the main contributory cause was the fact that the price of cocoons in 1934 fell to one-fifth of that in 1925, or one-third of that in 1929. The total export value of cocoons and raw silk declined sharply, its percentage to the total Japanese export trade

TABLE 108

PRODUCTION AND IMPORTS OF COCOONS

	Production		Imports from Chosen		Net imports from foreign countries	
	Quantity (million *kwan*)	Value (million yen)	Quantity (1,000 *kwan*)	Value (¥1,000)	Quantity (1,000 *kwan*)	Value (¥1,000)
1929	102·1	655·0	289	4,308	240	1,478
1930	106·5	304·2	215	2,091	132	554
1931	97·1	275·6	207	1,551	206	796
1932	89·6	296·8	216	1,270	58	241
1933	101·2	500·1	203	1,765	28	81
1934	87·1	203·8	136	785	14	37
1935	82·1	350·9	177	1,179	90	393

being 37% in the years 1928 and 1929 as against only 13·5% in 1934. In 1935, however, sericulture recovered considerably owing to the price advance and larger export of raw silk, though the volume of cocoon production declined further.

Compared with the output in Japan proper, which averaged 91,397,000 *kwan* during the five years from 1931 to 1935, imports of cocoons, chiefly from Chosen, were small.

Other Products for Industrial Utilization. In spite of the intrinsic importance of nationally grown agricultural raw materials, both from the viewpoint of Japanese industry and the welfare of the rural community, the relative contribution of agriculture, apart from sericulture, is quite insignificant. The area devoted to such raw materials in Japan proper occupies only 4% of the total area under cultivation. The requirements of industry are mostly met by supplies from abroad in addition to negligible shipments from the colonies. The net import value in 1935 was returned at 768 million yen.

Amongst the comparatively important agricultural products for industrial purposes produced in Japan proper, tobacco, sugar-cane, rape-seed, rushes for matting, pyrethrum and peppermint are worthy of mention here, followed by hemp and flax, *mitsumata* (*edgeworthia papyrifera*) and *kozo* (*broussonetia papyrifera*) (the last two for the

TABLE 109

PRODUCTION OF AGRICULTURAL RAW MATERIALS

	Area under plantation (1,000 *cho*)		Production (1,000 yen)				
	Average for 1923–1927	Average for 1930–1934	Average for 1923–1927	1929	1932	1933	1934
Consumption materials (a)	70·7	67·5	59,886	62,304	46,256	52,388	53,930
Tobacco	37·8	35·2	47,500	47,544	34,024	39,158	39,686
Sugar-cane	26·0	24·0	7,520	8,513	7,448	8,186	9,146
Materials for oil	81·8	85·9	12,658	12,661	8,982	12,838	13,874
Rape-seed	76·8	81·0	10,858	11,248	8,089	11,631	12,574
Textile materials	26·6	19·2	5,881	5,596	2,959	4,151	4,612
Insectifuge and medicinal materials	20·4	33·0	10,070	9,433	8,260	13,060	15,656
Materials for matting	7·5	8·4	11,815	12,077	7,880	10,206	10,585
Other products	46·2	32·8	21,085	7,890	4,553	4,703	4,779
Total	253·3	246·7	121,391	109,961	78,890	97,345	103,436

Based upon returns of the Ministry of Agriculture and Forestry. (a) Tea not included.

production of Japanese-style paper). Pyrethrum, peppermint and rushes are export articles, although their relative importance is insignificant.

The domestic supply of cotton, hemp, oil-seeds, sugar-cane and tobacco is quite insufficient, the greater part of these commodities being obtained from abroad, except sugar-cane which is shipped from the colonies, particularly Taiwan.

As will been seen, the output of raw materials for the textile industry in Japan proper is insignificant, the average production of hemp and cotton during the last five years being only ¥ 3,639,000, of which cotton accounted for the trifling amount of ¥ 142,000.

TABLE 110

DEMAND AND SUPPLY OF TEXTILE MATERIALS

	Output (Average 1930–1934)		Net imports (Average 1931–1935)			
			Foreign countries		Dependencies	
	Quantity (1,000 *kwan*)	Value (1,000 yen)	Quantity (1,000 *kwan*)	Value (1,000 yen)	Quantity (1,000 *kwan*)	Value (1,000 yen)
Cotton . . .	149	142	in seed 130 ginned 11,880	536,421	137	6,842
Flax, china-grass and ramie . .	5,248	1,114	196	5,815	2	64
Hemp and jute .	2,403	2,383	1,197	13,309	17	213
Other vegetable fibres . . .	...	...	214	2,380	...	153
Total . .	...	3,639	...	557,925	...	7,272

Imports of agricultural materials from the colonies are still unimportant, the only article worthy of notice being cotton from Chosen. According to returns for the last five years, the area under cotton cultivation in Chosen is given as 182,000 *cho*, with an output of 24·2

TABLE 111

DEMAND AND SUPPLY OF OIL MATERIALS

	Output (average 1930–1934)			Net imports (average 1931–1935)	
	Rape-seed	Other seeds	Total	Foreign countries	Dependencies
Quantity (million *kin*)	147·5	11·6	159·1	316·6	...
Value (¥ 1,000) .	9,478	1,075	10,553	22,549	398

million *kwan*, or 17·4 million yen in value, of which 7 million yen was shipped to Japan proper.

The foregoing table gives the domestic production of agricultural materials for oil. The returns for the last five years show that the output of rape-seed, the most important, averaged 136 million *kin*, or 9·2 million yen, and that of sesame and flax seed 12 million *kin*, or 1·1 million yen, about one third only of the entire demand for oil materials being thus supplied by home produce.

4. Present Agricultural Situation

Sudden Fall in Agricultural Prices. From similar causes and contemporaneously with other countries, Japanese agriculture has been severely affected by the economic depression in recent years. The serious problems besetting Japanese agriculture were, however, not entirely an outcome of the world depression, although they were undoubtedly aggravated by it.

The first sign of a downward tendency was seen in 1926, and already in 1929 there was a decrease of 30% and 37% in the prices of the two staple agricultural products, rice and cocoons, respectively, a similar falling off being noticeable in other products. The worst of the depression, however, came in 1930, with a sudden fall in the price of spring cocoons owing to the aggravation of economic conditions in the United States, the average price of yellow spring cocoons per *kwan* declining from ¥ 7·21 to ¥ 3·98. In spite of the unusual increase in spring cocoon output in the same year, the total value showed a decrease unprecedented for several years, declining from 341 million yen in the preceding year to 203 million yen. In addition to this disquieting factor, quotations for summer and autumn cocoons continued to decline, while prices for wheat, vegetables, flowers and eggs also receded one after another. Partly because of large crops, the price of rice fared no better. Accordingly, the total value of agricultural production in 1930 revealed a decline of more than 54%, in consequence of which the rural communities found themselves in a deplorable condition, giving rise to social unrest in various forms.

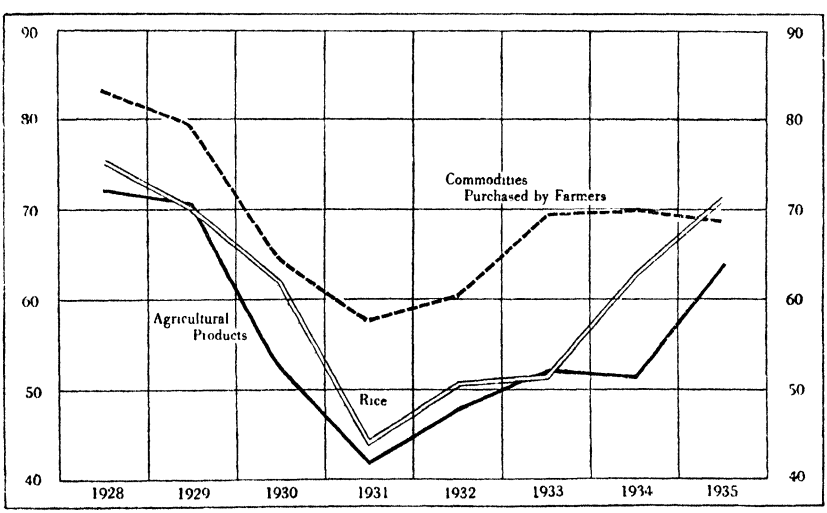
Although the later trend of agricultural prices has been favourable, there was an unprecedented fall in the price of cocoons in 1934 to an average of ¥ 2·14 per *kwan*, which was even lower than that for 1930, again increasing the misery in the rural districts which had been alleviated to a slight degree. In spite of a trifling advance in the price of rice since the summer of 1934, conditions did not improve, the rice crop having been severely affected by gales, floods

and the unusually cold weather. Crop results in 1935 were also rather unfavourable, but the sustained price advance relieved the situation considerably.

The combined index figures for agricultural prices show the gravity of the situation. Taking the composite index figure for 1925 as 100, it will be found that the index figure has sharply declined to 42·4 in 1931. As the index figure for 1929 was 71·0, the following two years witnessed an extraordinary fall of more than 40%. Although there has been some recovery, the index barely reached 51·7 in 1934. If this decline had been accompanied by a corresponding movement in prices of commodities of which the rural communities stood in need, it would have been accepted as inevitable. But an examination reveals that this was not the case. There was no sympathetic movement in the prices of those articles which are essential to the agricultural population. The composite index figure for twenty-one commodities indispensable to the agricultural population, varying from foodstuffs to manure and miscellaneous articles, shows a great disparity between the two indices, which continued unabated up to 1935. Allowance must be made for fluctuations in production, but this does not nullify the fact that the purchasing capacity of the agricultural population has declined, as is plainly shown

INDEX CHART SHOWING PRICE MOVEMENT OF AGRICULTURAL PRODUCTS AND OF COMMODITIES PURCHASED BY FARMERS

(Base: 1925=100)



by the movement of the index figures measuring the purchasing capacity of the agricultural population, a gradual decline being registered from 100 in 1925 to 73·2 in 1931 and 73·5 in 1934.

TABLE 112

PRICE INDICES OF AGRICULTURAL PRODUCTS AND OF COMMODITIES PURCHASED BY FARMERS

(Base : 1925=100)

	1929	1930	1931	1932	1933	1934	1935
(A) Agricultural prices							
Rice . . .	70·4	62·2	44·6	50·9	51·7	63·0	71·6
Other farm products, average .	79·9	63·1	50·7	53·4	60·1	60·0	71·8
Cocoons . . .	63·2	24·7	29·6	37·5	46·0	20·9	41·3
Total average . (weighted)	71·0	53·1	42·4	48·2	52·6	51·7	64·1
(B) Industrial commodities consumed by farmers . .	79·8	64·9	57·9	60·9	69·8	70·3	69·1
Ratio of (A) to (B) .	89·0	81·8	73·2	79·1	75·1	73·5	92·8

A partial improvement was witnessed in agricultural purchasing power during the year 1935. Not only was there a substantial price advance in agricultural products which increased the revenue of the farming population, but the rise in manufactured goods appeared to be halted, prices even registering a recessionary movement in some articles.

Domestic Economy in Agriculture. The chief income of farmers is derived from the cultivation of fields, and especially from rice plantations, while the main expenditure is represented by living expenses of the household, which is necessarily the amount remaining over after cultivation expenses have been covered. The following outline of agricultural household economy is taken from a survey periodically conducted by the Ministry of Agriculture and Forestry since 1921.

According to the above mentioned survey, the average gross income from agriculture per household in 1933 is returned at ¥985 (this average applies to all prefectures, with the exception of Hokkaido, and Okinawa); of this average, rice is responsible for 52%, other crops for 16%, or, a total of 68%, while sericulture produces 15%; various other sources of income amount to 17%. Compared with the

preceding year there is a small improvement of approximately ¥130, but in comparison with the returns for 1925, income shows a very considerable shrinkage. There is no difficulty in perceiving the seriousness of the reduction when it is considered that the income

TABLE 113

AVERAGE AGRICULTURAL GROSS INCOME PER HOUSEHOLD

(Unit: Yen)

	1925	1929	1930	1931(a)	1932(a)	1933(a)
Cultivated produce	1,826·86	1,404·97	1,006·17	542·00	615·86	671·62
	(%)*73·0*	*71·1*	*73·5*	*71·9*	*71·9*	*68·2*
Sericulture	391·06	307·30	147·87	84·99	106·94	149·39
	(%)*15·6*	*15·6*	*10·8*	*11·3*	*12·5*	*15·2*
Live-stock, poultry, etc.	101·63	119·24	99·54	39·77	33·96	51·76
	(%) *4·0*	*6·0*	*7·3*	*5·3*	*4·0*	*5·3*
Manufactured (agricultural) products	84·33	50·60	48·85	12·91	14·73	15·94
	(%) *3·4*	*2·6*	*3·6*	*1·7*	*1·7*	*1·6*
Other sources	100·25	92·89	66·94	74·22	85·39	83·21
	(%) *4·0*	*4·7*	*4·9*	*9·9*	*10·0*	*8·5*
Total	2,504·13	1,975·00	1,369·37	753·89	856·93	985·44

Taken from *Survey of Agricultural Household Economy* conducted by the Ministry of Agriculture and Forestry. Figures are averages for Japan proper excluding Hokkaido and Okinawa. (a) Investigation method changed since 1931.

includes the value of commodities for the personal use of the household. The chief item of income is derived from the sale of farm produce, hence the sharp decline in prices dealt a severe blow to the household economy.

Agricultural working expenses per household (expenses necessary to secure a return in the shape of income) in 1933 averaged ¥421, or about 43% of the gross income of ¥985.

The ratio differs according to the size of the farm; in the case of the farmer cultivating his own land, the proportion was 36%, while for the small tenant farmer it increased to 53%, as more than half, or 53·5%, of the working expense is absorbed by rent. The average working expenses as above outlined comprise rent, 31·7%, manure, 22·0%, taxes and other contributions, 9·8%, fodder, 8·5%, labour, 3·7% and interest on loans 3·4%. There has been a gradual decrease in working expenses, but this did not keep pace with the decrease in total gross income. The survey, in fact, estimated the decrease in working expenses during the period from 1925 to 1930, at 32%, as against a lowering in income of 45%.

TABLE 114

HOUSEHOLD INCOME AND COST OF LIVING

(Unit: Yen)

	1925	1930	1931	1932	1933
Income from agriculture					
Gross income . . .	2,504·13	1,369·37	753·89	856·93	985·44
Working expenses . .	1,285·77	872·46	360·03	379·99	420·64
Net income . . .	1,563·36	722·64	541·74	624·14	564·80
Income from other sources					
Gross income . . .	...	185·84	123·43	123·65	129·66
Working expenses . .	...	20·55	13·96	10·73	9·26
Net income . . .	...	165·29	109·47	112·92	120·40
Miscellaneous domestic income	...	60·45	38·41	34·28	40·88
Total net household income	1,563·33	722·63	541·74	624·14	726·08
Cost of living	1,086·01	800·47	549·05	558·75	606·19

Ibid.

The surplus remaining after working expenses have been deducted from the gross income represents the household income. In recent years, farmers have found it impossible to meet the cost of living from this source alone, and have been compelled to make up the deficiency from other sources. However, the situation in 1930 and 1931 was plainly so precarious that farmers in general found it impossible to meet the deficiency. In 1933, there was a slight improvement, the average net income increasing to ¥565, with the

TABLE 115

RATIO OF CASH INCOME AND CASH EXPENDITURE IN AGRICULTURAL HOUSEHOLDS

(in 1933) (%)

	Proprietor farmers	Proprietor and part tenant farmers	Tenant farmers	Average
Gross income from agriculture .	73·1	61·8	51·5	62·4
Working expenses . . .	84·3	63·7	47·4	63·1
Income from other sources . .	87·6	94·2	96·0	92·5
Working expenses for side-occupations.	82·6	83·5	70·7	78·9
Cost of living	57·4	57·6	55·1	56·8

Ibid.

cost of living estimated at ¥606, and a consequent reduction in the deficit. The income, when supplemented from other sources, totalled on the average ¥726, thus showing a small surplus over the cost of living. It must, however, be noted that interest on the capital invested in land, implements and labour is not included.

The dependency of the rural population on the price situation of agricultural products has notably increased compared with former years when farmers cultivated rather for self-supply and marketed only a relatively small part of their production. The reduction in revenue in recent years has been the more trying, as expenditure on the usual items, particularly fertilizer, could hardly be curtailed.

According to the same survey in 1933, the ratio of the agricultural produce sold to gross income ranged from 52% for tenant farmers to 73% for proprietor farmers, and the ratio of cash income to total income from sources other than agriculture, which was about 11% of the total gross agricultural income, ranged from 88% for proprietor farmers to 96% for tenant farmers, while the ratio of cash expenditure to working expenses and to the cost of living varied from 47% and 55% respectively for tenant farmers to 84% and 57% respectively for proprietor farmers.

The most conspicuous fact revealed by this survey is that the income of tenant farmers from the sale of agricultural products is remarkably low in relation to gross income, the reason being that rents are mostly paid in kind. Proprietor farmers, who are in part tenants, occupy a middle position.

According to statistics for the last six years, the total annual consumption of manure in Japan proper averaged about 520 million yen. Out of this total amount, 55% was accounted for by manure produced by the farmers themselves, this proportion tending to increase with the economic distress in the agricultural areas. The outlay on purchased manure reached an annual total of 230 million yen (constituting about 43% of total consumption), or 21% of the total agricultural working expenses, and 35% of the total cash expenditure.

Taxes and other contributions form one of the heaviest items in agricultural household expenditure. It is convenient to combine working expenses and the cost of living for statistical purposes, as it is difficult to separate the two items in the returns shown by the *Survey of Agricultural Household Economy*. The average amount of taxes and other contributions per household under survey was ¥41·04 under the head of agriculture, ¥2·26 under that of side-occupations, and ¥11·23 under that of household assessments, making a total of ¥54·53, of which 81% was for taxes. The burden of taxes and other

contributions in agricultural household expenditure will be understood from the fact that they constitute about 9% of the total cash expenditure.

TABLE 116

TAXES AND OTHER CONTRIBUTIONS PER HOUSEHOLD IN 1933

(Unit: Yen)

	Proprietor farmers	Proprietor and part tenant farmers	Tenant farmers	Average
Taxes	73·67	38·95	17·24	43·29
Other contributions	18·59	11·00	4·12	11·24
Total	92·26	49·95	21·36	54·53

An investigation conducted by the Imperial Agricultural Society in 1934 shows that taxation and other imposts on total income were heavier for farmers than for persons engaged in trade and industry. Taking an annual income of ¥500 as a basis, persons engaged in trade and industry contribute directly and indirectly about 12% in taxation, while the contribution amounts to about 27·2% for proprietor farmers, 11·5% for tenant farmers, and 36·3% for landlords. These ratios do not always correspond with the ratios obtained from the *Survey of Agricultural Household Economy*, but tend to show the importance of taxes and imposts in agricultural household economy.

Rural Indebtedness. The increasing disparity between income and expenditure in agricultural household economy has naturally led to an increase in debts. The total debt of agricultural households in Japan proper amounted to 746 million yen or ¥135 per household, according to statistics furnished by the Ministry of Finance in 1911, of which mortgages on real estate accounted for 378 million yen; mortgages on movable properties for 79 million yen; and unsecured loans for 289 million yen. Indebtedness has since multiplied many times, for, according to an estimate by the Imperial Agricultural Society at the end of June, 1929, the total loans to agriculture from various sources, banking and otherwise, reached approximately 4,000 million yen.

There is no doubt that the indebtedness of agricultural households has again considerably increased since 1929. The returns compiled by the Ministry of Agriculture and Forestry in 1932 estimate the total at 4,717 million yen, of which 53% is secured and 47% unsecured. Rates of interest are very high, averaging not less than 10%. According to these figures, the debt burden per agricultural household

amounted to a little under ¥840. Furthermore, this burden is annually increasing by ¥100 in view of the accumulated arrears of interest and new loans. If these figures are correct, the indebtedness of agricultural households up to date reaches the very large total of 6,000 million yen or ¥1,000 per household.

5. Agricultural Policies

General Survey. The natural aim of the national economic policy is to satisfy the increasing demand for food and clothing of an expanding population, and Japanese agricultural policies until lately mainly developed along this line. Endeavours made to increase production consisted in bringing fresh areas under cultivation, improving agricultural methods and encouraging the cultivation of special agricultural products. It was believed that such a policy would at the same time also benefit the agricultural population. However, as far back as 1926 there were signs that the increased production, by leading to an excess of supplies, was bound to bring about a decline in agricultural prices. With the intensification of the economic depression in agricultural areas since the autumn of 1929, the purchasing capacity of the nation greatly diminished, which, coupled with an unprecedented bumper crop in 1930, further aggravated the situation.

Faced with this new complication, Japanese agricultural policy, which had hitherto aimed at increased production, was now compelled to turn in another direction. The new agricultural policy, designed to meet an abnormal situation, had as its main object the price control of agricultural products, besides which, assistance and protection was to be given to the rural communities which had by now fallen into a deplorable condition. Needless to say, encouragement for increased production was still necessary in the case of certain products employed for special purposes.

The most important question at the moment is the control and organization of sales, which has already been realized on a large scale in rice, the staple agricultural product; there is, however, much left to be desired in the methods of control. The necessity of enforcing control over the production of cocoons and raw silk has long been clearly perceived, but owing to conflicting interests, complete enforcement has been out of question, although measures were devised piecemeal to cope with the situation. Conditions are similar in other agricultural products. The innumerable selling organizations make it impossible at present to expect anything in the nature of complete control, in spite of the efforts made in several quarters.

For the fiscal year 1934–35 an appropriation of ¥300,000 was made for this purpose by the Ministry of Agriculture and Forestry.

It is of the utmost importance that, in conjunction with Government measures, steps should be taken to increase the production of special agricultural products where national supplies do not meet the demand. Wheat, rape-seed, ramie and sheep-breeding as well as the raising of live-stock and poultry, are now subsidized by the Government with this end in view.

Rice Policy. Measures for the regulation of the balance between demand and supply, and also for controlling prices, were adopted at times, as a partial and temporary makeshift, during the Meiji and Taisho eras, but it was not until the promulgation of the Rice Law in April, 1921, that such measures took a systematic and consistent shape. The Government acquired full powers, by virtue of the Law, to regulate the demand and supply, and at the same time, with the passing of the Rice Adjustment Special Account Law, an operating fund up to the limit of 200 million yen was appropriated. The ensuing years, however, showed plainly that control over quantity was insufficient, and in 1925 the Law was amended so as to include the control of prices.

The price of rice remained firm up to the year 1925; later, however, it took a downward turn. Indications of an excess supply due to the increase in shipments from the colonies became evident. The Law as to Government acquisition of rice stocks appeared to be insufficient to check the downward tendency in prices. Stocks held by the Government had accumulated heavily, and the shortage of funds allowed by the Law made it impossible to enforce the Rice Law at a moment when there was an urgent need for its application. The bumper crop of 1930, both in Japan proper and in the colonies, further aggravated the situation, causing a sharp fall in the price of rice. Following the findings of the Rice Investigation Council, organized some time previously, the Government, early in 1931, introduced a bill dealing with the fundamental amendment of the Rice Law, and providing for an increase in funds (to 350 million yen) for the adjustment of demand and supply, and obtained the approval of the Diet. Thus the revised Rice Law was promulgated in March, 1931, to be effective from July of the same year.

The introduction of a licence system for the import of foreign rice was one of the features of the revised Rice Law, but the most important point was a provision for the limitation of Government purchases and sales of rice for regulating the demand and supply

to "cases in which the price of rice either fell below the officially fixed minimum or rose above an equally fixed maximum". The trend price of rice was to be calculated on a sliding scale in relation to the general index of commodities which formed the basis for determining the minimum and the maximum price, the former being fixed, with reference to the cost of production, at a point considered equitable and not higher than 80% of the calculated trend price, and the latter at a point not lower than 120% of the calculated trend price, and with reference to the average cost of living.

The revised Rice Law marked an advance, in so far as it embodied the principle of basing the maximum or the minimum price on the calculated trend price as the normal price, and on working expenses and the cost of living as the margin price. But the method of calculating the trend price was inconsistent in many ways, and the Law itself was found ineffective when it was put into force, partly because it could only be applied in so far as the market price declined below 80% of the trend price, and partly because no provision was made for restricting shipments from the colonies. In September, 1932, about one year after the promulgation of the Law, amendments were made in the form of a temporary suspension of the application of the sliding scale, permission to extend Government purchases to colonial rice, monthly adjustment of imports from the colonies, and an increase in the funds for the Government acquisition of rice. In March of the following year, the present Rice Control Law was promulgated with certain increased powers.

At present, rice control is based upon the Rice Control Law enacted in November, 1933 and also upon a number of regulations either accompanying it or devised to strengthen it. The main points of the Law are as follows:—

(a) The Government is empowered to fix the minimum or the maximum price of rice, and, in order to maintain same, to purchase at any time upon request at the minimum price or sell at the maximum price. The minimum or the maximum price is to be fixed with special reference to the production cost of rice, the cost of living, the prices of commodities generally, and other economic conditions prevailing at the time.

(b) To secure efficient enforcement of control, (i) strong machinery of control is organized under the management of the Rice Bureau of the Ministry of Agriculture and Forestry (rice offices are kept in various parts of the country), and (ii) the Rice Regulation Fund is endowed with funds up to 850 million yen, a further increase of 300 million yen to be made as occasion requires.

(c) (i) In order to check the influx of Chosen and Taiwan rice into the home market at harvest time, shipments from colonies were regulated under a monthly allotment system according to the Colonial Rice Import Regulation Law. (ii) A licence system regulates the import of foreign rice, and control is to be exercised in respect to millet, kaoliang, etc., which are likely to affect the balance between the demand and supply of rice.

The application of the Law in practice has revealed various inconsistencies and defects, giving rise to criticisms centering on the difficulty of ascertaining the real production cost of rice, which varies according to locality. A new law is now in preparation which entrusts the control of rice to associations to be formed locally.

Policies with Reference to Agricultural Economy. The main cause of the impoverishment of rural communities has undoubtedly been the agricultural depression, which in turn was due to many factors. The following is a brief survey of the situation.

(a) Pressure from over-population. As has been stated elsewhere, the production capacity of the country has been steadily on the increase. This increase, however, is not sufficient to keep pace with the expansion in rural population and the higher standard of living. The pressure from over-population has been much relieved by the recent remarkable advance in industry and commerce, but, on the other hand, there has been a curtailment in the area under cultivation per household. Under the stress of the industrial and commercial depression, a backward current has set in from the city to the land.

(b) Decline of cottage industries. The supplementary cottage industries, which formerly proved one of the main sources of cash income for the rural population, have tended to leave the country districts for town factories.

(c) Increase in liabilities. As has already been pointed out, the liabilities of the rural communities, in the shape of taxes and imposts, etc., have been comparatively heavier than those of the manufacturing and commercial classes.

(d) Pressure of debts and monetary stringency. Agricultural economy has to cope with comparatively greater expenses than formerly, and debts have mounted to an alarming extent. The great indebtedness has restricted the channels for credit, thus further depressing agricultural conditions.

(e) Defects in the tenant system. The impoverishment of rural

communities, together with the change in the mental outlook of the present generation, has led to friction between landlords and tenants. It is only natural that rent, which accounts for the major part of agricultural working expenses, should have become a vital question to the tenant as well as to the landlord, both of which occupy 68% of the total agricultural households in Japan proper.

Policy to Promote Purchase of Land. When the agricultural problem forced itself upon general notice, the Government decided to assist farmers in the purchase and retention of their farms as a fundamental solution of the agricultural problem. The first measure was the appropriation in 1922 of the reserve fund of the Post Office Life Insurance, the amount loaned out from this source up to the year 1925 totalling over 17 million yen. In 1925, the Government, in accordance with the findings of the Tenancy Investigation Committee, inaugurated a scheme for the assistance and protection of future tenant proprietors by means of an appropriation of low-interest funds to prefectures, on the basis of long-term advances. According to this plan the total loans to be made during twenty-five years were estimated at ¥468,500,000, and a subsidy of ¥101,900,000 was to be granted, the total area affected being estimated at 117,000 *cho*. These loans totalled ¥110,882,000 during the period from 1926 to 1933, affecting 135,517 purchasers, and the area thus acquired totalled 576,412 *tan*, exclusive of land occupied by houses and buildings.

TABLE 117

RESULTS OF GOVERNMENT ASSISTANCE TO TENANTS FOR THE ACQUISITION OF LAND

	Loans (1,000 yen)	Area (1,000 *tan*)	Persons (1,000)	Per capita		
				Loans (yen)	Area (*tan*)	Value (yen)
Land acquired . .	101,097	514·8	119·6	890	4·3	844
Land retained . .	9,786	61·7	15·9	655	3·9	615
Total . . .	110,882	576·4	135·5	...	...	...

Emergency Relief Measures. The increasing seriousness of conditions in the rural districts made some sort of Government action imperative. Prerequisites for the economic recovery of the agricultural community were relief from the crushing debt burden and an improvement in financial facilities.

With this end in view, the land tax was amended in 1931, the rental value, instead of the official value, being taken as the basis

for assessment. This measure, although tending in the right direction, did not bring much relief, as farmers were more concerned with local than with national taxation.

In order to relieve the monetary stringency among farmers, the Immovable Mortgage Loan and Loss Compensation Law and the Special Loans through the Central Bank of Co-operative Societies and Loss Compensation Law were promulgated in 1932.

After many attempts to bring direct relief to farmers, a law was passed by the Diet in March, 1933 for the appropriation of 600 million yen from the Deposit Bureau to be allocated to the various associations; the municipalities were also to be compensated to the extent of half the losses incurred up to a total of 30 million yen. An Agricultural Movable Property Credit Law was also enacted with a view to facilitating the capitalization of agricultural estates.

Emergency measures adopted to relieve the distress among farming communities, by way of supplementing the cash income which had dwindled considerably owing to the agricultural depression, took the form of farm relief works. The 63rd session of the Diet approved an appropriation of 176 million yen for emergency relief to be obtained from the Treasury (in addition to which a sum of 87 million yen was supplied from prefectural budgets). Of the total appropriation, 85 million yen were to be used by the Home Ministry and the Ministry of Agriculture and Forestry. The actual expenditure by the Government amounted to 88 million yen and 53 million yen in 1933 and 1934 respectively. As only a part of these sums was disbursed for labour, the assistance afforded per agricultural household is insignificant.

Agricultural Economic Recovery Scheme. In contrast to the above measure which aimed at immediate relief, the Agricultural Economic-Recovery Scheme was intended as a systematic reform of agricultural economy, taking the village as the unit, and basing fundamental measures on the spirit of mutual assistance which still survives in the agricultural districts.

As a first step, the Government established in 1932 the Agricultural Economic Recovery Bureau (attached to the Ministry of Agriculture and Forestry) as an organ of direction in carrying out the projected reforms. In the actual working of the system, the Agricultural Economic Recovery Committees in municipalities and rural districts were entrusted with the duty of drafting and executing plans to be approved by the Governor of the prefecture, after having been submitted to the Prefectural Committee. Details in the working out of

plans differ according to locality and the nature and methods of agriculture. The main points, however, were the equitable division and utilization of land, capital and labour, the improvement in management, the control of production and distribution, the lowering of the cost of production and other expenses, the reform of various organizations related to agriculture, and the training of leaders among the farmers.

Future Outlook. The healthy development of agriculture is a burning question at the moment, and no sound advance will be possible in the national economy until this problem has been successfully solved.

Various problems await the immediate attention of the Government, notably the equitable reduction of the heavy debt burden of the rural communities, and the reform of the system of taxation. Reforms in the tenancy system and a cheaper supply of manure are also imperative. Relief works may be necessary as an emergency measure, but cannot be relied upon as a permanent feature.

Any radical reform in agriculture should make fuller and more efficient use of the co-operative societies, which would lead to a quick improvement in farm management. The establishment of industries in agricultural districts is also suggested as a means to absorb surplus labour, and thus increase the income of agricultural households. In order to promote the industrialization of rural districts, a fund of ¥300,000 has been appropriated by the Government which will be devoted to a preparatory investigation of those industries, which are considered especially adapted to the skill and character of the agricultural population. Another subsidy amounting to ¥410,700 has also been granted to encourage the industrialization of Tohoku (North-eastern) districts.

CHAPTER XII

FISHERIES

1. General Survey

Of the various industries in Japan, none appears to be so indigenous and suited to the conditions of the country as fisheries. The country is entirely sea-girt, its coast-line long and much indented, possessing excellent fishing harbours, while the people have been daring fishermen from time immemorial. Japan is now in the front rank of all nations in the volume of annual catch, the number of people engaged, and also in the number of vessels.

Although accurate particulars are not available, it is estimated that the world's total annual catch is about 17 million metric tons. Japan's annual contribution to this total (including colonies) is returned as approximately 5 million metric tons, or more than a quarter of the total world's catch, which places the country far ahead of the United States, Great Britain, the Soviet Union, and Norway, the principal fishery countries of the world.(1)

The total value of fishery products in Japan proper amounted to 263 million yen in 1933. To this should be added 4 million yen for products from fishing along territorial coasts, and 82 million yen for Chosen, Taiwan, Karafuto, the Kwantung Leased Territory and the Mandated Islands, making a total for Japan proper and colonies of 349 million yen. In addition, large catches are annually made by the fisheries in Soviet and northern waters, their value totalling 36 million yen. Altogether, the value of fishery products in Japan reaches the enormous annual total of approximately 400 million yen.

The paramount importance of the Japanese fisheries cannot, however, be measured only by their monetary value in view of their great contribution to the food supply of the nation, to the

(1) According to *Statistical Year-Book of the League of Nations* the annual catch in 1933 (1932 for the U.S.A. and Norway) was: Japan 5,120,000 tons; Great Britain 990,000 tons; U.S.A. 835,000 tons; Soviet Union 1,300,000 tons and Norway 1,004,000 tons.

settlement of foreign accounts, and to the agricultural economy.

Exports of aquatic products far exceeds imports. Unlike other export staple goods, such as raw silk and cotton tissues, the production of aquatic products requires little labour, no valuable land, and very few foreign raw materials. Agricultural communities along the coast engage in fishery as a secondary occupation (more than half the number of people engaged in fishery belong to this category), and the floating canneries in northern waters absorb a large number of agrarian people during off seasons.

The development of fisheries has had a favourable influence on many other industries, notably shipbuilding, steel production, engineering, canning, and ice manufacture, which supply implements and materials, and also on the development of the fish oil, hardened oil and fish meal manufacturing industries for which the fisheries supply the raw material.

Except for migratory species such as tuna and bonito, fishing-grounds are, as a rule, limited to particular parts of the sea-bed, forming banks about 200 metres deep. Along the Pacific coast of Japan, these banks are well developed and offer excellent fishing grounds.

Concurrent with the development of the industry, its scope of activity has been gradually extended, and at present covers the Okhotsk and Bering seas in the north, the Netherlands East Indies and Australia in the south, the North and South American Pacific coasts in the east, and the China Sea and Indian Ocean in the west. Japanese fishermen also conduct whaling expeditions as far as the Antarctic Ocean.

The total number of persons employed in the fisheries of Japan proper was approximately 1·5 million in 1934, of whom about one half were so engaged by way of subsidiary employment. The total number of fishing vessels was about 360,000, of which only 87 were equipped with steam engines, and 53,000 with internal combustion engines. With the recent development of the industry and the extension of its sphere of activity, the number of vessels without engines decreased from 329,000 at the end of 1929 to 312,000 at the end of 1934.

2. Classification of Fisheries

Coastal fisheries constitute the largest branch in Japan proper, the value for 1934 amounting to 173 million yen, or 63·3% of the total of aquatic products. Off-shore fisheries follow next, with 69 million yen (25·4%), pisciculture with 22 million yen (8·2%), trawling with 7 million yen (2·5%), and whaling with only about 2 million yen, or 0·7%.

TABLE 118

VALUE OF FISHERY PRODUCTS

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934
(A) Fisheries of Japan proper						
Coastal fisheries	204,498	162,928	147,806	145,736	170,614	173,137
Pelagic fisheries						
Off-shore fisheries	89,534	66,547	47,979	54,020	65,987	69,428
Trawling	9,761	7,626	6,285	5,607	6,254	6,721
Whaling	1,474	1,247	766	857	1,142	1,991
Pisciculture	22,316	18,509	19,129	18,470	19,283	22,318
Total	327,583	256,857	231,965	224,683	263,281	273,595
Fisheries in territorial waters by fishermen from Japan proper						
Chosen waters	7,590	5,611	3,763	3,172	3,339	3,241
Taiwan waters	162	—	105	199	192	182
Kwantung waters	592	318	239	600	641	644
Total	8,344	5,929	4,107	3,970	4,172	4,067
Fisheries in foreign regions						
Soviet waters	32,198	31,829	22,356	31,909	23,666	40,903
Floating canneries in Northern waters						
Crab	14,487	13,148	7,303	5,468	7,476	7,733
Salmon	5	501	1,224	2,695	5,175	11,185
Total	46,690	45,478	30,883	40,072	36,317	59,821
Grand total	382,617	308,264	266,955	268,725	303,770	337,483
(B) Fisheries of dependencies						
Chosen fisheries	65,338	50,129	46,578	46,264	51,378	57,778
„ pisciculture	2,724	2,370	2,615	2,448	2,904	2,846
Total	68,063	52,499	49,193	48,712	54,282	60,624
Taiwan fisheries	14,446	11,771	8,483	9,197	10,807	11,452
„ pisciculture	3,735	3,143	3,074	3,131	3,224	2,890
Total	18,181	14,914	11,557	12,328	14,031	14,343
Karafuto	unavailable	7,059	4,257	5,452	6,892	6,822
Kwantung L. T.	4,682	3,848	3,151	4,104	5,023	...
Mandated Islands	343	511	871	1,267	1,797	2,677
Grand total	*91,269	78,831	69,029	71,863	82,025	...
Total for Japanese Empire	*473,886	387,095	335,984	340,588	385,795	...

Based on returns of the Ministry of Agriculture and Forestry and of the Ministry of Colonial and Overseas Affairs, etc. * Not including Karafuto.

Coastal Fisheries. These fisheries are by far the most important both in respect of production value and the number of persons employed, but in recent years development has been rather slow. The main catches are sardines, which account for more than half of the total volume and about one-fifth of the total value. Other important catches are salmon, sea-bream, yellowtail, herring, mackerel, tuna, horse-mackerel, flatfish, turbot and cod-fish.

TABLE 119

COASTAL FISHERY PRODUCTS IN 1934

	Quantities (1,000 *kwan*)	Value (1,000 yen)		Quantities (1,000 *kwan*)	Value (1,000 yen)
Fish	593,913	128,143	Shell-fish, etc.	98,803	35,711
Sardines	340,831	26,314	Ear-shell	1,637	2,849
Salmon and trout	16,675	10,003	Cuttle-fish	26,246	10,277
Sea-bream	3,228	9,685	Shrimp	4,799	6,321
Herring	102,181	7,157	Octopus	5,575	3,358
Yellowtail	8,568	9,655	Seaweed	175,211	9,283
Mackerel	18,132	5,830	Tangle	126,751	3,930
Tuna	5,896	4,992	Gelidium amansii	2,890	1,467
Horse-mackerel	7,121	4,502	Undaria pinnatifida	8,187	1,026
Flatfish and turbot	5,419	4,135			
Cod	26,655	3,781			

Ibid.

Pelagic Fisheries. This branch has greatly developed in recent years and is rapidly gaining in importance. The increase in tuna and bonito catches is particularly notable. Trawling, though fairly well developed, is not yet very important in proportion to the entire fisheries of the country. Although whaling appeared to have reached a limit in recent years, the introduction of floating whaling factories has secured for the industry fresh grounds in the Antarctic Ocean.

Off-shore fisheries in Japan proper are carried on with small-engined vessels of about 20 tons. The most important method of fishing in this branch is by drag-net, ropes, and bonito angling. With the extension in the sphere of activity in recent years, there has also been an increase in the size of vessels used. Vessels without engines decreased from 716 at the end of 1929 to 297 at the end of 1934.

The most important products, in point of quantity, are sardines, cod, bonito, flatfish, turbot, shark, mackerel, and tuna, and in value, bonito, tuna, sea-bream, flatfish, turbot, cod and mackerel.

In recent years, bonito and tuna are not only caught in neighbouring waters when they come swarming northward on the Black Current, but Japanese fishermen go far out to meet them in the South Seas. In view of the importance of this branch of the industry, the Government endeavoured to promote its development by granting subsidies, which amounted to ¥ 60,000 during the period from 1930 to 1934. Experiments, under Government supervision, in floating bonito and tuna fisheries in the South Seas have been conducted with satisfactory results, and future prospects of the industry are very bright. The recent development of cold storage has greatly contributed to the growth of the industry.

Trawling in the early days was confined to the Chosen Straits, the Yellow Sea, and the Japan Sea. With the later development, the industry now covers a wide area from the Bering Sea in the north, to Siam and Annam in the south, while in more recent years even the Australian and the Indian seas have been exploited by Japanese fishermen. Large vessels of nearly 500 tons equipped with Diesel engines, wireless apparatus, and cold-storage installations, with a cruising radius of 15,000 miles are now utilized for the purpose.

In order to prevent excessive fishing, the number of vessels used in neighbouring waters is limited by the Government to 70, and several grounds have been closed.

The principal trawling products are *nibea schlegeli*, flatfish, and turbot. Compared with other branches, the value is comparatively small, accounting for only 2·5% of the total fishery products in Japan proper (including pisciculture) in 1934.

In olden times the waters around Japan abounded in whales; one of the reasons for the repeated attempts made by foreign countries in the closing years of the Shogunate to open Japan to foreign commerce was to secure conveniences, water and fuel, to whaling vessels. Owing, however, to the excessive fishing in later years, the number of whales has greatly diminished. The Government have restricted the number of whaling vessels to 30 and are doing their best to preserve the whale, but it is generally admitted that the industry has reached its limits in home waters. With a view to escape from these limitations, the Norwegian system of floating factories has been introduced and is now employed in the Antarctic Ocean with good results.

The principal haunts of whales are off the coast of the north-eastern part of the mainland, and in Hokkaido waters. The most important variety is the sperm-whale, the number caught amounting to one half the total catch, followed by the rorqual, and the fin-whale.

TABLE 120

PELAGIC FISHERY PRODUCTS IN 1934

	Volume (million *kwan*)	Value (million yen)		Volume (million *kwan*)	Value (million yen)
Off-shore fishery products			Sea bream .	3·1	5·5
			Total . .	193·8	69·4
Sardines .	50·4	3·7	Trawling Products		
Bonito . .	18·4	11·0			
Cod . .	18·5	3·0	*Nibea Schlegeli* . .	5·0	1·6
Flatfish and turbot .	13·3	5·2	Flatfish and turbot .	1·5	0·8
Tuna . .	9·6	10·8	Total (incl. other products)	13·8	6·7
Shark . .	10·5	2·7			
Mackerel .	10·1	3·0	Whaling . .	(number) 1,356	2·0

Ibid.

Fisheries in Foreign Waters. The principal fishing regions are Soviet and Northern waters generally. Owing to the great development of bonito and tuna fishing, and to the improvement in the methods of cold-storage, floating canneries for bonito and tuna are also projected in the South Seas.

(1) Fisheries in Soviet Waters. Licences for fishing in Soviet waters were first obtained after the Portsmouth Peace Treaty upon the conclusion of the Russo-Japanese War. In spite of the later change in regime in Russia, the industry has on the whole made very steady progress. At one time the great number of interests engaged in these fisheries and the resulting keen competition in the face of Soviet State enterprise led to misgivings as to the future of Japanese fisheries in this field, but after various attempts at remedying the situation, the small-scale concerns were absorbed by a single company, the Nichiro Fishery Company.

The principal fishing grounds are off the Maritime Province, as well as near the coast of Sakhalin and Kamchatka. Owing to the recent exhaustion of the banks near the Maritime Province and the coast of Sakhalin, the centre of fisheries has gradually shifted to Kamchatka. Products are mostly limited to salmon and crab, but crab fishing results have remarkably deteriorated of late owing to excessive fishing. Salmon are partly salted and partly canned. More than half of these products are shipped directly from Soviet waters to foreign markets, mainly to Great Britain.

(2) Floating Crab Canneries. The experiment in canning fresh crab

TABLE 121

FISHING AND FISHERY PRODUCTS IN SOVIET WATERS

	1929	1930	1931	1932	1933	1934
Vessels employed						
Number	289	258	203	214	175	172
Tonnage . . .	429,727	443,650	302,490	367,257	330,587	360,704
Number of fishermen and other hands .	21,591	22,227	17,240	18,185	17,506	20,364
Volume of catch in Soviet waters						
Chum salmon (1,000 *koku*)	231·3	238·4	154·3	169·0	154·3	233·9
Red salmon („) .	101·1	100·7	76·5	77·0	53·3	104·1
King salmon („) .	2·1	2·8	1·9	1·9	0·9	1·7
Pink salmon („) .	38·8	249·4	71·2	263·6	108·8	381·1
Herring („) .	2·3	1·9	1·3	0·8	0·4	0·3
Total („) .	375·5	593·1	305·1	512·2	317·8	721·1
Crab (1,000) . .	7,045	4,847	4,292	3,101	2,546	3,583
Value of fishery products (1,000 yen)	32,198	31,829	22,356	31,909	23,666	40,903

Ibid. (*a*) Including other salmon.

on board ship was first made in 1914, since when floating canneries have gradually developed, supported by many improvements in the methods of canning. With the increase of floating canneries, competition became keen, and not only were fishing grounds destroyed by excessive fishing, but the market price of products declined sharply. Centralized control of the industry thus became an urgent need. This recognition led to the gradual fusion of enterprises, until finally at the end of 1932 a single concern, the Japan Amalgamated Floating Canneries Company was formed, merging all the enterprises that had hitherto been competing with each other.

Floating cannery boats numbered 19 in 1930. There has been a gradual decrease to only 9 vessels of larger dimensions in 1934, the total tonnage remaining nearly unchanged. The tonnage of vessels now in use varies from 2,400 to 8,000. Floating canneries are accompanied by motor boats and small fishing boats. The number of fishing boats and motor boats per cannery vessel is generally from 5 to 10 and from 2 to 3 respectively.

(3) Floating Salmon Canneries. Salmon swarm at the mouth of rivers and are caught in drag or drift-nets and are either canned, salt cured, or refrigerated.

TABLE 122

FLOATING CRAB CANNERIES

	Cannery boats		Number of		Crab caught (million)	Canned products	
	Number	Total tonnage	Crew	Men		Volume (1,000 cases)	Value (1,000 yen)
1929	15	37,443	570	4,457	23·7	374	14,487
1930	19	63,924	801	6,434	24·1	405	13,148
1931	9	29,413	377	2,816	15·2	240	7,303
1932	7	24,275	301	2,144	10·4	174	5,468
1933	9	40,724	414	2,541	9·5	154	7,476
1934	9	37,235	406	2,714	9·9	162	7,733

Ibid.

Floating canneries were first experimented with in 1927, but in the early days did not bring much success. It is only very recently that this branch of the fishery industry made rapid strides, as is well demonstrated by the extraordinary increase in the value of fish caught, from ¥5,000 in 1929 to 11 million yen in 1934.

Naturally the off-shore floating factory system which consists in netting salmon in the offing at the mouth of rivers has proved a menace to the coastal fisheries. In order to remedy the situation, the Nichiro Fishery Company acquired the Pacific Fishery Company, but as there still remained a number of other enterprises engaged in off-shore fishing, rivalry continued with a resulting drain upon the salmon resources in northern waters. In view of this situation, the Government promoted the amalgamation of all off-shore fishery enterprises, and finally at the beginning of 1935, the Nichiro Fishery Company succeeded in merging them with the Pacific Fishery Com-

TABLE 123

SALMON OFF-SHORE FLOATING CANNERIES

	Mother ships		Accompanying ships		Canned		Total (incl. salt cured, refrigerated, etc.) (1,000 yen)
	Number	Total tonnage	Engined boats	Small fishing boats	Volume (1,000 cases)	Value (1,000 yen)	
1929	1	998	—	2	—	—	5
1930	6	12,516	7	36	15·8	339	501
1931	10	20,486	15	58	66·8	1,144	1,224
1932	13	15,364	39	72	70·2	2,078	2,695
1933	19	28,977	153	32	150·7	3,426	5,175
1934	16	32,654	256	49	269·8	9,254	11,185

Ibid.

pany. The Nichiro Company thus exercises virtual control over all coastal and off-shore fishery enterprises in northern waters.

Pisciculture. Thanks to the efforts on the part of the Government, public bodies and private enterprises, pisciculture has undergone a rapid development, the value of products in recent years reaching 20 million yen, or over 8% of the total value of fishery products in Japan proper. The industry may be divided into two branches, fresh-water and salt-water culture. Carp and eel culture forms a profitable side-occupation to the agricultural communities. In salt-water culture, laver is most important, followed by oysters, mother of pearl and tapes philippinarum.

TABLE 124

CLASSIFIED VOLUME AND VALUE OF PISCICULTURE PRODUCTS IN 1934

	Laver	Carp	Eel	Oyster	Mother of pearl	Tapes philippinarum	Total (incl. other products)
Volume (million *kwan*)	8·17	3·14	1·64	11·57	(4·51)*	10·27	...
Value (million yen)	7·52	4·19	3·82	1·44	1·47	0·69	22·32

Ibid. * In million pieces.

3. FOREIGN TRADE IN AQUATIC PRODUCTS

The value of aquatic products exported has shown a remarkable increase in recent years, rising from 51 million yen in 1930 to 79 million yen in 1934 (87 million yen in 1935), while exports direct from Soviet waters increased from 20 million yen to 22 million yen during the same period (14 million yen in 1935). On the other hand, the import value increased only from 22 million yen to 25 million yen during the same period. The excess of exports advanced from 49 million yen in 1930 to 75 million yen in 1934. Aquatic products imported into Japan come chiefly from Asiatic Russia and are mostly manufactured by the Nichiro Fishery Company. If this part of imports is excluded, the excess of exports will probably reach more than 93 million yen.

Exports. The most important exports are canned products, followed by fish meal, ordinary aquatic products, agar-agar and fish oil. There has recently been an upward tendency in canned products and fish meal, and a marked decline in fish oil. Canned

TABLE 125

FOREIGN TRADE IN AQUATIC PRODUCTS

(in 1,000 yen)

	Exports from Japan proper	Exports from Soviet waters	Total exports	Imports	Excess of exports over imports
1930	50,966	20,123	71,089	22,490	48,599
1931	35,371	11,734	47,105	19,366	27,739
1932	36,113	15,922	52,035	20,500	31,535
1933	63,693	12,813	76,506	20,169	56,337
1934	79,408	21,605	101,013	24,927	76,086
1935	87,203	*13,700	100,903	...	...

According to *Monthly Return of the Foreign Trade of Japan* and investigations conducted by the Bureau of Fisheries, the Ministry of Agriculture and Forestry. * Estimated.

products in particular are exported to all parts of the world, but the chief customers are Great Britain and the United States.

TABLE 126

EXPORTS OF AQUATIC PRODUCTS[a]

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Fresh fish and shell-fish	245	238	465	516	699	710
Ordinary aquatic products[b]	17,977	10,158	7,757	10,256	16,457	20,732
Agar-agar	3,833	3,416	3,166	3,199	3,215	4,262
Canned and bottled	19,987	17,286	20,190	42,857	43,606	48,958
Fish oil and whale oil	7,962	1,944	3,234	2,529	3,306	6,893
Fish meal	962	2,329	1,301	4,336	12,125	5,648
Total	50,966	35,371	36,113	63,693	79,408	87,203

(a) Not including exports direct from Soviet waters. (b) Ordinary aquatic products include fish and shell-fish, fresh, salt-cured and dried, seaweed, etc.

Exports of ordinary aquatic products consist mainly of dried fish and shell-fish, followed by tangles, fresh fish and shell-fish, and dried trepang. As against the great expansion in the export of canned products and fish meal, the export of ordinary aquatic products has experienced but a slight increase in recent years.

Agar-agar is an aquatic product peculiar to Japan. The export of this article has fluctuated between 3 and 4 million yen for the past several years. Principal customers are the Netherlands East Indies, Germany, the United States, Great Britain and France.

The most important canned and bottled products are crab and

TABLE 127

EXPORTS OF ORDINARY AQUATIC PRODUCTS BY DESTINATION

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Manchoukuo	—	—	133	337	307	232
Kwantung L. T.	1,601	896	1,977	2,269	2,263	3,105
China	5,975	2,654	2,532	2,279	4,432	5,985
Hong Kong	5,417	2,753	574	1,397	2,792	3,968
Straits Settlements	974	562	193	893	2,640	2,208
U. S. A.	2,210	1,926	975	1,192	1,713	2,665
Hawaii	854	723	721	560	487	558
Total (incl. other destinations)	17,977	10,158	7,757	10,256	16,157	20,735

TABLE 128

EXPORTS OF AGAR-AGAR BY DESTINATION

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Netherlands East Indies	567	402	448	459	648	366
Germany	496	522	532	480	538	835
U. S. A.	583	724	537	675	480	542
Great Britain	212	199	275	341	349	572
Straits Settlements	244	135	93	158	261	366
France	310	251	306	327	215	558
Total (incl. other destinations)	3,833	3,416	3,166	3,199	3,215	4,262
Total volume (in 1,000 piculs)	21.1	20.2	21.4	21.9	20.9	25.2

salmon. In recent years the export of canned tuna and sardines has been remarkably active. The export of canned crabs has recently been stagnant as against a marked increase in canned salmon.

The chief customers for canned crabs are Great Britain and the United States which took nearly 80% of the total export in 1934. Minor customers are France, Belgium, Australia and Germany. There has been some decline in the demand from the United States and Canada, which has been partly counterbalanced by a marked increase in shipments to Europe, especially to Great Britain, Germany and Belgium. It is noteworthy that Africa is now a fairly important destination of this product.(1)

The export of canned salmon in 1934 showed marked activity, the

(1) Cf. Chap. XXII, Table 299 and Chap. XXX, Table 400.

value amounting to nearly 19 million yen, as compared with only 4 million yen in 1930. The chief buyer is Great Britain, which in 1934 took over 86% of the total export. Shipments to Italy, Belgium and the Netherlands show an increasing tendency. Owing to import restrictions in France, there has recently been a marked decline in exports to the French market. The export demand for canned tuna fish increased to over 3·8 million yen in 1934, the chief destination being the United States which in 1934 accounted for 3·15 million yen, or 82% of the total export value.

The export of canned sardines has also grown in recent years, supported chiefly by improved manufacturing processes and the low rate of exchange. Fresh markets are being cultivated in the Orient. The export value in 1934 reached 3·61 million yen, the main destinations being the Netherlands East Indies, Straits Settlements, the Philippine Islands, British India and Siam.

The export of fish oil and whale oil, unlike other aquatic products, has decreased in recent years. The export value in 1935 was 6·9 million yen against a total of 8 million yen in 1930. Principal customers are Germany, Great Britain, the Netherlands, the United States, and Australia.

TABLE 129

EXPORTS OF FISH OIL AND WHALE OIL BY DESTINATIONS

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Great Britain . . .	2,076	757	1,131	591	433	851
Germany	1,150	496	628	886	1,405	2,589
Netherlands . . .	793	78	527	201	183	873
U. S. A.	1,820	155	201	47	154	285
Australia	216	163	148	158	155	220
Total (incl. other destinations) .	7,962	1,944	3,234	2,529	3,306	6,893
Total volume (in 1,000 piculs) . .	745·0	273·4	609·4	286·2	345·8	602·1

The growth of fish meal exports in recent years has been remarkable, the total rising from ¥960,000 in 1930 to ¥12,120,000 in 1934. In 1935, however, the export value dropped sharply to ¥5,650,000. The most important customers are the United States and Germany.

Imports. According to statistics, the import of aquatic products in recent years maintained a level of approximately 20-25 million yen.

The greater part of salt-cured fish comes from Asiatic Russia, these

TABLE 130

EXPORTS OF FISH MEAL

(in metric tons)

	1930	1931	1932	1933	1934	1935
U. S. A.	9,731	20,046	12,420	30,369	59,569	...
Germany	440	unavailable		13,386	39,451	...
Netherlands	—	unavailable		3,461	6,105	...
Great Britain	21	unavailable		400	1,406	...
Total (incl. other destinations)	10,580	29,113	15,302	48,178	114,338	55,631

According to *Annual Return of the Foreign Trade of Japan* and investigations conducted by the Japan Fish Meal Association.

TABLE 131

CLASSIFIED IMPORTS OF AQUATIC PRODUCTS

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Salt-cured fish and shell-fish	9,858	10,258	9,831	10,080	11,480	...
Other fish and shell-fish	9,164	6,353	7,499	5,669	8,800	...
Shells	2,843	2,422	2,746	3,932	4,113	3,418
Tortoise shell	195	218	262	296	344	257
Fish guano	430	115	164	192	180	—
Total	22,490	19,366	20,500	20,169	24,927	...

shipments accounting for ¥ 10,784,000 out of a total of ¥ 11,480,000 in 1934. The bulk of imports of fish and shell-fish other than salt-cured is also derived from Asiatic Russia. Of the total import value of ¥ 8,800,000 in 1934, Asiatic Russia contributed ¥ 7,885,000. As in the case of salt-cured fish, imports from this source consist mainly of supplies manufactured by a Japanese concern, the Nichiro Fishery Company.

The import of shells has generally been maintained around 3-4 million yen. The most important source is Australia, followed by China, the Netherlands East Indies, Straits Settlements, and the Philippines.

CHAPTER XIII

MINING INDUSTRY

1. General Survey

The expansion of the mining industry was achieved under the stimulus of the World War which offered new opportunities for a number of minerals such as lead, tin, zinc, iron, etc. Copper mining, which was most developed and the basis of an export trade prior to the War, advanced to a lesser extent, and the requirements of national industries have checked export shipments in normal times. The development of mining has been promoted by an upward revision of import tariff rates during the post-war period.

Gold mining received a great impetus from the reimposition of the gold embargo, currency depreciation permitting the exploitation of deposits which had previously been deemed unprofitable. This monetary development also had a favourable influence on other forms of mining, and, combined with the industrial recovery late in 1932, provided the basis for the prosperous conditions prevailing today.

Mineral Production. The value of the annual mineral production in Japan proper amounted to about 430 million yen in 1934, compared with a total output of nearly 150 million yen in the year preceding the outbreak of the World War.

The mineral output of Chosen, Taiwan and Karafuto has also increased considerably in recent years, the annual total of those dependencies rising from 40 million yen in 1931 to 97 million yen in 1934, or 18% of the total value of mineral production in Japan.

From the viewpoint of recent expansion, gold mining is worthy of first mention. The spectacular price advance in this metal as expressed in paper currency brought about the intensified working of old mines and the exploitation of poorer deposits. Production in 1934 was valued at 45 million yen, an increase of about 280% compared with 1931. The animation in gold mining also extended to Chosen and Taiwan, but statistics as to output there probably constitute an

TABLE 132

Output of Metals and Mineral Products in Japan Proper

(in 1,000 yen)

	1913	1918	1929	1931	1932	1933	1934
Gold	7,252	10,243	14,765	16,523	25,973	33,846	45,040
Silver	5,635	12,622	6,139	3,484	5,387	8,037	11,039
Copper	42,012	90,390	69,400	33,628	39,121	50,772	46,746
Lead	618	4,153	858	558	1,072	1,358	1,415
Tin	82	569	1,578	1,037	1,601	2,759	4,095
Tin ore	346	—	212	541	862	1,850	2,094
Zinc	—	17,731	7,198	4,472	6,033	9,747	9,517
Zinc ore	857	—	—	—	—	—	—
Iron[a]							
Pig iron	2,561	37,819	3,447	4,937	5,149	11,016	18,406
Steel	866	6,573	6,578	2,943	4,298	11,604	13,240
Iron pyrite	590	1,084	7,898	6,091	7,515	9,975	10,734
Manganese ore	183	1,952	368	171	377	744	909
Tungsten ore	232	1,418	30	20	7	18	82
Phosphorite	289	7,117	168	204	213	414	627
Coal	70,956	286,032	245,762	151,950	141,977	195,467	245,555
Lignite	184	944	827	539	465	560	614
Petroleum							
Crude	12,499	30,417	13,707	8,357	7,510	8,959	9,430
Gas	—	1,438	793	1,406	893	822	786
Sulphur							
Refined	1,568	2,532	3,638	3,166	4,616	7,500	9,019
Ore	—	143	123	19	24	29	534
Sulphuric acid[b]	—	—	180	949	782	1,142	1,069
Other products[c]	118	916	889	833	908	1,623	1,835
Total	146,849	514,094	384,558	241,826	254,782	358,241	432,308

(a) Excluding products from imported raw materials. (b) Figures represent the by-product at the Besshi refinery only. (c) Platinum, bismuth, placer tin, antimony, quicksilver, chrome ores, molybdenum, white arsenic and graphite.

TABLE 133

Mining Production in the Japanese Empire

(in 1,000 yen)

	Japan proper	Chosen	Taiwan	Karafuto	Total
1913	146,849	8,204	4,133	1	159,186
1918	514,094	30,838	7,429	1,791	554,151
1929	384,558	26,488	14,847	5,743	425,893
1930	307,673	24,654	15,141	5,622	353,090
1931	241,826	21,742	13,338	5,250	282,155
1932	254,782	33,747	13,951	5,201	307,680
1933	358,241	48,301	15,196	6,704	428,442
1934	432,308	69,173	18,948	9,119	529,548

TABLE 134

IMPORTANT MINERAL PRODUCTS

(Excluding iron and steel, coal and petroleum)

		Japan proper	Chosen	Taiwan	Total	
		(kg.)	(kg.)	(kg.)	(kg.)	(¥ 1,000)
Gold	1931	12,275	9,031	554	21,860	26,842
	1932	12,497	9,701	817	23,015	47,345
	1933	13,729	11,508	652	25,889	64,917
	1934	15,147	12,428	1,046	28,621	86,848
Silver	1931	167,583	11,404	553	179,540	3,700
	1932	163,625	18,351	608	182,584	5,957
	1933	185,610	21,865	231	207,706	8,767
	1934	217,254	31,287	297	248,838	12,522
		(metric tons)	(metric tons)	(metric tons)	(metric tons)	
Copper	1931	75,848	698	1,384	77,927	34,027
	1932	71,877	694	1,620	74,191	39,722
	1933	69,033	785	1,366	71,184	51,463
	1934	67,002	1,434	2,299	70,735	48,007
Zinc	1931	25,407	—	—	25,407	4,472
	1932	27,043	—	—	27,043	6,033
	1933	30,658	—	—	30,658	9,747
	1934	32,145	—	—	32,145	9,517
Lead	1931	4,070	97	—	4,167	564
	1932	6,415	493	—	6,908	1,136
	1933	6,825	784	—	7,609	1,479
	1934	7,039	1,806	—	8,845	1,721
Tin	1931	1,015	—	—	1,015	1,037
	1932	1,002	—	—	1,002	1,601
	1933	965	—	—	965	2,759
	1934	1,218	—	—	1,218	4,095
Sulphur (a)	1931	61,499	—	791	62,290	3,217
	1932	84,530	—	553	85,083	4,653
	1933	114,426	—	868	115,294	7,562
	1934	135,412	—	1,079	136,491	9,094
Iron pyrite	1931	560,372	203	—	560,575	6,091
	1932	726,073	7,130	—	733,203	7,559
	1933	903,129	14,518	—	917,647	10,051
	1934	1,090,484	40,024	—	1,130,508	10,977

Figures from *Situation of Japanese Mining Industry* by the Ministry of Commerce and Industry. (a) Excluding sulphur ore.

under-valuation in view of the active smuggling carried on in gold.

The output of silver has also gained remarkably since 1932. About 70% of the production is a by-product from copper refining, hence the output of silver varies according to the activity of copper mining. The value of production benefited by the sharp advance in silver

prices after 1932, this price advance being accentuated by the depreciation of Japanese currency.

The production of zinc, lead, tin and minor metals such as manganese, tungsten, molybdenum, etc., registered a marked expansion in recent years due to the activity in the armament industries.

The output of sulphur has also shown extraordinary development in consequence of the expansion of the chemical industries, especially of paper, fertilizer and rayon. The production of graphite, kaolin, silica sand, fluorite, phosphorite and alunite, though of less importance, has also expanded because of an active demand from the chemical industries.

Exports and Imports. Japan depends more or less on imports for almost all important mineral products. This fact accounts for the great advance of the import excess in metals and minerals since 1931.

Imports witnessed a rapid increase after 1931, partly owing to the depreciation of Japanese exchange rates. Exports advanced from 50 million yen in 1931 to 120 million yen in 1935, due to active shipments to East Asiatic markets. Steel products, semi-manufactured copper and brass goods were the chief items in the export trade.

TABLE 135

EXPORTS AND IMPORTS OF MINING PRODUCTS OF JAPAN PROPER

(in 1,000 yen)

	Ores and metals	Coal	Petroleum	Other mineral products	Total
Exports					
1913	31,455	23,629	—	1,370	56,454
1929	19,571	23,215	527	11,592	43,313
1931	24,283	15,009	748	11,532	51,572
1932	28,604	13,451	2,908	10,597	55,560
1933	50,424	14,158	3,090	10,483	78,155
1934	74,905	10,376	3,919	14,051	103,251
1935	93,617	9,721	4,560	13,674	121,572
Imports					
1913	72,663	4,034	13,384	10,278	100,359
1929	246,791	42,979	92,928	25,469	408,167
1931	89,682	28,269	85,788	13,828	217,567
1932	124,438	27,358	98,588	18,962	269,346
1933	233,635	36,657	108,859	28,308	407,459
1934	307,310	47,193	124,027	32,658	511,188
1935	383,994	48,970	152,647	41,399	627,010

2. Iron and Steel

The first step toward the modernization of the iron and steel industry in Japan was taken in 1901, when the Government Yawata Iron Works was established. The industry has since made a remarkable development, the total production in 1929 amounting to 1,240,000 tons of pig iron and 2,240,000 tons of steel. Following a few years of depression, the output for the whole country advanced to 1,940,000 tons of pig iron and 3,800,000 tons of steel in 1934.

The apparent aim of the Japanese Government and domestic steel manufacturers to become independent of foreign supplies has been more or less realized, as imports are no longer necessary except in case of emergencies and for special categories of steel materials. A favourable trade balance in steel products was even recorded in 1934, due to the growing demand from Manchoukuo.

Raw Materials. (1) Iron ore. Reserves in Japan proper are estimated at 80 million tons, to which should be added about 10 million tons in Chosen. The economic development of these reserves is at present confined to Kamaishi, Kutchan, and a few other mines in Japan proper, and a number of mines in Chosen. The output of iron ore has considerably increased in recent years, about 1,000,000 tons being mined in 1934. When compared, however, with the total demand of the country in the same year, the home supply represents only one-third, the balance being obtained from abroad.

In addition to the afore-mentioned reserves, there are extensive iron resources in the form of iron sand beds in Japan proper and low-

TABLE 136

Output and Imports of Iron Ore

(in 1,000 metric tons)

	Output			Imports		
	Japan proper	Chosen	Total	Japan proper	Chosen	Total
1929	178	559	737	1,945	39	1,084
1930	246	582	828	1,974	28	2,001
1931	208	416	624	1,550	3	1,553
1932	227	376	603	1,482	—	1,482
1933	321	523	843	1,524	15	1,539
1934	432	571	1,002	2,132	38	2,170
1935	...	...	...	3,384	35	3,419

grade iron deposits in Chosen, estimated at several hundred million tons. In former times iron sand was used in the manufacture of iron, but at present is utilized only by some special factories, as the problem of its economic exploitation still remains unsolved.

It is estimated that the low-grade iron ore deposits in Chosen contain about 4–5 million tons of 50% quality iron ore, 100 million tons of over 40% quality, and 300 million tons of over 30%.

It has been remarked that Japan obtains approximately two-thirds of her requirements of iron ore from abroad. Imports were formerly confined to ore from China, but the source of supply has been extended with the development of the industry. Malayan iron ore was first imported in 1920, and other sources of supply in East and South Asia were utilized in later years.(1)

(2) Coke. As shown in the appended table, the consumption of coal in the manufacture of iron and steel has increased rapidly, and in 1934 totalled 2·8 million tons for coke and 1·8 million tons for other purposes. Although Japan is self-sufficient in coal for other than coking purposes, considerable quantities of coking coals must be obtained from abroad.

TABLE 137

COAL AND COKE CONSUMPTION BY PRINCIPAL IRON AND STEEL WORKS IN JAPAN PROPER

(in 1,000 metric tons)

	1929	1930	1931	1932	1933	1934
Coking coal . . .	1,908	1,773	1,351	1,478	2,094	2,776
Other coal . . .	1,644	1,520	1,190	1,296	1,737	1,846
Coke	1,275	1,306	979	968	1,492	1,761

TABLE 138

CONSUMPTION AND IMPORTS OF SCRAP

(in 1,000 metric tons)

	1929	1930	1931	1932	1933	1934	1935
Consumption by the principal iron and steel works	1,232	1,238	1,106	1,302	1,906	2,538	...
Imports	488	489	296	559	1,013	1,413	1,692
Value (million yen) .	*18·0*	*17·3*	*7·3*	*16·3*	*38·6*	*65·7*	*84·2*

(1) As to imports by countries, refer to Chapt. XXX, Table 410.

(3) Scrap. Scrap iron and steel consumed in 1934 totalled 2,540,000 tons, representing a twofold increase over 1929. The ratio of consumption of pig iron to scrap by the Japan Steel Manufacturing Company in 1934 was reported as 60% to 40%, and by other steel producers as 30% to 70% in the average.

About 56% of the total requirements of scrap is imported. The United States is the chief source, supplying nearly 70% of the total imports in 1934. Other sources are British India, Great Britain, Australia, the Netherlands East Indies and Canada.

Production. Prior to 1913, production of iron and steel was carried on chiefly by the Yawata Iron and Steel Works owned by the Government, private enterprises being on a small scale. The total annual output of pig iron and steel products at that time was only 240,000 tons

TABLE 139

OUTPUT OF IRON, STEEL AND STEEL PRODUCTS

(In 1,000 metric tons)

	1929	1930	1931	1932	1933	1934
Pig Iron						
Japan proper	1,087	1,162	917	1,011	1,424	1,728
Chosen	154	151	147	162	161	211
Total	1,241	1,312	1,065	1,173	1,585	1,939
Ferro-alloy	25	26	17	26	33	44
Raw steel	2,241	2,248	1,850	2,352	3,133	3,814
Finished steel						
Rolled products						
Bars	684	484	467	568	774	778
Shapes	256	251	203	252	331	430
Thin plates under 0.7 m/m	174	214	252	257	271	325
Thick plates	352	334	280	316	476	624
Pipes and tubes	78	88	63	96	117	137
Rails and fish plates	271	290	110	234	272	368
Wire-rods	68	122	177	215	285	348
Tin-plate	18	22	27	34	36	61
Other products	26	32	22	37	53	64
Total	1,928	1,837	1,602	2,010	2,616	3,114
Forgings	38	27	17	32	64	71
Steel castings	49	39	31	43	63	80
Special steels	19	18	14	28	49	58
Grand total	2,034	1,921	1,663	2,113	2,792	3,344

and 255,000 tons, respectively. The World War rapidly increased the number of large and small works, and in 1918 the total output, including Chosen, had increased to 630,000 tons of pig iron and 540,000 tons of steel products. Although in the post-war years, the industry was faced with a rapid decline in prices and the consequent necessity of readjustment, production continued to advance steadily to 1,240 000 tons and 2,000,000 tons respectively by 1929.

The great activity occasioned by army and navy requirements during the past few years provided a fresh impetus to the expansion of the industry. Pig iron output in 1934 totalled 1,940,000 tons, and steel products 3,340,000 tons.

The annual production capacity of pig iron approximated 2,080,000 tons at the end of 1933, comprising 20 furnaces of a daily capacity of over 100 tons. The annual production capacity of raw steel was about 3,250,000 tons by 116 open-hearths. In 1934, seven steel furnaces of the open-hearth type, and 21 rolling mills of an annual production capacity of 180,000 and 400,000 tons respectively were newly erected.

Future expansion programmes include the installation of three more blast furnaces, 15 open-hearth furnaces and 43 rolling mills, capable of an annual output of 530,000, 800,000 and 480,000 tons respectively.

Iron and Steel Consumption. Production in Japan proper was able to meet only 48% of pig iron and 34% of steel products required prior to the World War. In 1934, these percentages had been advanced to 69% and 105% respectively, and to 76% and 101% for the whole Japanese Empire. About 24%, or approximately 620,000 tons, of the total consumption of pig iron was imported from Manchoukuo and British India.

The situation is somewhat more favourable in finished steel. In

TABLE 140

DEMAND AND SUPPLY OF PIG IRON AND FINISHED STEEL

(in 1,000 metric tons)

	Pig iron		Finished steel	
	1933	1934	1933	1934
Production	1,585	1,939	2,792	3,344
Imports	648	623	403	374
Total supply	2,233	2,562	3,193	3,718
Exports	—	—	268	401
Consumption	2,233	2,562	2,925	3,317

1934, domestic production advanced to 101% of the total demand, showing that the country, as a whole, has now reached the stage of self-sufficiency.

The production of steel bars has increased greatly since 1932, reaching 780,000 tons in 1934. Imports have diminished to about 40,000 tons, while exports have shown some development. The output of rolled shapes has also improved considerably in recent years, and in 1934 totalled 430,000 tons, as against imports of 30,000 tons. The manufacture of rails has shown the greatest development, due to the growing demand from Manchoukuo. With the exception of special rails, imports have practically ceased, while exports approximate 100,000 tons and occupy the foremost place among exports of steel products. The output of wire-rods totalled 350,000 tons in 1934, and imports only about 30,000 tons. There has been a marked advance in the export of finished wire products.

The output increase of tin-plates and galvanized plates has been notable. Even during the years of depression, production of the former showed no decline, and in 1934 rose to 60,000 tons, this total, however, being still insufficient to meet the growing demand. Imports, not including the large quantities stored in bonded warehouses, reached approximately 90,000 tons. On the other hand, the production of galvanized plates exceeds the home demand. Imports of thick and medium plates totalled 70,000 tons in the same year, in spite of increased home production.

The output of tubes and pipes in 1934 reached 140,000 tons, imports 15,000 tons, and exports 50,000 tons. Due to the wide range which makes production unremunerative, hoops are mostly imported, in 1934 to the extent of approximately 80,000 tons.

Production of forgings and castings is now more than sufficient to satisfy the domestic demand, and there has been some development in exports. The demand for special steel products is increasing on account of naval and military requirements, consumption in 1934 amounting to 64,000 tons, and domestic output to 58,000 tons.

Price Conditions and Industrial Profits. The price policy adopted in recent years has been to follow the trend of import quotations, and to maintain market prices at a level which allowed a margin of profit, but checked the inflow of foreign products. With the intensification of the economic depression after the close of 1929, this policy failed to halt the decline of prices which went below the cost of production.

As will be seen below, the economic recovery, which set in at the be-

ginning of 1932, led to a sharp advance in quotations and favourably affected the financial status of iron and steel works.

TABLE 141

IRON AND STEEL QUOTATIONS

(Annual averages in yen per metric ton)

	1928	1929	1930	1931	1932	1933	1934	1935
Pig iron (Kamaishi No. 3)	55·92	55·37	46·82	38·55	36·41	45·67	50·58	54·83
Round bar (12 m/m)	103·37	105·09	77·48	61·89	77·10	116·26	119·04	94·22

TABLE 142

BUSINESS RESULTS OF THE PRINCIPAL IRON AND STEEL COMPANIES

(in million yen)

	Number of companies	Paid-up capital	Reserves	Outside liabilities	Fixed assets	Net profit	Rate of profit to paid-up capital (%)	Rate of dividend (%)
1931, 2nd half	10	127·7	11·6	93·0	147·4	− 0·7	− 1·1	0·3
1932, 1st half	11	128·6	11·7	101·4	167·9	0·6	1·0	0·7
2nd half	11	128·6	11·8	102·5	164·5	2·3	3·6	1·8
1933, 1st half	11	129·5	11·3	101·6	162·1	9·1	14·0	2·8
2nd half	11	129·5	15·2	97·9	161·1	13·0	20·1	4·6
1934, 1st half	11	138·0	18·6	84·8	89·6	1·6	2·3	6·0
2nd half	7(b) (a)	74·9	18·5	58·2	72·6	9·2	24·6	10·7
	8(c)	434·7	19·7	109·5	383·4	36·9	17·0	6·8
1935, 1st half	8(c)	437·3	39·9	121·3	398·3	43·0	19·7	7·0

Compiled by the Mitsubishi Economic Research Bureau. (*a*) The decrease in the number of companies is due to the establishment, through amalgamation, of the Japan Steel Manufacturing Co. (*b*) Not including the Japan Steel Manufacturing Co. (*c*) Including the Japan Steel Manufacturing Co.

Organized Control. At the close of the World War the question of centralized control of the industry began to receive attention. On the advocacy of the Minister of Commerce and Industry, production and sales cartels were organized in 1925, and later, during the depression period of 1930 and 1931, cartellization was accelerated.

These cartels contributed much to the stabilization of prices, though the market continued to be subject to disturbances from outsiders, particularly small producers. As a consequence of the economic depression, prices of iron and steel declined rapidly, placing the producers in a difficult situation until the Government arranged for the fusion of State and private works, at the same time strengthening official control of the industry by subjecting it to the Major Industries Control Law.

Amalgamation took place in January, 1934, when the Japan Steel Manufacturing Company was established, through the fusion of the Yawata Iron Works and six leading iron and steel enterprises. The new company is capitalized at ¥ 359,821,000 (of which the Government investments amount to ¥ 284,195,000), and occupies a predominant position in the industry both financially and in production capacity. Production by that company in 1934 of pig iron, raw steel and finished steel totalled 96%, 53% and 44% respectively of the entire domestic output.

3. Coal

The demand for coal in Japan has recorded a steady increase with the industrial and economic progress of the country, as shown in the appended table. In 1913, the year immediately before the outbreak of the European War, domestic consumption was only 19 million tons, but by 1929 it had reached 39 million tons. A sharp decline in 1931 was followed by a favourable turn in later years, and 1934 registered a consumption of 44 million tons.

Concurrent with the rising demand, there has been a corresponding increase in output. Production in Japan proper and dependencies, which was only 22 million tons in 1913, advanced to 37 million tons in 1929 and to 40 million tons in 1934.

TABLE 143

Coal Statistics for Japan Proper and Dependencies

(in 1,000 metric tons)

	Production	Imports	Exports	Balance (Domestic demand)
1913	21,763	843	2,895	18,714
1929	37,361	3,820	2,390	38,707
1930	34,504	3,248	2,479	35,273
1931	30,983	3,139	1,855	32,267
1932	31,190	3,169	1,563	32,796
1933	36,252	4,028	1,756	38,524
1934	40,331	4,706	1,268	43,769
1935	...	4,674	1,197	...

It will be noted that the advance in domestic output failed to keep up with the demand, making it necessary to import an increasing quantity of coal annually.

Coal Resources. The coal fields in Japan are extensively distributed. Total reserves in Japan proper, Chosen, Taiwan and Karafuto are estimated at about 20,000 million tons, of which Japan proper accounts for approximately 16,700 million tons.

TABLE 144

COAL RESERVES IN JAPAN PROPER

(in million metric tons)

	Anthracite and natural coke	Bituminous (incl. black lignite)	Low-grade lignite	Total
Reserves				
Proved. .	455	5,440	66	5,960
Probable .	132	3,781	133	4,045
Possible .	132	6,278	275	6,685
Total .	719	15,499	473	16,691

Investigations by the Bureau of Mines, the Ministry of Commerce and Industry.

So far as can be judged from the statistics available, reserves in Chosen are estimated at approximately 1,100 million tons (anthracite =720 million tons; bituminous coal=380 million tons); reserves, in Taiwan at 400 million tons (bituminous); and in Karafuto at 1,500 million tons (bituminous).

The coal found in Japan is generally of later formation, the greater portion belonging to the Tertiary, and is a variety of bituminous coal, most of it containing volatile matter to the extent of 30–45% and fixed carbon 35–55%, with 6,500–7,500 calories.

Anthracite is found principally in Chosen. Low grade lignite and peat deposits exist in several localities in Japan proper, but are of little economic value.

Production. The most important coal producing district in Japan proper is Kyushu, which accounts for 64% of the total output of Japan proper, followed by Hokkaido with 22%. In recent years, Hokkaido has shown the greatest development, and future prospects there are considered bright. On the other hand, the coal-fields in Kyushu seem to have been worked almost to the limit, some of them showing signs of exhaustion.

As to output of coal in the dependencies, Taiwan in 1934 produced 1,520,000, Chosen 1,690,000, and Karafuto 1,200,000 tons. The exploitation of mines in Karafuto and Chosen is of comparatively recent date, and their future development is very promising.

It is difficult to give accurate figures as to production cost, but

TABLE 145

COAL PRODUCTION IN JAPAN PROPER AND DEPENDENCIES

(in 1,000 metric tons)

	Japan proper[a]	Chosen	Taiwan	Karafuto	Total
1913	21,316	128	319	—	21,763
1929	34,358	938	1,530	636	37,361
1930	31,376	884	1,599	645	34,504
1931	27,987	963	1,422	638	30,983
1932	28,053	1,104	1,355	677	31,190
1933	32,524	1,307	1,533	889	36,252
1934	35,925	1,689	1,521	1,197	40,331

(a) Not including low-grade lignite.

statistics furnished by the Bureau of Mines of the Ministry of Commerce and Industry state that the cost in 1933 had increased only 4%, as against a marked decline of 34% during the years from 1929 to 1932. The increase was mainly due to the rise in materials, there being practically no increase in wages which account for more than 60% of the total cost of production. Fuel and electric power even showed a decline in cost.

TABLE 146

PRODUCTION COST OF COAL PER METRIC TON IN JAPAN PROPER

(Unit : yen)

	Wages	Materials			Fuel and motive power			Grand total
		Timber	Explosives	Total (incl. other materials)	Electric power	Coal	Total (incl. other fuels)	
1929	2·616	0·518	0·149	0·810	0·393	0·109	0·515	3·941
1930	2·493	0·445	0·154	0·709	0·410	0·103	0·536	3·738
1931	1·890	0·313	0·139	0·523	0·413	0·082	0·514	2·927
1932	1·637	0·274	0·148	0·501	0·389	0·063	0·465	2·603
1933	1·641	0·321	0·173	0·657	0·358	0·058	0·430	2·728

Based on returns of the Ministry of Commerce and Industry.

Market Situation and Business Results. Coal quotations advanced ously during the World War, and, until about 1929, maintained el of approximately twice that of the years before the outbreak at War. With the intensification of the world depression, there a sharp decline, until in the summer of 1932 the price reached

TABLE 147

ANNUAL AVERAGE OF MARKET PRICES OF COAL

(in yen per metric ton)

	1913	1918	1929	1932	1933	1934
Kyushu coal (Moji) .	8·95	21·31	16·72	12·82	14·39	15·33
Kyushu coal (Tokyo) .	11·04	31·91	23·31	17·93	20·88	22·80
Yubari coal (Otaru) .	7·88	20·71	14·52	8·56	11·52	12·63

TABLE 148

BUSINESS RESULTS OF PRINCIPAL COLLIERIES IN JAPAN PROPER

	Number of companies	Paid-up capital (1,000 yen)	Net profit (1,000 yen)	Rate of profit (%)
1929, 2nd half .	31	306,350	12,972	8·47
1930, 1st half .	25	289,800	9,341	6·45
2nd half .	32	317,855	4,763	3·00
1931, 1st half .	27	299,464	5,424	3·62
2nd half .	33	322,810	3,852	2·39
1932, 1st half .	28	299,460	6,001	4·00
2nd half .	32	375,900	8,977	4·78
1933, 1st half .	31	348,650	15,206	8·72
2nd half .	32	315,650	17,642	11·18
1934, 1st half .	34	320,377	21,444	13·39
2nd half .	33	330,024	22,930	13·89

From *Coal Review*.

a very low level. During the post-war depression, the principal collieries formed the Federation of Coal Mine Owners' Associations, with the object of maintaining market prices by limiting supply, which did much to stabilize the industry. With the development of the world depression, however, the domestic consumption of coal declined, exports decreased, and imports of Fushun coal from Manchuria menaced the home product. With a view to adjusting the demand and supply, and also to check the downward movement of prices, coal owners found it necessary to strengthen the control machinery further, and with this object established the Showa C Company, Ltd.

The function of that company was to control sales by co-oper with the Federation of Coal Mine Owners' Associations in deter ing the sales volume to be allotted to members and generall

gulating sales agreements. The Company commenced business in January, 1933, just when the industry began to revive. This upward movement in business facilitated control arrangements, and coal prices advanced steadily without big fluctuations.

Colliery enterprises, which were in a difficult situation during the depression period from 1929–1932, recovered rapidly from the second half of 1932.

Exports and Imports. Japan was formerly a coal-exporting country, but that position was reversed in 1923. In 1929, there was an adverse balance of 1,430,000 tons, imports amounting to 3,820,000 tons as against 2,390,000 tons exported. The situation was further aggravated in 1935 when imports reached 4,670,000 tons, compared with exports of 1,200,000 tons.

The decline in exports to China and Hong Kong has been particularly marked, while large shipments from Manchoukuo and French Indo-China (anthracite) account for the advance in imports. Imports from Manchoukuo are largely Fushun coal, which amounted to more than 3 million tons in 1934. Imports of Kaiping coal, chiefly for coking, amounted in 1934 to more than 500,000 tons. Japan obtains anthracite from the Hongay mine in French Indo-China, and with the pronounced increase in domestic demand, there has been a corresponding increase in imports.

TABLE 149

EXPORTS AND IMPORTS OF COAL

(in 1,000 metric tons)

	Exports				Imports			
	Japan proper	Chosen	Taiwan	Total	Japan proper	Chosen	Taiwan	Total
1913	3,871	2	22	3,895	577	227	39	843
1929	2,044	1	346	2,390	3,254	550	10	3,820
1930	2,131	—	348	2,479	2,693	529	27	3,248
1931	1,540	—	314	1,855	2,693	399	48	3,139
1932	1,388	1	174	1,563	2,716	394	59	3,169
1933	1,560	6	190	1,756	3,496	503	29	4,028
1934	1,087	19	162	1,268	4,060	636	9	4,706
1935	1,019	31	147	1,197	4,049	619	6	4,674

TABLE 150

EXPORTS AND IMPORTS OF COAL—JAPAN PROPER

(in 1,000 long tons)

	1932	1933	1934	1935
Exports				
China	453	547	252	147
Hong Kong	425	548	374	417
Straits Settlements	212	219	234	213
Philippines	154	161	147	186
Total (incl. other markets)	1,366	1,536	1,070	1,003
Value (1,000 yen)	*13,451*	*14,158*	*10,376*	*9,721*
Imports				
Manchoukuo	638	2,403	2,711	2,649
Kwantung L. T.	1,308	40	2	2
China	263	360	543	550
French Indo-China	348	463	541	737
Asiatic Russia	114	172	198	46
Total (incl. other sources)	2,673	3,441	3,997	3,985
Value (1,000 yen)	*27,358*	*36,657*	*47,193*	*48,970*

4. PETROLEUM

Petroleum consumption in Japan has made a continuous increase in the past few decades, advancing from 12 million cases in 1913, immediately before the outbreak of the World War, to 78 million cases in 1934, including consumption in Chosen and Taiwan.

The advance in gasoline and heavy oil has been particularly large on account of the extraordinary growth of motor car traffic and the increased use for Diesel engines and other industrial purposes. The increase in lubricating oil and light oil reflects the growing industrial activity and the spread of light oil engines in agriculture and fisheries.

During the World War, the annual domestic production of crude oil reached 4,700,000 hectolitres, but there has since been a gradual decline. This decline, in conjunction with the vastly greater requirements, has reduced the rate of supply of petroleum products manufactured from domestic crude oil to total demand from 34% in 1923 to about 8% in recent years.

In view of the divergent development of domestic production and consumption, petroleum imports have annually increased. In 1923

TABLE 151

PETROLEUM SUPPLY IN THE JAPANESE EMPIRE

(in 1,000 cases ; 1 case=36 litres)

	1923	1929	1930	1931	1932	1933	1934
Gasoline . .	2,157	13,594	15,938	19,443	23,424	24,896	30,136
Kerosene . .	5,155	5,813	4,574	3,945	5,230	4,052	4,877
Light oil . .	3,787	6,811	6,224	5,498	5,982	5,825	5,295
Lubricating oil	3,668	5,012	4,968	5,205	5,256	5,458	6,408
Heavy oil . .	3,469	13,217	15,526	19,913	25,340	26,539	31,777
Japan proper .	16,728	39,488	42,846	49,159	59,084	60,380	70,489
Chosen . . .	1,508	3,335	2,691	3,219	4,360	4,221	5,766
Taiwan . .		1,629	1,693	1,626	1,789	2,169	2,143
Total supply .	18,236	44,452	47,230	54,004	65,232	66,770	78,493

Figures do not include Government imports.

the total petroleum products imported and manufactured from imported crude oil was 11,700,000 cases. By 1933 the total had increased to 62,200,000 cases, and in 1934 to 73,120,000 cases.

From the economic and national viewpoint, the import of manufactured products is being replaced by shipments of crude oil, which is refined in Japan. There has been an annual increase in the import

TABLE 152

DEMAND AND SUPPLY OF PETROLEUM PRODUCTS

(in 1,000 cases)

	Total supply	Home production of petroleum products				Import	Export
		Output from domestic crude oil	Ratio to total supply	Total refinery output	Ratio to total supply (%)		
1923	18,236	6,234	34·2	9,440	51·8	8,872	76
1929	44,452	7,519	16·9	18,790	42·3	25,781	119
1930	47,230	7,235	15·3	19,441	41·2	28,119	330
1931	54,004	8,625	16·0	21,433	39·7	32,812	240
1932	65,232	6,499	10·0	25,359	38·9	40,566	713
1933	66,770	5,318	8·0	27,535	41·2	39,957	722
1934	78,493	6,596	8·4	33,831	43·1	45,887	1,225

Figures do not include Government imports.

of crude oil. With domestic demand steadily advancing, imports of petroleum products have failed to record any decline. The import trade of petroleum products is mostly in the hands of the Standard and the Royal Dutch, whose position in the Japanese market is very

powerful. Such a situation, combined with the decreasing domestic supply of crude oil, constitutes a serious factor in the problem of ensuring an adequate supply of petroleum products.

Production. Japan's petroleum industry, in its modern form, dates back to about 1880. At first, production increased due to technical progress in mining and increased capital investment, but there has been a gradual decline since 1916 in spite of the discovery of a number of new fields.

TABLE 153

CRUDE OIL PRODUCTION

	Japan proper (1,000 hl.)	Taiwan (1,000 hl.)	Total		Natural Gas	Grand total
			Volume (1,000 hl.)	Value (1,000 yen)	Value (1,000 yen)	Value (1,000 yen.)
1913	3,055	29	3,084	12,613	—	12,613
1918	3,865	15	3,880	30,564	1,438	32,002
1923	2,844	25	2,869	18,230	841	19,071
1928	2,923	168	3,091	13,676	959	14,635
1929	3,113	103	3,216	14,142	1,175	15,317
1930	3,166	89	3,254	14,653	1,749	16,402
1931	3,058	68	3,126	8,621	3,244	11,865
1932	2,535	52	2,587	7,755	2,152	9,908
1933	2,257	58	2,315	9,384	1,800	11,184
1934	2,839	56	2,895	9,739	1,757	11,496

Based on returns of the Ministry of Commerce and Industry.

Japanese fields are mostly situated along the north-western coast of the mainland, particularly in Niigata and Akita prefectures. These two prefectures account for approximately 90% of the total production of crude oil in Japan.

In contrast to the downward trend in crude oil production, refining has shown much development, due to an increased demand for petroleum products and protective measures adopted by the Government. Formerly, the demand for petroleum products was almost entirely confined to kerosene, and refining was done on a small scale. With the growing demand, refining is now carried on by a number of large modern plants.

Exports and Imports. As has been stated elsewhere, Japan is highly dependent on foreign countries for the supply of petroleum. In 1934, imports of crude oil and finished products totalled about 28,720,000 hectolitres.

TABLE 154

PETROLEUM REFINING IN JAPAN

(In 1,000 cases)

	1923	1929	1931	1932	1933	1934
Gasoline refined from:						
Domestic crude oil	671	1,981	2,676	1,953	1,443	1,636
Foreign crude oil	100	3,708	5,679	8,608	9,838	12,291
Total	771	5,689	8,355	10,561	11,281	13,927
Kerosene refined from:						
Domestic crude oil	686	666	702	706	594	546
Foreign crude oil	71	1,050	1,004	1,802	1,618	1,614
Total	757	1,716	2,706	2,508	2,212	2,160
Light oil refined from:						
Domestic crude oil	2,730	2,997	2,489	1,974	1,518	1,791
Foreign crude oil	1,061	3,814	3,033	3,973	4,221	3,511
Total	3,791	6,811	5,522	5,947	5,739	5,302
Lubricating oil refined from:						
Domestic crude oil	1,428	1,374	1,455	1,340	1,176	1,604
Foreign crude oil	859	2,401	2,821	3,273	4,154	4,542
Total	2,287	3,775	4,276	4,613	5,330	6,146
Heavy oil refined from:						
Domestic crude oil	719	501	1,303	526	587	1,019
Foreign crude oil	1,115	298	271	1,224	2,386	5,277
Total	1,835	799	1,574	1,750	2,973	6,296
Grand total	9,440	18,790	21,433	25,379	27,535	33,831
Refined from:						
Domestic crude oil	6,234	7,519	8,625	6,499	5,318	6,596
Foreign crude oil	3,206	11,271	12,808	18,880	22,217	27,235

According to investigations by the Nippon Petroleum Company.

As shown in the following table, imports of crude oil for refining have shown a sharp increase in recent years.

There has also been an increase in the import of finished products, due to an enormous advance in the consumption of petrol and fuel oil with which the increasing domestic refining facilities have as yet been unable to cope. The most important suppliers of finished petroleum products are the Netherlands East Indies, the United States and the Soviet Union.

TABLE 155

IMPORTS OF CRUDE OIL BY JAPANESE REFINERIES

(in 1,000 hectolitres)

1926	3,262	1929	4,905	1932	8,132
1927	3,952	1930	5,410	1933	10,253
1928	4,747	1931	5,777	1934	12,203

TABLE 156

EXPORTS AND IMPORTS OF PETROLEUM PRODUCTS

(in 1,000 cases)

	1923	1929	1931	1932	1933	1934
Exports						
Gasoline . . .	—	4	1	2	—	18
Kerosene . . .	—	37	117	351	162	211
Light oil . . .	4	—	31	26	19	144
Lubricating oil . .	72	76	92	334	541	850
Heavy oil . . .	—	2	—	—	—	2
Total . . .	76	119	240	713	722	1,225
Imports						
Gasoline . . .	1,387	7,909	11,089	12,865	13,615	16,227
Kerosene . . .	4,398	4,139	2,356	3,073	2,002	2,928
Light oil . . .	—	—	—	61	105	137
Lubricating oil . .	1,453	1,313	1,021	977	669	1,112
Heavy oil . . .	1,634	12,420	18,239	23,590	23,566	25,483
Total . . .	8,872	25,781	32,812	40,566	39,957	45,887

Not including Government imports.

Japanese exports of petroleum products are still unimportant, although those of kerosene and lubricating oil have been slightly increasing in recent years. Manchoukuo is the principal destination.

Development and Business Results. Petroleum enterprise, in the early days of the industry, was on a small scale, but later, stimulated by the establishment of a foreign company (the International Petroleum Company controlled by the Standard Oil Co.), the Japanese undertakings were merged into two companies, the Nippon Petroleum Company and the Hoden Petroleum Company. In 1906, the Nippon Petroleum Company took over all the assets of the International Petroleum Company, thus eliminating foreign capital from the petroleum industry of the country. In 1922, the two Japanese companies

were amalgamated, leaving the Nippon Petroleum Company as the leading producer.

In addition to the Nippon Petroleum Company, there exist a few other enterprises engaged in oil production, but the position of the Nippon Petroleum Company is unrivalled. The Japanese concessions in Northern Karafuto are worked by the Kita Karafuto Petroleum Company.

At present, some of these producers operate as refiners of both domestic and imported crude oil. The refining of foreign crude oil is also undertaken by a number of companies, large and small, the most important being the Mitsubishi Petroleum Company.

The position of the two British and American petroleum concerns, represented by the Rising Sun Petroleum Company and the Standard-Vacuum Oil Company as importers of finished products, is very strong. Among other importers of foreign petroleum products the Matsukata interests, which import Soviet gasoline, are important.

TABLE 157

PETROLEUM PRICES

(Annual averages)

	Crude oil (yen per hl.)	Gasoline (yen per case)	Kerosene (yen per case)	Light oil (yen per case)	Lubricating oil (yen per case)
1929	5·289	4·933	4·658	2·833	3·717
1930	4·740	4·583	4·267	2·542	3·258
1931	3·148	4·470	3·990	2·160	2·870
1932	3·455	4·300	4·200	2·700	3·400
1933	4·749	4·700	5·000	3·100	4·200
1934	3·880	4·225	4·383	2·850	3·442

According to the returns of the Ministry of Commerce and Industry.

The petroleum industry could not escape the adverse effects of the economic depression. Declining prices, excessive supplies, and sharp competition had an unfavourable influence upon business results in 1931 and 1932. Although the cost price advanced on account of falling exchange rates, a 35% increase in customs duties, and the rise in international oil prices, the domestic market was slow to respond owing to keen competition, and the import of cheap Soviet products even led to a renewed price decline in 1933. In 1934, the Petroleum Industry Law was promulgated, and affected business results unfavourably.

Producers and importers have made great efforts to improve their position and the conclusion of a sales agreement for gasoline among six

companies is of interest as showing the recent tendency towards the formation of cartels in the petroleum industry. The cartel, which was later subjected to the Major Industries Control Law, proved helpful in bringing order to the disturbed petrol market. The cartel was dissolved with the institution of the Petroleum Industry Law, but other attempts at centralized control have since been made.

Government Petroleum Policy. In view of the vital importance of petroleum supply from the viewpoint of national defence, the Japanese Government have always endeavoured to increase domestic oil supply, although actual intervention in the petroleum industry has but recently emerged.

The concern of the Japanese Government in regard to oil supply was deepened in 1931, when diplomatic relations were strained as a result of the Manchurian incident. In 1933, the Government appointed a joint committee for the study of a national oil policy composed of representatives of the Ministries of Navy, Army, Finance, Commerce and Industry, Foreign Affairs, and Colonial and Overseas Affairs. In March, 1934, the Government promulgated the Petroleum Industry Law. The Law was to enforce a license system enabling the Government to exercise control over refining and imports of petroleum. Refiners and importers were required to maintain a stock of not less than half of the yearly imports, with a view to securing a smooth supply both in times of peace and in an emergency. The resentment of the foreign oil companies was heightened when the Government of Manchoukuo instituted a State monopoly of petroleum products in Manchurian territory. Complaints by the foreign petroleum interests have so far proved unavailing, but it is too early to assume that the legislation has definitely solved Japan's pressing problem of petroleum supplies.

CHAPTER XIV

ELECTRIC POWER INDUSTRY

1. General Survey

The inception of the electric power industry in Japan dates back to 1887, some years later than in Great Britain and the United States. As the country has abundant supplies of water power, progress has been very rapid. At the end of 1933, there were 818 electric power enterprises with total fixed assets of 5,200 million yen, an aggregate generating capacity exceeding 5,080,000 kw., and a working staff of about 170,000. In spite of the late growth of the industry, the utilization of electric power is very extensive, and power generation constitutes one of the basic economic developments of the country.

The electric power generated during 1933 gave Japan the third position in the world with 19,500 million kw.h., next to the United States (85,400 million kw.h.) and Germany (25,500 million kw.h.)

A feature of the electric power industry in Japan is the predominance of water power as a source of production. In the volume of electricity produced by water power, Japan is only surpassed by the United States, Canada and Italy.

The widespread use of electric power will be evident from the fact that 91% of residential and industrial buildings are lighted by electricity. Industrial utilization is also extensive, about 90% of the prime movers in the manufacturing and mining industries being operated by electric power.

The Tokyo Dento (Tokyo Electric Light Company) was the first to undertake the supply of current for lighting purposes in Tokyo in November, 1887. By the end of 1892, there were 11 electric power enterprises with a total capital of ¥2,500,000. Power generation at this early stage was by steam plants, the generation by water power commencing five years later, in 1892, when the City of Kyoto constructed a hydro-electric plant in connection with the drainage of Lake Biwa. Encouraged by the good results from this first hydro-

plant, similar installations were constructed in various parts of the country in rapid succession. The advance of electric enterprise in those days was greatly accelerated by the boom following the Sino-Japanese War, and the number of electric power companies at the end of 1897 totalled 39, while houses supplied with electric current already approximated 30,000.

A sharp rise in the price of coal during the prosperous years following the Sino-Japanese War caused attention to be focussed on hydro-electric power generation. The technical progress achieved in current transmission led to the construction in 1899 of a hydro-electric power plant by the Koriyama Silk Spinning Company, by utilizing the water of Lake Inawashiro.

A further step in the development of generation by water power was made in 1907, when the Tokyo Electric Light Company completed a long-distance transmission line from its plant at Katsuragawa to Tokyo, a distance of about 50 miles, under a pressure of 50,000 volts, and again in 1914, when the Inawashiro Hydro-Electric Power Company commenced the transmission of current to Tokyo, over a distance of 150 miles, at a voltage of 110,000.

Water power generation in those days had already overtaken the output of steam power. Steam and hydro-electric power generation were at that time managed independently, and not as at present when steam power is employed by large companies as seasonal auxiliary power.

The period immediately before the World War also witnessed an advance of power consumption for industrial purposes. The great economic activity during the later period of the World War occasioned an abnormal rise in the demand for electric power, but the existing plants were inadequate to meet the requirements. This situation not only led to an increase in the generating capacity of the existing plants, but the Government encouraged an expansion programme of private companies by the exploitation of other water power resources. The development resulting from this activity was both extensive and profitable, the rate of profit of power companies during that period ranging from 12·5 to 17%.

Many of the big expansion programmes projected in that period, however, were not completed until the reactionary depression had set in, and the resultant large surplus of power occasioned a decline in profits and keen competition. The larger companies gradually absorbed the smaller concerns, which led to the consolidation of the five big electric power companies now operating.

During the economic depression in the early thirties, the electric

power industry passed through the worst period in its history. This period also witnessed the inception of centralized control which had long been under consideration. This control is now based on legislation which came into force in December, 1932. Under this legislation, control of the industry is invested in the competent Minister, and a monopoly of the consuming areas is assured to the various power undertakings. In the same year, the Electric Power Association was organized by the big five power concerns and leading financiers, with a view to eliminating useless competition among members, the fixing of electric rates and the regulation of power transmission. These developments have done much to bring the industry back to a healthy condition, and this situation has still been improved by the sharp rise in recent years of power consumption due to the activity of the armament industries and the export trade. The conversion of high-interest debentures to a lower rate has also strengthened the financial foundation of electric power enterprises.

2. Power Generation

Water Power. Many high mountain ranges and an ample rain supply serve to form rivers with sufficient water and ideal heads, furnishing sources for the generation of electric power. According to statistics of the Ministry of Communications, the water power reserves in Japan amounted to 14,500,000 H. P. at normal flow. Of this, about 5,400,000 H.P. or 37%, is now being developed.

An unfavourable factor is that the rainfall is concentrated in the summer months, the winter season being comparatively dry; consequently, the water available for hydro-electric power generation is subjected to sharp seasonal fluctuations. Rainfall is heaviest during June and July, and there is also much rain in September. Thus the heaviest precipitation, about 70%, occurs from the beginning of May to the end of September, while the demand for electric power is generally lowest in June and greatest in December. As the period of greatest demand unfortunately coincides with the lowest rainfall, electric power companies are forced to supplement their water power capacity with steam-generated power during the dry season.

Steam and Oil Power. The amount of coal used for the generation of electric power was about 5% of the total domestic coal output in 1933.

Steam power was predominant in the early days of the electric power industry, but since 1907, the water power resources of the

country have been greatly developed, hydro-electric plants at the end of 1933 accounting for 85% of total power generating plants.

TABLE 158

ANNUAL FUEL CONSUMPTION IN POWER PLANT

(1933)

	Coal	Petroleum	Other fuel	Total
Quantity (in 1,000 metric tons) .	1,624·9	5·1	2·1	
Value (in 1,000 yen) . .	11,330	228	43	12,601

3. POWER PLANTS AND TRANSMISSION

Output in 1903 totalled only 44,000 kw., including that by electric power undertakings and private plants generating for self-consumption. During the World War, the output was greatly augmented, and, in spite of the economic depression a few years ago, advanced to 5,080,000 kw. in 1933, water power accounting for 62% and steam and oil power for 38%.

TABLE 159

POWER PLANTS CLASSIFIED BY MOTIVE POWER AND CAPACITY

	1907	1914	1927	1930	1931	1932	1933
By motive power							
Water	74	305	1,148	1,211	1,202	1,304	1,344
Steam	61	135	128	126	121	119	128
Oil and gas . . .	2	138	90	103	105	113	106
Total . . .	137	578	1,386	1,440	1,428	1,536	1,578
By capacity							
Less than 100 kw. . .	31	222	422	404	406	401	380
Over 100 kw. . .	75	216	365	361	331	346	366
Over 500 kw. . .	15	62	157	169	177	191	196
Over 1,000 kw. . .	13	61	312	349	351	402	421
Over 5,000 kw. . .	3	17	66	77	81	101	111
Over 10,000 kw. . .	—	—	62	74	76	88	96
Over 50,000 kw. . .	—	—	2	6	6	7	8
Total . . .	137	578	1,386	1,440	1,428	1,536	1,578
Average capacity per plant (kw.) . . .	543	960	1,939	2,328	2,418	2,783	2,860

Based on returns of the Ministry of Communications. Figures do not include plants for self-consumption.

TABLE 160

POWER OUTPUT CLASSIFIED BY MOTIVE POWER

(in 1,000 kw.)

	Hydro-electric plants			Thermal power plants			Grand total		
	(A)	(B)	Total	(A)	(B)	Total	(A)	(B)	Total
1903	9	4	13	20	11	31	30	14	44
1907	26	13	39	49	28	76	74	40	115
1914	377	40	417	178	121	299	555	161	716
1927	1,791	319	2,111	995	460	1,356	2,687	779	3,467
1929	2,061	520	2,581	1,127	484	1,611	3,188	1,005	4,193
1930	2,271	526	2,797	1,081	519	1,601	3,353	1,046	4,399
1931	2,368	686	3,056	1,084	514	1,599	3,453	1,203	4,656
1932	3,013	92	3,105	1,261	565	1,827	4,275	657	4,933
1933	3,086	82	3,168	1,426	485	1,912	4,512	567	5,080

Ibid. (A) Output by electric power companies. (B) Output for self-consumption.

As far back as 1903, very few electric power undertakings held controlling interests in electric railways, but such control increased later, and at the end of 1927, the power output by these mixed enterprises already equalled that of the companies devoted solely to power supply. The increased demand for current for industrial motive power in recent years has occasioned an advance in power generated for sale, and at the end of 1933, this was about 2·3 times greater than that produced by the mixed enterprises.

TABLE 161

POWER OUTPUT CLASSIFIED BY ENTERPRISE

(in 1,000 kw.)

	Power enterprises		Mixed enterprises		Railway co.	Total	Self-consumption	Grand total
	Bulk supply	Special supply	Bulk supply and railways	Special supply and railways				
1903	24	—	1	—	5·2	30	15	44
1914	411	—	138	—	5·3	555	161	716
1927	1,377	—	1,307	—	3·4	2,688	779	3,467
1931	2,018	—	1,432	—	3·9	3,453	1,203	4,657
1933	2,626	468	1,346	1·5	71·1	4,513	567	5,080

Ibid.

The development of hydro-electric resources owes much to the progress made in power transmission. At the present time, the

highest voltage transmission in Japan is 154,000. There has also been an extension of power cables, which at the end of 1907 totalled only 19,000 kilometres, but increased to 921,000 kilometres in 1932. The predominance of high-voltage power cables, as shown in the following table, indicates the development of long-distance transmission facilities in Japan.

TABLE 162

LENGTH OF TRANSMISSION LINES

(in 1,000 km.)

	1907	1914	1928	1929	1930	1931	1932
Low voltage	8	46	334	362	361	373	371
High voltage	9	69	401	406	403	412	412
Special high voltage	2	24	126	128	133	137	138
Total	19	139	861	896	897	922	921

Ibid.

4. ELECTRIC POWER CONSUMPTION

Consumption of electric power, according to the latest figures for 1932, was about 4,790,000 kw., of which 980,000 kw. were for lighting purposes and 3,810,000 kw. for motive power.

TABLE 163

POWER CONSUMPTION

(in 1,000 kw.)

	1914	1928	1929	1930	1931	1932
Lighting	159	797	863	888	959	979
Power	323	2,948	3,166	3,533	3,792	3,812
Total	482	3,746	4,029	4,421	4,751	4,791

Ibid.

The volume of electric power actually consumed during 1928 totalled 12,000 million kw.h. The business depression after 1930 caused a great reduction in consumption of motive power, but this situation did not last long, for the industrial recovery, which started in 1932, again occasioned an increase in demand, and during 1933 the consumption amounted to 18,000 million kw.h., or 4,000 million kw.h. (23%) for lighting, and 11,700 million kw.h. (67%) for motive power.

The per capita consumption of electric power also increased from 172 kw.h. in 1927 to 268 kw.h. in 1933.

TABLE 164

CONSUMPTION OF HYDRO-ELECTRIC AND THERMAL ELECTRIC POWER

(in million kw.h.)

	Hydro-electric power	Thermal electric power	Ratio of thermal electric power (%)	Total	Per capita consumption (kw.h.)
1927	9,290	1,221	13·1	10,512	172
1928	10,771	1,187	11·1	11,958	193
1929	11,562	1,780	15·1	13,312	212
1930	12,525	1,509	12·0	14,033	218
1931	12,978	1,318	10·2	14,296	219
1932	14,197	1,533	11·0	15,740	238
1933	15,775	2,248	14·2	18,023	268

Ibid. Not including power for self-consumption.

The electrification of prime movers in the manufacturing and mining industries has been greatly developed in recent years, and electric motors which in 1909 accounted for only 13% of the total power produced, approximated 59% at the end of 1919, and 82% at the end of 1933.

TABLE 165

POWER EQUIPMENT IN FACTORIES BY PRIME MOVERS

(%)

	Electric power	Steam power	Internal combustion power	Water wheels
1909	13·3	70·8	6·3	9·5
1919	59·1	27·4	4·9	8·6
1929(a)	86·7	12·0	0·8	0·4
1933(a)	82·0	15·6	2·0	0·5

According to *Factory Statistics*. (a) Including Government and municipal factories.

A marked increase in power consumption by industries was recorded during 1934. Consumption by the rayon industry augmented by 46%, machines and tools by 28%, mining by 19% and the metal industry by 17%. Of the industries represented in the statistics, that of artificial fertilizer manufacture is the largest consumer of electric power.

TABLE 166

ELECTRIFICATION OF PRIME MOVERS

	Total power equipment (1,000 H.P.)		Percentage of electric motors to total horse power (%)	
	1909	1933	1909	1933
Textiles	127	951	9·8	80·8
Metals	16	898	37·2	77·9
Machines and tools	26	494	33·8	90·4
Ceramic industries	19	364	20·3	72·2
Chemical industries	44	824	9·2	87·7
Timbering and woodworking	17	165	5·9	68·2
Printing and bookbinding	3	36	39·1	98·6
Foods and beverages	24	225	9·0	82·3
Other industries	5	82	4·7	95·9
Total	280	4,019	13·3	82·0

Ibid.

Electric motors are now increasingly employed for irrigation and drainage, and electric heaters in the preparation of tea and cocoons. However, the total power installation in agricultural pursuits was still comparatively small at the end of 1933, totalling about 80,000 kw. for both motors and heaters.

5. MANAGEMENT AND BUSINESS RESULTS

The number of enterprises engaged in electric power production at the end of 1933 was 818, among which 657 were also interested in electric railways as a subsidiary business. This total includes 114 enterprises which were under public management, there being a growing tendency among municipalities in urban and rural districts to participate in this industry.

Electric companies with an individual capital of more than 50 million yen number 18, of which 6 are engaged exclusively in the supply of electric power, whilst the other 12 operate electric railways in addition to the supply of electricity. However, five big companies control all the principal water power resources and the main consuming areas. Most of the smaller concerns are in some way affiliated with these large ones.

A feature of the electric power industry is the enormous amount of capital investment required, of which the greater part is fixed capital. The total capital invested in this industry in Japan at the

TABLE 167

CAPITAL, DEBENTURES AND LOANS OF ELECTRIC POWER COMPANIES

(in million yen)

	Authorized capital	Paid-up capital	Fixed assets	Debentures and loans			
				Debentures	Loans	Total	Ratio to paid-up capital (%)
1907	138	88	80	1	4	6	7
1914	578	460	556	36	63	99	21
1927	3,524	2,677	3,667	888	618	1,506	56
1929	3,985	3,019	4,369	1,444	680	2,130	71
1930	4,099	3,181	4,657	1,491	890	2,381	75
1931	4,143	3,234	4,755	1,556	915	2,472	76
1932	4,175	3,327	4,888	1,525	969	2,494	75
1933	4,512	3,494	5,194	1,640	661	2,301	66

Based on *Statistical Annual of Electrical Enterprises* of the Ministry of Communications. Not including companies specializing in the supply of power to other electric companies prior to 1932. Loans for 1933 include only long-term loans.

end of 1933 exceeded 6,000 million yen, of which 3,500 million yen was paid-up share capital, 2,300 million yen debentures and bank loans, and 200 million yen reserves. The principal reason for this large fixed capital is the big expenditure necessary for constructing generating plants and transmission lines.

TABLE 168

CAPITAL, POWER GENERATING CAPACITY AND POWER SUPPLY OF THE BIG FIVE ELECTRIC COMPANIES

(1934)

	Capital (1,000 yen) (*a*)		Capacity (1,000 kw)			Power supply	
	Authorized	Paid-up	Hydro-electric	Thermal electric	Purchased power	Electric lamps (1,000)	Electric motors
Tokyo Electric Light Co.	429,562	429,562	469	136	463	11,108·0	962,000kw.
Daido Electric Power Co.	186,000	140,972	101	177	209	9·8	364,000kw.
Toho Electric Power Co.	200,000	147,500	83	118	203	3,094·0	349,000H.P.
Nihon Electric Power Co.	140,000	140,000	143	204	220	285·0	338,000kw.
Ujigawa Electric Co.	92,500	92,500	97	100	158	415·0	625,000H.P.

(*a*) In June, 1935.

The current assets of electric companies amounts to about 700 million yen, a large part of which is invested in securities. There has been a tendency in recent years for power undertakings to establish holding companies, by making their security department independent, following the practice of some large corporations in the United States.

The revenue of electric power undertakings continued to register an increase until 1930, but declined in 1931 and 1932 owing to the industrial depression. In 1933, however, a marked recovery was achieved which has since continued. Expenditure has also increased despite the industrial depression, and in 1933 amounted to 738 million yen, chiefly due to appropriations for the depreciation of fixed assets and the amortization of foreign debentures.

TABLE 169

REVENUE, EXPENDITURE AND PROFIT

(in million yen)

	Revenue				Expenditure	Profit	Profit rate to paid-up capital (%)	Dividend rate (%)
	Lighting	Motive power	Subsidiary activities	Total (a)				
1908	10	1·3	0·4	22	12	10	9·2	7·5
1922	149	123	22	439	251	188	12·5	7·6
1929	266	311	28	885	583	302	10·0	8·4
1930	275	308	37	897	641	256	8·0	7·2
1931	274	304	35	877	650	227	7·0	6·2
1932	276	311	34	860	664	196	5·9	5·3
1933	277	362	37	921	738	183	5·2	3·2

Ibid. (a) Including receipts from other sources.

PART FOUR

PRINCIPAL MANUFACTURING INDUSTRIES

CHAPTER XV

THE TEXTILE INDUSTRY—GENERAL

1 General Outline

In spite of the rapid progress of the heavy and chemical industries, the important position occupied by the textile industry in the national economy has not yet been shaken. This industry, including rayon, still accounted for 30·8% of the number of factories, 49·4% of operatives and 36·8% of the total value of production by Japanese industry in 1933.

From the viewpoint of trade, the importance of the textile industry is even more pronounced. The share of textiles in the total export of semi-manufactures and finished manufactures, though decreasing, still showed the high level of 70·1% and 64·5% respectively in 1935.

TABLE 170

Relative Importance of Textile Industry in Japanese Industry and Foreign Trade

	1929	1931	1933	1934	1935
Number of factories	19,719 *32·9%*	20,977 *32·5%*	21,192 *30·8%*	...	...
Number of workers (1,000)	1,013 *55·5%*	917 *55·3%*	939 *49·4%*	...	...
Production (million yen)	3,382 *41·5%*	2,096 *37·2%*	3,049 *36·8%*	...	...
Exports (million yen)					
Semi-manufactures	825 *93·9%*	373 *88·1%*	428 *72·7%*	355 *71·1%*	472 *70·1%*
Finished manufactures	659 *70·2%*	342 *64·2%*	676 *65·6%*	882 *65·5%*	936 *64·5%*
Imports (million yen)					
Raw materials	715 *58·4%*	405 *59·1%*	813 *68·8%*	976 *69·8%*	978 *64·8%*

Figures in small letters (italic) show percentages to total industry or to the total value of the respective categories of exports and imports.

About 64·8% of the imports of raw materials in the same year were destined for the textile industry.

The largest number of factories is devoted to cotton and silk weaving, where production is generally conducted on a small scale. Cotton spinning and rayon yarn manufacturing are carried on in a few factories on a very large scale.

In the number of operatives, silk reeling figured largest, and, in spite of a decrease from 1931 to 1933, still accounts for 33·2% of the total number of operatives engaged in the textile industry. The relative percentages in 1933 for cotton yarn spinning and cotton weaving were 12% and 17%. No other branch of the textile industries exceeds 100,000 operatives. Amongst these, the greatest number, about 70,000 were employed in silk weaving. It is noteworthy that employment in rayon manufacture shows the greatest increase during the past several years.

Female labour is a special feature of the textile industry, representing 80·2% in 1933. In silk reeling this percentage increases to a maximum of 92·5%. The smallest number of female operatives, only 16%, is found in the finishing industries.

From the viewpoint of production, cotton spinning is the most important, occupying 24·1% of the total production of the textile industry. Next follow cotton weaving (18.8%), and silk reeling (16·9%). The production value of each of these industries exceeds 500 million yen. There has been a great decline in production value of silk reeling which contrasts with the striking advance in rayon and woollen and worsted manufactures.

The qualitative development of the textile industry is evidenced by the expansion of knitted goods manufacturing and other finishing industries.

The export of textile products consists almost entirely of semi-manufactured and finished goods. In 1935, these constituted about 98·6% of the total export of textile goods. Raw silk occupies a dominating position in semi-manufactures, which show a declining trend in recent years, whilst finished goods are gradually increasing, the gain being especially pronounced in rayon tissues, woollen and worsted tissues and cotton piece goods.

The export excess in semi-manufactured and finished goods is to a great extent counterbalanced by an import excess in raw materials, but still leaves a credit balance of 250–260 million yen.

TABLE 171

Total Production of Textiles

	Number of mills			Number of operatives (1,000)				Production (million yen)		
	1929	1931	1933	1929	1931	1933	(Female)	1929	1931	1933
Silk reeling	4,020	3,874	3,365	416·7	385·1	311·2	*288·2*	864·4	429·5	510·2
Rayon yarn	11	12	14	15·3	18·1	31·0	*16·2*	45·8	51·0	103·0
Spinning	375	400	471	239·1	181·5	193·2	*161·9*	1,053·7	571·1	981·9
Cotton yarn	248	281	344	179·6	127·5	140·3	*120·2*	822·0	394·7	728·0
Silk yarn	43	43	39	34·1	26·9	23·0	*19·2*	97·3	64·0	69·5
Flax yarn	47	37	34	9·1	6·1	7·7	*5·5*	28·5	14·6	18·1
Woollen and worsted yarns	37	39	54	16·3	21·1	22·3	*17·0*	105·8	97·7	166·3
Twisted yarn	798	1,034	1,191	18·5	13·5	16·3	*12·5*	67·6	26·0	34·5
Weaving	10,434	11,052	11,975	250·8	244·6	291·7	*240·4*	961·8	686·5	1,075·5
Cotton weaving	4,629	4,418	4,801	126·5	110·5	129·9	*108·5*	485·4	343·5	569·7
Silk weaving	3,594	3,773	3,630	67·0	69·9	71·2	*58·5*	248·5	169·2	208·6
Combined silk and cotton weaving	537	339	316	7·1	4·6	4·3	*3·7*	14·7	6·9	6·6
Flax weaving	109	107	97	3·3	3·9	5·3	*4·0*	9·2	10·2	15·4
Wool weaving	577	725	716	32·8	30·1	37·7	*29·9*	171·7	110·8	177·1
Rayon weaving	944	1,647	2,381	13·6	25·1	42·3	*35·3*	31·5	45·3	97·3
Knitted goods	1,153	1,277	1,409	17·7	17·6	20·9	*13·1*	57·5	47·9	62·9
Flax braid, etc.	860	956	1,085	13·1	15·0	17·6	*11·9*	40·5	39·1	50·5
Dyeing and finishing	2,066	2,372	2,684	41·9	41·5	56·7	*9·0*	165·4	126·7	198·8
Total	19,717	20,977	22,194	1,013·0	916·9	938·6	*753·2*	3,256·6	1,977·9	3,017·2

Taken from *Factory Statistics*.

TABLE 172

EXPORTS AND IMPORTS OF TEXTILE GOODS

(In 1,000 yen)

	1929	1931	1933	1934	1935
Exports					
Raw materials and waste	18,832	8,025	12,852	20,034	20,378
Raw materials	3,901	1,473	2,391	4,695	10,189
Raw cotton	120	75	156	202	239
Cocoons	279	192	98	16	218
Rayon pulp	—	—	—	—	—
Wool	—	—	—	—	—
Hemp, flax, etc.	388	675	272	376	849
Other fibres	3,114	531	1,865	4,101	8,883
Waste products	14,931	6,552	10,461	15,339	25,967
Semi-manufactures	825,410	372,526	428,061	355,135	471,515
Cotton yarn	26,756	8,511	15,712	23,485	35,873
Raw silk	794,803	358,106	394,252	293,471	396,745
Rayon yarn	184	2,245	9,483	22,400	22,853
Woollen and worsted yarns	803	861	5,293	12,185	9,688
Hemp and flax products, etc.	1,503	2,004	2,049	1,838	3,830
Others	1,361	799	1,272	1,756	2,526
Finished Manufactures	658,521	342,116	676,184	881,872	935,858
Tissues	571,802	286,148	547,809	729,415	756,157
Cotton	412,707	198,732	383,215	492,351	496,097
Silk	149,955	43,053	63,545	77,488	77,444
Rayon		39,713	77,382	113,484	128,260
Wool	4,153	1,396	12,377	29,849	32,401
Hemp, flax, etc.	836	727	349	1,072	941
Other tissues	4,151	2,528	10,941	15,171	21,014
Other manufactures	29,437	17,875	39,630	51,407	63,806
Clothing	57,283	38,094	88,745	101,050	115,895
Grand total	1,502,763	722,667	1,117,097	1,257,041	1,427,751
Imports					
Raw materials and waste	715,149	405,122	812,860	976,041	977,644
Raw materials	711,339	400,467	805,302	970,530	969,694
Raw cotton	573,016	296,273	604,847	731,425	714,262
Cocoons	1,757	988	179	52	611
Rayon pulp	5,059	2,996	11,321	23,923	33,930
Wool	102,106	86,522	165,818	187,668	193,097
Hemp, flax, etc.	26,048	11,945	19,761	24,309	24,668
Other fibres	3,353	1,754	3,376	3,153	3,126
Waste products	3,811	4,645	7,557	5,511	7,950

TABLE 172—*Continued*

	1929	1931	1933	1934	1935
Semi-manufactures	24,896	32,095	20,540	17,039	9,192
Cotton yarn	2,692	16,098	14,917	13,588	5,506
Raw silk	1,840	1,892	1,088	713	1,013
Rayon yarn	855	1,006	638	123	86
Woollen and worsted yarns	18,737	12,429	3,021	1,708	1,931
Hemp and flax products, etc.	772	669	877	907	656
Others					
Finished Manufactures	37,314	18,416	15,405	11,334	14,837
Tissues	32,691	15,918	11,858	7,815	9,806
Cotton	8,575	4,376	2,954	952	1,159
Silk	104	88	49	63	85
Rayon	—	—	—	—	—
Wool	19,941	9,994	7,213	5,199	6,753
Hemp, flax, etc.	985	390	656	523	818
Other tissues	3,086	1,070	986	1,078	991
Other manufactures	2,455	1,623	2,847	2,838	4,215
Clothing	2,168	875	700	681	816
Grand total	777,359	455,633	848,805	1,004,414	1,001,673

CHAPTER XVI

THE COTTON INDUSTRY

1. General Survey

The rapid progress made by Japan in foreign trade has attracted much attention throughout the world, and, considering that 24% of Japanese exports are covered by cotton goods, the important position occupied by the cotton industry will be clear. Japan is now the second largest consumer of raw cotton in the world, coming next to the United States, and Japanese exports of piece goods constitute a very large part of the total world export trade of cotton textiles.

Cotton spinning in Japan was started in 1863 by Prince H. Shimazu at Kagoshima, who, with the assistance of an English engineer, set up machinery with 3,600 spindles. This was about 100 years later than the origin of the industry in England. Since then, the industry has developed in spite of the occasional curtailment of production, passing through the boom periods of the Sino-Japanese and Russo-Japanese wars. During the European War, Japanese industry took advantage of the competitive inability of the principal manufacturing countries to obtain the practical control of Asiatic markets. The world-wide business depression after the Great War affected the industry adversely, but an increase of spindles became necessary owing to the abolition of midnight operation. The unfavourable situation made rationalization measures imperative, which resulted in an improvement of factory equipment, and lower operating costs as well as a better quality of output. The reimposition of the gold embargo late in 1931 found the cotton industry ready to take advantage of the cheap exchange rate of the yen, and a marked development of well-nigh revolutionary extent resulted in after years. A distinguishing feature of this late progress is that it has not, as in earlier periods, been stimulated by external causes such as wars, but has proceeded from the efforts of the industry itself, assisted, no doubt, by the shrinking value of Japanese currency.

TABLE 173

FACTORY EQUIPMENT AND CONSUMPTION OF RAW COTTON

	Number of spindles (1,000)	Number of looms	Consumption of raw cotton (1,000 *kwan*)
1925	5,447	73,381	136,065
1929	6,837	77,898	157,682
1930	7,214	79,466	141,650
1931	7,535	77,782	145,337
1932	7,965	79,277	156,373
1933	8,644	86,343	171,652
1934	9,531	91,146	193,219
1935	10,649	95,982	200,321

Based on returns of the Japan Cotton Spinners' Association.

The present condition of the Japanese cotton industry will be made clearer by a comparison with that of other countries.

The consumption of raw cotton is a better criterion of the position of national industries than the mere existence of equipment, which is often obsolete. The United States consumed about 22·9% of world cotton requirements, followed by Japan with a consumption of 14·8%. This great consumption is partly due to longer working hours, based upon double shifts, and partly to the production of thicker yarn, but to a great extent also to the excellent mechanical equipment of the Japanese cotton industry, which compares very favourably with the often inefficient machinery still in use in European countries.

TABLE 174

INTERNATIONAL POSITION OF THE JAPANESE COTTON INDUSTRY

(Jan. 31, 1936)

	Ring-spindless (1,000)	Mule-spindles (1,000)	Total (1,000)	Consumption of raw cotton (1,000 bales)	Looms (*a*)
Great Britan . .	11,045	31,262	42,307	2,604	560,153
U. S. A.	28,640	400	29,040	5,661	608,815
France	7,588	2,428	10,016	1,109	198,200
Germany . . .	6,846	3,263	10,109	...	225,000
U. S. S. R. . . .	7,613	2,187	9,800	2,155	259,000
British India . .	9,090	596	9,686	2,921	189,040
Japan	10,560	35	10,595	3,649	86,343
China	4,952	0	4,952	2,358	42,596
Total (incl. other countries) .	108,025	45,021	153,046	24,715	2,991,177

Based on returns of the International Federation of Master Cotton Spinners' and Manufacturers' Associations. (*a*) Based on *Textile Recorder Year-Book.*

2. Sources of Raw Cotton

No cotton is grown in Japan except in small quantities in Chosen, and raw cotton is imported mainly from the United States, British India, Egypt, China and several other sources. Up to 1926, Indian cotton was imported in far greater volume than American, but, with the progress of rationalization, the consumption of American cotton greatly increased. On account of the poor crop of Indian cotton in 1932, the importation of American cotton nearly doubled, and although there was a decline in later years, American cotton continued to lead. Imports of Chinese cotton reached the peak in 1931, but declined in later years, while the importation of Egyptian cotton continued to advance, reflecting an improvement in the quality of the cotton goods produced.

The augmentation of raw cotton imports during the past five years from 1930 to 1934 was more than 40%, the total quantity in 1934 being 13,554,000 piculs valued at ¥731,424,000. Of the total imports, American cotton accounted for 47·9%, Indian for 42·7%, Egyptian for 4·1%, Chinese for 2·4% and others for 2·9%. These imports constituted respectively 14% of the American, 40% of the British Indian, about 8% of the Egyptian, 4% of the Chinese, and 2% of other countries' production. The aggregate total represented

TABLE 175

Imports of Raw Cotton

(in 1,000 piculs)

	1930	1931	1932	1933	1934	1935
American	3,883·5	5,321·0	9,101·7	7,434·9	6,486·7	5,758·4
Indian	4,725·4	4,808·3	2,739·8	3,977·3	5,792·4	5,211·0
Egyptian	182·6	287·2	330·4	280·5	549·6	536·9
Chinese	702·8	713·2	531·6	569·1	330·6	427·4
Other cotton	78·8	27·2	36·7	227·5	395·5	349·9
Total	9,573·2	11,156·8	12,740·2	12,489·2	13,554·9	12,283·7

nearly 15% of the world raw cotton production. In particular, Japanese imports of American and Indian raw cotton rank first on the list of cotton exported from these countries.

The most noteworthy feature in recent raw cotton importation is the increase from miscellaneous sources which advanced from 27,232 piculs in 1931 to 349,943 piculs in 1935. This development was occasioned by the desirability of correcting the one-sided trade balance with the Near East, Africa, South America, etc.

In view of the impossibility of producing raw cotton in Japan proper, it has been the policy, stimulated by the threat of economic sanctions from the League of Nations at the time of the Manchurian incident, to develop cotton growing in Chosen and Manchoukuo. In Chosen, an area of 500,000 *cho* is to be planted during 20 years, beginning from 1933, and in Manchoukuo, the Association of Manchurian Cotton Growers is planning to produce 130 million *kin* of raw cotton on 300,000 *cho* of land during 20 years. These plans are making steady progress.

However, the combined production in these territories will only reach 300 million *kin* (equivalent to 800,000 bales of 500 lbs. of American cotton) which would be 25% of the present consumption. Production in China is already about 2,500,000 bales annually and could be easily augmented, as raw cotton can be grown practically everywhere in that country. If cultivation methods and the quality of seed in China are improved, Chinese cotton could fully supply future Japanese requirements. This is the reason why the advocates of economic co-operation between China and Japan often stress the importance of agriculture. The Chinese Government pay much attention to the improvement of seed and the training of agricultural instructors for the cotton regions, but in view of the disturbed condition of the country, quick results cannot be expected.

3. Cotton Yarn Spinning

Scale of Enterprise. There are two forms of enterprise in the yarn spinning industry in Japan; joint-stock companies and personal enterprise. However, most undertakings are joint-stock companies which number 70, with an aggregate authorised capital of ¥567,228,000 (paid-up capital ¥438,574,000), and total reserve funds of ¥273,315,000.

It is noteworthy that the number of spindles has been doubled since 1924, although the number of companies and the aggregate capital remained almost unchanged, the reserve funds showing an increase of about 50 million yen. This must be attributed to the expansion having taken the form of absorption of smaller companies, while new equipment was financed out of profits. The latter fact, combined with the great accumulation of reserves, testifies to the financial strength of the companies.

The concentration of production capacity in large companies is evident in the fact that 6,553,000 spindles, or 61·5% of the total in Japan, are owned by ten companies.

The tendency towards large-scale enterprise is shown in the pro-

TABLE 176

NUMBER OF COMPANIES BY PRODUCTION CAPACITY

Spindles / Year	Under 100,000	Over 100,000	Over 200,000	Over 300,000	Over 500,000	Total
1924, Dec. . .	59	2	2	2	3	69
1929, Dec. . .	57	4	3	3	3	70
1934, Dec. . .	48	14	2	4	4	72
1935, Dec. . .	46	17	1	5	5	74

gressive increase of companies owning more than 300,000 spindles. At the same time, factories with less than 100,000 spindles decreased, some of these having presumably advanced their productive equipment to a scale of over 100,000 spindles.

The most eminent characteristics of the Japanese cotton spinning industry are large-scale production and the extension into kindred activities such as weaving, bleaching and dyeing. The equipment is highly efficient and produced at home, which makes for low unit cost of production. Large-scale enterprise has been particularly successful in developing the export trade, and the resultant increase in output led to a saving of overhead charges. The extent to which the industry has grown will be obvious when it is stated that 5 million spindles have been added during the past ten years, an increase of 87%.

Japanese cotton spinning companies generally do their own weaving, for which purpose about 96,000 looms, or 25% of all weaving looms in Japan, have been installed. Such big concerns as the Kanegafuchi, Fuji, Toyo, Dai-Nippon, and Nisshin spinning companies, also have bleaching and dyeing departments. Most of the bleached cotton fabrics exported are manufactured in the factories of these companies. Again, a few companies carry on silk spinning in addition to cotton, for which about 430,000 spindles have been provided. The Kanegafuchi, Fuji, Toyo and Dai-Nippon companies own about 280,000 spindles, or 65% of the total.

The above subsidiary occupations were started long ago, but an additional branch of fruitful activity was provided during the past few years by the success of the rayon industry. The cotton spinning companies were enabled on account of their huge reserve funds to secure a notable share in this new enterprise and thus safeguarded their own supply of rayon yarn. The financial strength of the large cotton spinning companies also induced them to engage in worsted spinning, taking advantage of spindles formerly used for silk spinning.

The number of cotton spinning companies engaging in the rayon

or staple-fibre industry is 14, only 10 of which have as yet placed their production on the market. There are only six companies which engage in woollen and worsted spinning, but others, including the leading spinning companies, are planning to take up this line by adopting a new rational system of management. In view of the present unfavourable market conditions, satisfactory results cannot be expected in the very near future, but eventual success is assured by the sound financial standing and the long spinning experience of the companies.

Some remarks may be made respecting the improvement in equipment and the advanced efficiency of the Japanese cotton spinning industry. Considerable saving has resulted from the improvement of factory buildings, lighting, better methods for air-conditioning, the adoption of individual motor drive, and of a one-process system of blowing machinery, and high-speed winding and warping frames.

Trend of Production. Japanese production of cotton yarn parallels the ascending trend in the consumption of raw cotton, but there is a tendency towards greater output of finer yarn. The greater part of the yarns are 20s and lower, which in 1931, constituted 62·7% of the total output. Since then, though the volume has remained fairly constant, the relative percentage declined on account of the larger production of finer yarns.

TABLE 177

PRODUCTION OF COTTON YARNS

(in 1,000 bales)

	Coarse	20s	Medium	Fine	Total	Yarn for self-consumption	Output of cotton tissues
							(million yds)
1928	721·6	736·8	906·9	86·6	2,451·9	757·5	1,382·0
	29·4%	*30·0%*	*37·0%*	*3·6%*	*100·0%*		
1929	827·4	878·5	985·0	101·8	2,792·6	840·7	1,538·2
1930	780·5	808·6	834·4	101·2	2,524·7	741·5	1,388·4
1931	809·8	803·4	814·4	139·5	2,567·1	753·1	1,404·7
1932	797·2	896·9	957·9	158·4	2,810·4	814·8	1,532·9
1933	877·0	840·0	1,201·2	181·6	3,099·9	905·8	1,673·9
1934	962·1	683·7	1,622·6	204·1	3,472·4	962·4	1,793·8
1935	999·3	1,026·0	1,412·9	122·6	3,560·8	981·6	1,843·5
	28·1%	*28·8%*	*39·7%*	*3·4%*	*100·0%*		

Production Costs. Parallel with the rationalisation and the improvement of equipment, a gauge and standardization system was put in

force. By harmonizing foreign methods of scientific management with the industrial forms peculiar to Japan, the Japanese cotton spinning industry succeeded in realizing the lowest production cost in the world.

A comparison of wages at the end of 1929 and 1934 reveals the fact that the output per spindle increased by 4·2%, although the counts had on an average become finer. Thus, the wage expenditure

TABLE 178

WAGE COSTS AND LABOUR EFFICIENCY

Spinning industry	Male workers		Female workers		Total		
	Number per 10,000 spindles	Daily wages (yen)	Number per 10,000 spindles	Daily wages (yen)	Daily wage expenditure per 10,000 spindles(yen)	Average counts	Daily output per spindle (*momme*)
1929, Dec. .	56·2	1·59	206·0	1·14	323·90	23·0	78·6
1934, Dec. .	23·4	1·36	162·0	0·75	153·05	24·5	81·9
1935, Nov. .	22·5	1·354	160·2	0·731	147·57	25·3	79·5
Weaving Industry	**Per 100 looms**	**Daily wages (yen)**	**Per 100 looms**	**Daily wages (yen)**	**Daily wage expendi. tures per 100 looms(yen)**	**Output in yards per loom (yards)**	
1929, Dec. .	12·5	1·62	50,2	1·27	83·88	66·17	—
1934, Dec. .	6·4	1·38	39·1	0·80	40·30	65·27	—
1935, Nov. .	5·8	1·384	37·5	0·768	36·82	69·87	—

Taken from *Monthly Report of the Japan Cotton Spinners' Association.*

for 10,000 spindles was lowered to 42%, or less than a half. In weaving, too, the cost of wages was lowered to about 40%.

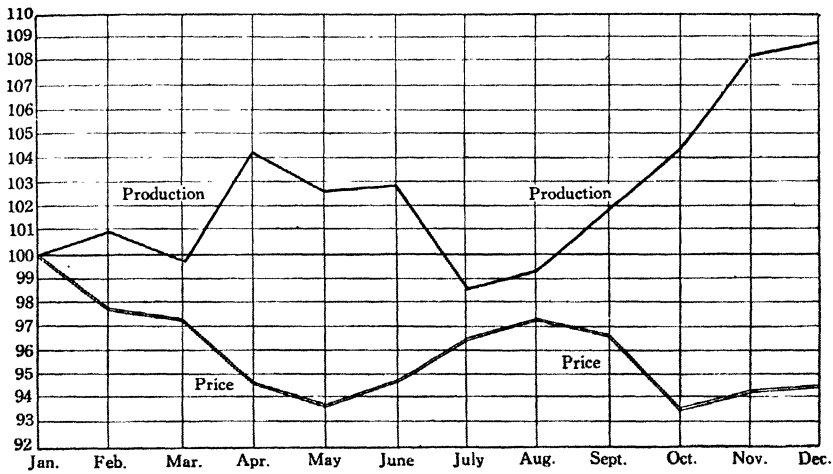
The reduction of production costs was, however, not confined to wages. By cutting down indirect expenses through the expansion of the managing units and the avoidance of waste, by improving machines and equipment, and by decreasing power consumption, cotton spinning costs were lowered by 50% during the past five years.

Japanese cotton spinning costs are presumed to be less than half of European and American costs, calculating the yen exchange rate at par. With low production costs, a perfect business organisation and modern equipment, the industry occupies an unrivalled position in foreign markets.

Cotton yarn production is sharply influenced by seasonal factors, the summer months and the early part of the year (new-year holidays) showing the lowest output.

CHART SHOWING SEASONAL VARIATION IN PRODUCTION AND PRICES OF COTTON YARN

(Average monthly indices since 1926)



4. COTTON WEAVING

Production. According to returns of the Ministry of Commerce and Industry, the cotton textile industry in Japan employed, in 1934, 241,240 broad-cloth looms, 79,995 narrow-cloth looms, and 55,469 hand-looms, totalling 376,704 looms, or 54% of the total number of looms of the whole textile industry. The cotton weaving industry is divided into two main groups, namely, the large-scale spinning factories which also engage in weaving, and the medium and small-scale factories scattered all over the country.

Unlike cotton spinning, the cotton weaving industry is characterized by the small scale of its constituent enterprises. About 90% of the number of factories are equipped with less than 10 looms. It is, however, interesting to note that the production of the small weaving factories has recently been on the decrease, a reduction of more than 50% being recorded when compared with the year 1924.

The tendency towards greater concentration has been accompanied by an improvement in the quality of the manufactured articles. The following table shows the increase in power-looms for broad-cloth and the corresponding decrease in those for narrow-cloth as well as hand-looms.

There has been practically no change in the total number of looms, with the exception of a slight decrease during the years 1930 and

TABLE 179

NUMBER OF WEAVING ESTABLISHMENTS AND LOOMS

	1924	1928	1931	1932	1933	1934
Number of establishments with:						
Under 10 looms	102,137	68,121	62,553	56,884	48,648	45,897
10–50 looms	4,091	4,055	3,788	3,710	3,835	4,024
Over 50 looms	1,015	1,039	1,033	1,089	1,159	1,218
Total	107,243	73,215	67,374	61,683	53,642	51,139
Number of looms						
Under 10 looms	139,127	99,708	79,296	72,276	62,574	59,644
10–50 looms	88,570	88,077	80,753	80,731	85,052	83,361
Over 50 looms	159,695	182,162	181,558	199,290	215,240	233,699
Total	387,392	369,947	341,607	352,297	362,866	376,704
Power-looms for:						
Broad cloth	116,909	161,833	172,211	196,658	220,310	241,240
Narrow cloth	123,890	109,594	93,518	88,243	83,244	79,995
Hand-looms	146,592	98,520	75,878	67,396	59,312	55,469

According to *Statistcal Year Book of the Ministry of Commerce and Industry.*

1931, but a marked improvement in production capacity and in the quality of manufactured goods was brought about by the expansion of broad-looms. There has consequently been a big augmentation in the production of broad cloth, the proportion to the total value of cotton textile production rising from 66·5% in 1924 to more than 85% in 1934.

Among the varieties of broad cloth, shirting is the most conspicuous, followed by jeans and drills, striped tissues, and dyed tissues, while in narrow-cloth production, imitation nankeen is the most important, followed by striped tissues and cotton tissues woven with mottled yarns. With the exception of imitation nankeen, the production of narrow cloth has been declining annually.

Exports of Cotton Tissues. Table 181 gives the proportion of home consumption to exports of cotton tissues. The ratio of the export value to total production showed a remarkable decline in the years 1927 and 1928 from the previous levels of 51% and 52% in the years 1925 and 1926. A sharp recovery took place in 1929, which was again checked in 1931 owing to a general decline in foreign trade, the ratio declining to 42%. The following years, however, witnessed a conspicuous improvement due to the low rate of exchange follow-

TABLE 180

PRODUCTION OF COTTON TEXTILES BY ARTICLES

	1932		1933		1934	
	(in 1,000 meters)	(in 1,000 yen)	(in 1,000 meters)	(in 1,000 yen)	(in 1,000 meters)	(in 1,000 yen
Broad cloth						
Jeans and drills	555,584	72,179	627,621	104,619	631,007	109,219
Satins	122,423	122,081	1,156,124	170,695	1,381,191	213,422
Shirting	1,325,664	62,644	429,223	75,053	425,301	78,114
T. cloth	177,571	19,666	221,425	30,289	285,630	42,286
Crape	66,497	7,621	71,853	10,405	55,555	10,048
Kokura-ori	47,615	11,927	64,466	18,754	72,166	22,728
Cotton flannel	317,848	46,510	298,389	52,474	308,686	56,578
Duck	14,758	5,134	19,279	8,451	22,338	11,221
Cotton velvet	30,091	8,760	38,005	14,136	59,453	21,242
Striped tissues	160,264	26,624	355,959	39,821	447,766	78,811
Others	*	40,678	*	66,190	*	100,307
Total	*	423,824	*	610,887	*	743,976
Narrow cloth						
Imitation nankeen	79,859	31,701	81,874	40,648	78,665	41,973
Striped tissues	23,123	18,545	18,499	18,214	16,542	16,965
Cotton tissues with mottled yarns	9,741	14,067	7,247	11,738	6,172	10,550
Dyed tissues	5,700	5,273	5,148	5,423	5,121	5,676
Crape	1,311	1,707	1,422	1,843	667	975
Mosquito netting	2,499	689	2,233	659	2,484	894
Others	*	9,512	*	8,641	*	8,039
Total	*	81,493	*	87,166	*	85,073
Special Pieces						
Towels	13,699	13,118	17,842	18,589	17,203	19,112
Bed sheets	308	2,482	267	2,138	313	2,604
Cotton blankets	7,839	8,677	10,808	12,014	11,097	11,482
Belts and belting	685	165	3,635	1,985	3,756	1,348
Woven hose	110	81	130	98	111	91
Tape	139,876	590	147,749	675	142,520	765
Others	unavailable	8,831	unavailable	9,199	unavailable	10,268
Total	*	33,944	*	44,700	*	45,671
Grand total	*	539,262	*	742,752	*	874,720

According to *Annual Return of Cotton and Silk Tissues* compiled by the Ministry of Commerce and Industry. * Unavailable.

TABLE 181

PRODUCTION AND EXPORTS OF COTTON TISSUES

(in 1,000 yen)

	Production	Bleaching and dyeing expenses	Total	Exports	Ratio of exports to production	Estimated home consumption
1925	774,373	72,338	846,711	432,850	51%	413,861
1929	736,534	83,033	819,567	412,706	50	406,861
1930	498,021	61,124	559,135	272,116	49	297,019
1931	423,023	51,307	474,330	198,732	42	275,598
1932	531,915	69,701	601,616	288,713	48	312,903
1933	704,893	84,246	789,139	283,215	49	405,924
1934	874,720	...	874,720	492,351	56	382,369

ing the reimposition of the gold embargo, and also to a substantial decrease in production costs, brought about by rationalization in the cotton industry during the preceding years of depression. In the years 1933 and 1934, more than half of the total production was represented by exports.

TABLE 182

EXPORTS OF COTTON TISSUES ACCORDING TO ARTICLES

(in 1,000 sq. yds.)

	Plain	Bleached	Dyed or finished	Total	Index figure 1928=100
1928	607,785 *42·8%*	114,809 *9·1%*	696,138 *49·1%*	1,418,702 *100%*	100
1929	816,035	128,096	846,429	1,790,560	121
1930	672,435	162,891	736,499	1,571,825	111
1931	561,317	190,159	662,304	1,413,780	100
1932	749,342	359,919	922,461	2,031,722	146
1933	611,304	463,704	1,015,220	2,090,228	148
1934	772,496	509,794	1,294,948	2,577,238	182
1935	945,254 *34·8%*	511,335 *28·7%*	1,268,520 *46·5%*	2,725,109 *100%*	192

The above table shows that finished tissues have succeeded in retaining their lead, keeping pace with the increase in the total export volume. There has been practically no substantial change in the export volume of plain tissues, the proportion of which to total cotton tissue exports thus dropped from about 43% in the years 1928 and 1929 to 30% in 1934. From every point of view the most noteworthy tendency is the increase in bleached cotton cloth. In 1928, the exports of this article constituted only 9% of the total cotton

tissue exports, whilst the share in 1935 increased to 28·7%. This upward tendency was, however, checked in 1934 by the protective measures adopted in the Netherlands East Indies and by the quota agreement reached between the British Indian and Japanese Governments. As regards quantity, there was a small advance, the volume being slightly less than 510 million sq. yds., or about five times the volume of 1928.

China, British India, the Netherlands East Indies, Hong Kong and Egypt are the principal markets for Japanese cotton goods. In 1928, these five largest customers bought over 85% of the total amount of cotton textiles exported, but in later years the cotton trade underwent a wider distribution by the appearance of new and relatively unimportant markets, such as East Africa, Central and South America.

It is worth while examining the factors that contributed to the expansion of the Japanese export trade in cotton textiles, and to the extension of Japanese oversea markets generally. The extension of Japanese oversea markets was most conspicuous in the years from 1931 to 1934, while the increase in the volume of exports was most remarkable in the years 1932 and 1934.(1) The year 1932 witnessed a boycott of Japanese goods in the Chinese market, which had hitherto been one of the most important customers, absorbing Japanese cotton textiles to the extent of 500 million sq. yds. annually, so that Japanese exporters were compelled to find compensating markets. This may be regarded as the direct cause of the extraordinary spread of markets elsewhere in the same year. It must not be forgotton, however, that Japanese manufacturers had been by this time successful in making radical improvements in the quality of manufactured articles, and in effecting a big reduction in production costs, factors which contributed much to the opening of new markets. The advance in the total volume of cotton textile exports in the year 1932 is due to these causes as well as to the reimposition of the gold embargo. This upward tendency continued without cessation in spite of the protective measures adopted against Japanese goods in various countries. The Japanese cotton textile manufacturers have succeeded in covering the loss sustained in China, Hong Kong, British India and other British possessions, by extending their markets in Central and South America, Africa and in the Near East, as is clearly demonstrated by the export advance made in 1934, when the total export volume of 2,500 million sq. yds. was reached. The protective measures which were adopted in various countries and the outcry against Japanese competition have merely resulted in giving free

(1) As to detailed statistics, refer to Chapt. XXX. Table 384.

publicity to Japanese cotton textiles, which in consequence have spread all over the world, particularly to backward countries.

5. Control in the Cotton Industry

Cotton Spinning Industry. The Japan Cotton Spinners' Association acts as a central organization for the control of the cotton spinning industry. The Association dates back to October, 1882, when an autonomous control organization under the name of the Cotton Spinners' Association was formed with the express purpose of protecting and promoting the common interests of the cotton spinners. Later on, in 1888, the name of the association was changed to Japan Cotton Spinners' Trade Association, which was again altered on October 21st, 1902, to the present Japan Cotton Spinners' Association. The membership of the Association comprises 60 cotton spinning companies out of the 74 companies existing in the country, while associate membership embraces practically all the importers and exporters connected with the cotton industry. The Association forms a complete cartel system and controls about 97% of the total number of spindles. In the methods of control, there have been many alterations, so as to keep pace with economic conditions as well as changes in the cotton spinning industry. Control sometimes takes the form of curtailment of operations, and sometimes that of the organization of an export syndicate. The history of output restriction records eleven instances of such restriction since the first enforcement in 1890.

The function of the Japan Cotton Spinners' Association may be divided into four branches; (a) control over production, (b) control over dealings in raw material, (c) control over sales of manufactured articles and (d) control over employment. With regard to the first function, the Association makes every effort to adjust the quantities produced so as to regulate supply and demand. This is effected by the enforcement of curtailment of operations, after due consideration of the prospects of the home and export demand, and of the probable movement of stocks on hand. At present the Association is restricting operations by 26·2% by enforcing four non-working days a month, and a working day of 17 hours. The control of manufactured goods relates both to the various classes of goods as well as to quality.

With regard to control of transactions in raw cotton, an agreement has been in effect as to methods of purchase and sale between spinning companies and raw cotton dealers. Under this agreement, control is exercised over the delivery of goods, the settlement of

accounts, and the settlement of disputes. Other agreements relate to the quality of raw cotton, and obviate examination in foreign markets which was formerly enforced in Liverpool and Bombay, to Chinese raw cotton in respect of moisture, and to transportation charges for Indian cotton, entered into between the Nippon Yusen Kaisha and the 129 regular members and associates of the Association. This last agreement aims at a reduction of various freight charges by guaranteeing regular and large consignments.

As to the control of manufactured articles, a decision has been reached between the Japan Cotton Spinners' Association and the Japan Federation of Cotton Yarn Merchants' Associations restricting the number of dealers, in order to simplify transactions in manufactured goods. Lastly, in regard to control over employment, Provision No. 21 of the regulations of the Association states that "no worker can be taken on, while he or she is in the service of another employer, without the permission of that employer", thus obviating an evil practice of offering inducements to good workers to leave their employment.

As is evident from the above, the control exercised by the Japan Cotton Spinners' Association covers a wide sphere, and the results of the control have generally been satisfactory. The Association has also contributed to the adjustment of trade problems which have arisen between Japan and other countries, particularly Great Britain, British India, and the Netherlands. It has done much to assist the Government in establishing better commercial relations, and has through its activity acquired great skill and a dignity commensurate with its great rôle as the representative of one of the largest industries in the country.

Weaving Industry. As stated elsewhere, the cotton weaving industry in this country is divided into two main groups; weaving factories of large spinning companies and small local factories. The first group is under the control of the Japan Cotton Spinners' Association, while the second is under that of the Japan Federation of Cotton Tissue Manufacturers' Associations which has been organized under the Industrial Association Law, and the Japan Federation of Export Cotton Tissue Trade Associations. The most important of these control organizations as regards medium and small-scale establishments is the Japan Federation of Cotton Tissue Manufacturers' Associations.

An examination into the control carried on by the above three organizations reveals the fact that the Japan Cotton Spinners' As-

sociation exercises no control over the production of cotton tissues at present, and that the Japan Federation of Export Cotton Tissue Trade Associations undertakes the examination of the quality of manufactured goods for export only. This examination, however, is of the same nature as that conducted by the Japan Federation of Cotton Tissue Manufacturers' Associations, and it will therefore be sufficient to look into the control methods adopted by that Association in order to obtain a comprehensive view of the control of industry, as affecting cotton textiles.

The Japan Federation of Cotton Tissues Manufacturers' Associations is a control organization established under the Industrial Association Law of 1928. It was established by the industrial associations, the federations of the industrial associations, and others connected with weaving, refining, bleaching, dyeing, and kindred finishing processes for cotton textiles. The Federation has for its main object the control of the cotton textile industry generally, the supervision and examination of manufactured goods, the improvement in quality, the extension of markets, the encouragement and protection of new devices and other necessary arrangements in conformity with the object of the Federation.

As is evident from the above, there is a fundamental difference between the Japan Cotton Spinners' Association and the Japan Federation of Cotton Tissue Manufacturers' Associations, for the latter is a statutory organization, while the former is a self-governing body.

The control, as at present exercised by the Japan Federation of Cotton Tissue Manufacturers' Associations, concerns production, raw materials and manufactured articles. Control of production comprises the supervision of quality and quantity. The eighteen manufactured articles produced by the members, varying from cotton crape to ankle bands, are subject to examination at the conditioning-house of the Federation, for which purpose detailed conditioning regulations are provided. The articles subjected to control in respect of quantity are limited to striped drill, cotton crape, cotton flannel, cotton sarong, and goods for dyeing and printing. Control is not applied to the production of finished cotton cloth, bleached cloth, plain cloth, and cloth for home consumption. The method adopted by the Federation in the control of production differs from that exercised by the Japan Cotton Spinners' Association, the latter adopting the method of placing a temporary suspension on the employment of equipment, so as to enforce a curtailment of operations, the former on the volume of goods to be examined. The quotas are fixed by the Council of the Federation with special reference to the

volume which passed the examination of the conditioning-houses in various localities during the corresponding period of the preceding year, and also to the actual conditions affecting supply and demand.

As regards the control of raw materials, the affiliated associations are entitled to demand a report from the members as to their transactions with dealers in cotton yarn. In certain cases, the association itself is instrumental in making joint purchases of raw materials. At present, however, it cannot be said that the system is working satisfactorily. As to the methods adopted for the control of transactions in manufactured articles, restrictions on the choice of dealers and joint sales may be considered the most important. Joint sales are effected by the Federation upon request of members, in striped drill, cotton crape, cotton flannel and cotton sarong, in order to secure greater efficiency in the application of control over production.

6. Future Prospects of the Japanese Cotton Industry

During the past several years of the world depression, there appears to have been a slight decline in the production of cotton textiles reflecting a decline in world consumption. During this period, Japanese output has shown a continuous expansion which would have been greater, but for the restrictions on Japanese goods enforced in various countries. The share of Japanese cotton textiles in international trade has consequently shown a rapid advance.

In estimating the future prospects of the Japanese cotton industry, it may not be amiss to envisage the general outlook for cotton in the world to-day. About half of the human race is still in a well-nigh unclothed condition, and with an improvement of the standard of living, the demand for cotton cloth must necessarily increase. The gradual advance in the consumption of cotton cloth in Africa is a case in point. Moreover, cotton manufactures are increasingly employed for industrial and domestic purposes other than that of apparel, notably for wire covering and motor car tyres.

It has been deduced from the great expansion in rayon output, at a time when the production of cotton textiles was at best stationary, that rayon products would in time constitute a formidable rival to cotton goods. However, the proportion of rayon products in the total world production of textiles is merely 5%, which is negligible when compared with the output of cotton goods (74%), and of woollen goods (21%).

Furthermore, the development of rayon has actually been an aid to the cotton industry in that new fabrics have been evolved with

TABLE 183

WORLD PRODUCTION OF TEXTILE FIBRES

(% of volume)

	1928	1929	1930	1931	1932	1933
Cotton . .	74·7	74·2	74·2	75·0	72·2	73·6
Wool . .	22·4	22·5	22·4	21·5	23·7	21·2
Silk . .	0·8	0·8	0·8	0·7	0·7	0·7
Rayon . .	2·1	2·6	2·5	2·8	3·4	4·5
Total .	100	100	100	100	100	100

Calculated from *Statistical Year-Book of the League of Nations.*

a mixture of rayon yarn. At least in part, therefore, rayon has been complementary rather than competitive to the old-established cotton industry.

The future development of the Japanese cotton industry in particular cannot be gauged entirely from world cotton prospects. The actual prominence of Japanese cotton textiles in international trade is even overshadowed by their potential competitive strength, if given free access to the world markets, and this strength, which is based on excellent mechanical equipment, sound financial foundations, and the traditional skill of Japanese textile handicraft, must inevitably secure for Japanese manufacturers an increasing share of the future international cotton trade.

CHAPTER XVII

THE SILK INDUSTRY

1. General Survey.

The silk industry to-day may be divided into two main production stages,—viz., the production of cocoons and of raw silk. In the early days, these two stages were carried on within a single industrial unit, but in time, they became separated and independent; the former being engaged in the growing of mulberry leaves and the hatching and producing of cocoons, while the latter has now attained an independent position as the reeling branch. Between the two stages, many transactions are involved.

The process of specialization does not end here, but has been carried still further. Although raw silk forms, at present, a separate entity, being in its conception independent from silk weaving, the inter-relation is nevertheless pronounced, raw silk being economically dependent upon silk weaving and *vice versa*. Silk weaving in Japan, however, has made very slow progress, as the advance of raw silk production in Japan has not been due to the home demand but rather to increased foreign consumption.

The silk industry in its present form embraces agriculture, manufacturing, and commerce. It is subdivided into seven distinct branches, namely, the growing of mulberry trees, the hatching of eggs, the production of cocoons, the sale of cocoons, reeling, the sale of raw silk, and export. Speaking broadly, therefore, the silk industry in Japan may be regarded as a chain of industries connected with production and distribution, and ranging from the initial production of cocoons to the supply of raw silk, which is the raw material for silk textiles.

Silk reeling, as a source of raw material for the manufacture of silk textiles, resembles in this respect cotton spinning and rayon manufacturing. There exists, however, a fundamental difference between silk and other textile industries. The raw material for silk, cocoons, is entirely produced in the country, while raw cotton, raw wool and wood pulp are mainly obtained from abroad.

Another characteristic of the silk industry is that it still remains in the stage of a handicraft, labour constituting the most important element. Employing as it does a certain amount of machine power, the industry, as it is to-day, cannot claim the name of a factory industry in the modern sense of the word, and in this respect may be differentiated from the other textile industries, in which machine power is employed to the highest pitch.

The average annual cocoon output during the five years from 1929 to 1933 was valued at 406 million yen, or 11% of the total value of primary production. Silk production amounted to 573 million yen, or 8% of the total value of the whole industrial production. It will be clear from the above that the silk industry occupies a very important position on the list of Japanese staple industries. It is of special importance to agriculture, its rise and decline having a direct effect upon the agricultural economy. It is an essential element in the balance of foreign trade, not only on account of the very large figures of the export trade in raw silk, but because of the fact that none of the necessary raw material is imported.

The predominance of Japan in the international silk trade is astonishingly marked. The extent of this leadership will be seen from the fact that Japanese production in 1934 represented 82·3% of the world output, China's share, which was once very large, being reduced to 11·0%, followed by 4·9% for Italy and 1·8% for other sources.

TABLE 184

OUTPUT OF RAW SILK IN DIFFERENT COUNTRIES

(Percentage of world production)

	Japan	British India and French Indo-China	China	Near East and Central Asia	Spain	Italy	France
1922	51·9	0·2	37·8	1·5	0·2	7·9	0·4
1925	55·1	0·2	34·4	2·0	0·2	7·7	0·5
1929	61·5	0·1	29·3	1·9	0·1	6·8	0·3
1932	75·7	—	16·7	1·2	0·1	6·2	0·1
1933	76·8	—	15·6	1·5	0·1	6·0	0·1
1934	82·3	—	11·0	1·6	0·1	4·9	0·1

According to investigations by the Silk Bureau of the Ministry of Agriculture and Forestry.

Although it was only after the opening of the port of Yokohama in 1859 that raw silk was exported in volume, the silk export trade has made significant development; exports in 1925 reaching the huge total of 880 million yen, the largest on record. This high total

could not, however, be maintained during the world depression, the trade suffering a serious decline, chiefly in value, which is well demonstrated in the sharp falling off to 362 million yen in the average for the five years ending 1935. An examination of the period from the opening of the Meiji era down to the outbreak of the Russo-Japanese War shows that raw silk occupied well over one-third of the total value of the export trade, the value including waste and other silk, and also silk tissues which account for more than half the total value. With the general advance of Japanese trade, however, the following years witnessed a gradual decline in relative importance, although an increase was registered in absolute value. Admitting that the advance of the export trade in cotton and rayon tissues in recent years has been remarkable, and has reduced the position of raw silk in foreign trade, it should be considered that the export of cotton and rayon tissues is counterbalanced by substantial imports of raw material for the manufacture of these goods. On the other hand, the export of raw silk, not being offset by raw material imports, may to the extent of its entire value be applied to the reduction of the generally unfavourable trade balance.

TABLE 185

RAW SILK IN PROPORTION TO TOTAL EXPORT TRADE

	Exports of raw silk (in 1,000 yen)	Ratio to total exports (%)		Exports of raw silk (in 1,000 yen)	Ratio to total exports (%)
1870–74, average	6,111	33·2	1930	419,107	28·5
1900–04, „	71,871	27·1	1931	356,932	31·1
1910–14, „	152,149	28·6	1932	382,950	27·2
1925–29, „	774,713	37·0	1933	391,192	21·0
1925	879,657	38·2	1934	287,084	13·2
1929	784,150	36·5	1935	389,602	15·7

2. RECENT DEVELOPMENT OF THE SILK INDUSTRY

The silk industry, perhaps more than any other industry, was severely affected by the world depression which commenced in 1929. As a matter of fact, the industry has had to face critical conditions at times since the opening of the Meiji era, but in respect of depth and duration, the recent depression showed an aspect entirely dif-

ferent from its predecessors. The immediate effect was to bring down the price of raw silk, panic prices being registered in 1932 when the level of ¥400 per bale was broken. This sudden fall not only affected the export trade, but also caused a sympathetic drop in the price of cocoons, thus reducing the silk-reeling and cocoon-raising industries to dire straits.

The depression, however, was not entirely without redeeming features. It has secured for the industry a higher level of efficiency by bringing about improvements in the methods hitherto adopted. In recent years, the output of cocoons per unit of hatched eggs and mulberry increased considerably; as a result of the improvement in reeling machines, the efficiency per cauldron has been enhanced; there has been an annual decrease in the cost of production of cocoons and the manufacture of raw silk; these facts augur well for the future development of the industry.

The well-nigh exclusive position of Japanese silk in the American market is plainly borne out by statistics. It is also noteworthy, at a time when the future of the silk industry is looked upon with some misgivings in view of the rapid advance of rayon, that world consumption of raw silk has maintained a comparatively high level in spite of the depression.

A brief survey of the policies affecting the industry may be of interest. The Government were at times obliged to exercise their official power in order to mitigate the effects of the recent depression, while voluntary measures were adopted by those engaged in the industry. In 1932, accumulated stocks were purchased by the Government to the extent of over 100,000 bales, while reelers voluntarily placed a limitation of 30% on shipments. In view of the adverse influence on general business, public opinion was clamouring for measures to cope with the deplorable condition of the silk industry, political parties were obliged to include protective measures in their programmes, and the Government were compelled to treat it as one of the most important political issues of the day. Thus, the policy to be taken with the object of securing better control of the industry was gradually changed from an expediency measure to one of permanent importance. Accordingly, the present policy is completely different in aspect from the one higherto adopted. It aims at State control over silkworm eggs as a fundamental measure to bring order into the chaotic condition prevailing in the cocoon-raising industry, and the establishment of a license system in order to secure consolidation in the silk-reeling industry and the wholesale trade.

3. The Cocoon-Raising Industry

Summary. Agricultural households engaged in cocoon-raising numbered only a little over 1,670,000 in 1915. Since then there has been an upward trend, the total reaching 2,217,000 in 1929, the figure comprising 40% of the total number of farming households. After 1929 the number of households again decreased to 1,900,000 in 1935. A similar tendency marked the area under mulberry. It rose from 454,000 *cho* in 1915 to 714,000 *cho* in 1930, or 12·1% of the total area. The following year, however, witnessed a gradual decline due to the agricultural depression and also to the encouragement of the Government for the readjustment and re-plantation of mulberry fields. In 1934, the area was 623,000 *cho*, showing a big decline of 90,000 *cho* when compared with the record area of 1930.

TABLE 186

Number of Sericultural Households and Area under Mulberry

	Number of sericultural households (1,000)	Area under mulberry (1,000 *cho*)		Number of sericultural households (1,000)	Area under mulberry (1,000 *cho*)
1925	1,949	549	1932	2,065	653
1929	2,217	626	1933	2,093	640
1930	2,216	714	1934	1,995	623
1931	2,120	683	1935	1,895	...

Taken from returns of the Silk Bureau of the Ministry of Agriculture and Forestry.

In spite of the recent downward tendency, the sericultural industry still holds a pre-eminent position in Japanese agriculture.

The sericultural industry is characterized by the small size of the units engaged in production, consisting as they do of single households. In spite of a marked improvement in the methods of production, the industry still remains in the stage of semi-feudalism, retaining its earlier antiquated form. As a matter of fact, sericulture is practised, in most cases, by small farmers as a side-line, without any co-operation. The quantity of cocoons produced per household in 1933 averaged approximately 48 *kwan*, or an increase of 24% over that for 1922. This advance is not due to an extension in the scale of production per household, but is largely accounted for by the recent tendency towards increased production of summer and autumn cocoons.

Production of Cocoons. Production of cocoons has been steadily on the increase. Taking as a basis the average annual output for the ten years from 1905 to 1914, when the silk industry was well developed, it is found that, as against an index of 40·7 for the five years preceding the Sino-Japanese War, the index number for the period during the World War shows a sudden rise to 162·4, in spite of various adverse factors affecting the industry. A further remarkable expansion was registered when the average for the last five years rose to

TABLE 187

OUTPUT OF COCOONS

(in 1,000 *kwan*)

	Total output	Season		Kind	
		Spring	Summer and autumn	White	Yellow
1890–94	15,436	11,360	4,076	unavailable	unavailable
1900–04	26,482	18,211	8,271	"	"
1910–14	43,185	25,510	17,674	"	"
1925–29	91,666	46,694	44,972	71,252	20,415
1925	84,800	42,927	41,872	69,615	15,185
1929	102,093	50,595	51,499	76,361	25,732
1930	106,464	56,103	50,360	76,729	29,734
1931	97,072	52,667	44,405	68,440	28,633
1932	89,550	46,391	43,159	66,073	23,478
1933	101,164	50,019	51,145	75,794	25,369
1934	87,140	48,390	38,749	64,616	22,523
1935	82,066	44,176	37,891	68,967	13,099

Ibid.

254, showing a tremendous increase of two and a half times during the last twenty years. The year 1930 is the most remarkable, showing the unprecedentedly high level of 280·9, with an output of 106,464,000 *kwan*. There is, however, a slightly downward tendency discernible in more recent years.

The foregoing table is of interest as showing the quantity of cocoons raised according to varieties, the ratio for white and yellow cocoons being 70–80% and 20–30% respectively, or in the proportion of about 3 to 1.

Production Cost of Cocoons. As a result of a notable decrease in the cost of mulberry leaves and labour, the two largest items, the cost of cocoon production has been reduced in recent years to almost one third of the figure recorded about ten years ago. The

combined total of mulberry leaves and labour represents approximately 80% of the total cost of production, and any change in these two items has a direct effect upon the production of cocoons.

The cost of mulberry leaves is the most important, accounting for approximately 50% of the total cost, while fertilizers are the chief item in leaf production, being followed by labour. Fluctuations in the price of fertilizers naturally have a great influence not only on the cost of mulberry leaves, but also upon the production cost of cocoons.

TABLE 188

COST OF COCOON PRODUCTION AND COCOON PRICES

(in yen per *kwan*)

	Cost of production(*a*)		Prices (best quality)(*b*)	
	Spring cocoons	Summer and autumn cocoons	Spring cocoons	Summer and autumn cocoons
1923	9·99	10·53	11·40	9·11
1925	7·82	8·25	11·25	10·07
1927	7·48	7·13	7·18	4·77
1929	6·99	6·25	7·57	6·53
1931	3·78	3·45	3·08	2·96
1933	3·82	3·76	6·25	4·27
1934	3·56	3·74	2·52	2·38
1935	3·54	3·96	3·81	5·37

(*a*) Investigated by the Central Union of Silk Trade Associations (later, the Federation of Cocoon Producers' Associations). (*b*) Investigated by the Ministry of Agriculture and Forestry.

The next item in the production of cocoons is wages, accounting for about 30% of the total cost. As the production is carried on by household units, the industry at present depends almost solely on family labour. According to investigations conducted in 1934 by the Ministry of Agriculture and Forestry, the number of sericultural units depending upon family labour accounted for more than 83% of all sericultural households.

By comparing cost and prices, profits and losses in the sericultural industry can be obtained. The years 1925, 1929, 1933 and 1935 are on the profit side, while the remainder are on the debit side.

Disposal of Cocoons. Cocoons are disposed of in various ways. According to the classification adopted by the Ministry of Agriculture and Forestry, they are either sold raw or dried, consigned to co-operative mills for reeling, reeled on commission, or disposed of otherwise.

For the purpose of investigation, the sale of raw cocoons is classified according to individual or joint sale, depending on the place of sale (which is further subdivided into five classes), sale under licence or otherwise, and sale under special agreement or otherwise.

Statistics show that, in 1933, cocoons sold raw were by far the largest in volume, representing 77·3% of the total output. Cocoons either consigned to co-operative mills for reeling or reeled jointly by the producers followed next with a total of 12·9%, while those sold dried, reeled on commission, and disposed of otherwise were only 8·9%, 0·3%, and 0·6% respectively. In order to secure equity in the disposal of cocoons, it has been found advisable to adjust seasonal production by averaging out the supply on the market. With this end in view, the Government endeavoured to popularize the sale of dried cocoons, and adopted various measures so as to encourage the formation of associations for drying cocoons jointly. Subsidies have also been granted to owners of dried-cocoon warehouses. The attempt, however, has so far proved a partial failure as there was no immediate response among producers. Nevertheless, the sale of dried cocoons, which in 1933 showed a slight decline to 8·9% of the total output as against 12·3% in the preceding year, suddenly rose to 19·5% in 1934. It is expected that as a result of Government measures of coercion, 1935 will witness a further increase.

4. Silk-Reeling

Management. Silk-reeling is carried on by individual concerns and co-operative societies; both in the scale of plants and the number of mills, the former are overwhelmingly predominant. According to investigations of the Ministry of Agriculture and Forestry for 1932, the number of co-operative reeling mills is given as only 473 out of a total number of 3,245 engaged in silk-reeling. In the number of cauldrons, co-operative filature is well behind commercial enterprise with only 50,167 out of a total of 322,762. Filature may be divided into three distinct categories; machine reeling, hand reeling, and dupion reeling. The first is the most typical, and engages in the production of raw silk for export, while the other two methods are used in producing for domestic consumption, and are still backward both in respect of plant and production processes.

The returns for 1934 indicate a state of stagnation in the silk-reeling industry, the number of mills being given as 51,168, or a decrease of 3,229 mills from the preceding year. In absolute number, the decrease of 2,183 in the hand-reeling branch is most conspicuous.

The machine-reeling branch, which forms the centre of the industry, registered 3,013 mills, a decrease of 205 compared with the preceding year. The number of cauldrons is given as 249,724, showing a decrease of 18,112, or 6·7%, which is comparatively greater than the decrease in the number of mills. The number of operatives is returned as 288,457, representing a decrease of 28,890, or 9%. This tends to show the effects of rationalization in the face of the intensified depression.

Production of Raw Silk. Production trends in raw silk must necessarily be in conformity with those of cocoons. As the output of cocoons increased greatly until a few years ago, a similar and even more pronounced tendency was evident in raw silk. Taking as a basis the average for the ten years from 1905 to 1914, the average for the five years from 1930 to 1934 shows an increase of nearly three times, the highest level being registered in 1934 with a total output

TABLE 189

OUTPUT OF RAW SILK

(in 1,000 *kwan*)

	Total output	Machine-reeled silk	Hand-reeled silk	Dupion	White	Yellow
1910–14	3,546	2,614	714	218	unavailable	
1925–29	9,829	8,723	441	665	7,556	2,272
1925	8,284	7,231	461	592	6,822	1,462
1929	11,292	10,052	414	826	8,247	3,046
1930	11,365	10,179	461	725	8,097	3,268
1931	11,683	10,524	411	747	8,036	3,646
1932	11,091	10,070	337	684	7,806	3,285
1933	11,243	10,296	310	637	8,429	3,813
1934	12,065	11,180	355	529	8,785	3,280

According to returns of the Ministry of Commerce and Industry.

of 12 million *kwan*. As to the volume of raw silk produced under different methods, machine-reeled silk alone showed a substantial increase, while hand-reeled and dupion silk registered a declining tendency. The ratio of machine-reeled silk now stands at well over 90%, compared with only about 70% in the years preceding the Russo-Japanese War. On the other hand, the production ratio of hand-reeled silk has dwindled to less than 3% from about 30% thirty years ago. The production of dupion silk maintains the level of about 6%. The production of white and yellow silk is in the ratio of about 3 to 1.

Production Costs. About 30% of the net cost of raw silk is accounted for by reeling, the remaining 70% being disbursed for the purchase of cocoons.

Production costs in machine-reeling are the largest. It is estimated that hand-reeled and dupion silks are manufactured at a cost below 80% of that necessary for the production of machine-reeled silk.

TABLE 190

COST OF PRODUCTION

(in yen per 100 *kin*)

	Average for all mills		Commercial enterprises		Co-operative mills	
	Value	%	Value	%	Value	%
Salaries and bonuses to staff	9·60	5·5	9·37	5·4	12·18	6·7
Wages, allowances, and bonuses to operatives	53·50	30·9	53·12	30·8	57·75	31·6
Fuel	15·45	8·9	15·08	8·7	19·59	10·7
Electric power and light	3·08	1·8	3·02	1·8	3·65	2·0
Provisions	15·00	8·7	14·92	8·7	15·99	8·8
Insurance	1·52	0·9	1·49	0·9	1·97	1·1
Packing charges	1·74	1·0	1·77	1·0	1·48	0·8
Commission on sales of raw silk	6·54	3·8	6·56	3·8	8·49	4·6
Commission for drying cocoons	4·78	2·8	5·09	3·0	1·29	0·7
Commission for agents in cocoon purchasing	4·69	2·7	4·86	2·8	1·28	0·7
Charges for recruiting operatives	0·25	0·1	0·24	0·1	0·35	0·2
Storage	1·26	0·7	1·24	0·7	1·44	0·8
Cartage	6·82	3·9	7·08	4·1	4·02	2·2
Correspondence	0·97	0·6	0·98	0·6	0·86	0·5
Travelling expenses	2·64	1·5	2·73	1·6	1·72	0·9
Taxes and rates	3·42	2·0	3·62	2·1	1·21	0·7
Interest	17·05	9·9	16·62	9·6	21·89	12·0
General expenses	2·23	1·3	2·20	1·3	2·61	1·4
Ground-rent	0·66	0·4	0·64	0·4	0·86	0·5
Benevolent institutions	3·34	1·9	3·25	1·9	4·46	2·4
Repairs	4·56	2·6	4·50	2·6	5·29	2·9
Miscellaneous	14·01	8·1	13·98	8·1	14·26	7·8
Total	173·11	100·0	172·36	100·0	182·64	100·0

Taken from *Returns of Machine Silk-Reeling Factories for 1932* published by the Ministry of Agriculture and Forestry.

This is principally due to the nature of the machine-reeling industry, which is mainly engaged in the production of high-grade articles for export. Even in machine-reeling, the cost of production is generally smaller in commercial enterprises than in co-operative mills.

As will be seen from the above table, the cost of production per 100 *kin* of raw silk in 1932 averaged ¥ 173·11 for all mills, ¥ 172·36 for commercial enterprises, and ¥ 182·64 for co-operative mills. The conspicuous position of wages in the cost of production is ample proof for the common assertion that the silk reeling industry is still in the stage of a handicraft. It is, however, expected that a considerable reduction will be made, due to the recent introduction of multi-spindle reeling machines. A further reduction will surely be effected, and a considerable amount of labour replaced by machine power, with the completion of automatic reeling machines which are now attracting the serious attention of engineers.

Labour. The increase in the number of operatives engaged in machine-reeling, which contrasts with a decrease in hand-reeling labour, indicates the economic superiority of machinery. In recent years, however, there has also been a sharp decrease in machine-reeling, owing partly to restrictions on output brought about by the depression, and in a measure to the mechanization of manufacturing processes.

TABLE 191

NUMBER OF OPERATIVES IN THE SILK REELING INDUSTRY

	1922	1926	1930	1931	1932	1933	1934
Male	27,345	33,062	36,830	36,185	30,120	28,055	27,450
Female	526,837	450,280	472,294	459,264	398,643	366,972	335,060
Total	554,182	483,342	509,124	495,449	428,763	395,027	362,510

As in the other textile industries, female labour predominates in the silk-reeling industry. The nature of the industry requires delicate manual skill, and this naturally compels employers to train highly skilled operatives. Most female operatives come from the rural districts, which thus constitute the source of raw materials as well as of labour essential to silk reeling.

Capitalization. Since cocoons account for the bulk of the cost of the production of raw silk, and reeling is still dependent upon labour rather than upon machine power, it is natural that working

capital represents the principal capitalization in the reeling industry, and that fixed capital is comparatively small. Constituting approximately 70% of the total working capital, fund requirements for the purchase of cocoons are not only exceedingly large, but also of an urgent nature. Prior to the Russo-Japanese War, the silk-reeling industry was mainly financed by raw silk dealers and provincial banks. After that conflict, and more especially after the World War, a shortage of funds began to be keenly felt owing to the general expansion of industry. This naturally induced city banks to supply funds directly or indirectly. It was, however, only after the great earthquake of 1923, when funds in the hands of dealers were exhausted, that the financial centre of the silk reeling industry shifted from the provinces to the central money markets.

At present, commercial banks hold the foremost place among financial organs for the industry, being followed by wholesale dealers. The Central Bank of Co-operative Societies, the Federation of Co-operative Credit Societies, and various other organs under the management of raw silk exporters are of negligible importance from the viewpoint of capital accommodation.

Financial Results. The price of raw silk is the only basis for reelers in the purchase of cocoons. This naturally renders the business results of the reelers subject to the fluctuations of raw silk prices, after the purchase of raw material has been effected. Silk reeling is thus a highly speculative industry. The history of the industry is, indeed, a series of violent storms bringing alternately joy and sorrow to the manufacturer.

As shown in the following table, it is possible to ascertain the actual profit and loss situation of raw silk by comparing the standard price with the net cost of raw silk, which may be obtained by adding the cost of production to the net price of cocoons. According to the table, a loss of ¥22 was sustained in 1930, and an even greater loss of ¥53 in 1931. The year 1932 witnessed a profit of ¥140, while in 1933 a big loss of ¥236 was again registered. In 1934, however, a profit of ¥63 was realized. The above figures do not include such expenses as raw silk conditioning charges and other items, which amount to a total of a little over ¥11 and which are borne by the reelers, but it is estimated that such expenses are amply made up by side income. These figures cannot claim absolute accuracy, but it is believed that they throw much light on the business conditions of the silk-reeling industry in general. According to investigations conducted by the Mitsubishi Economic Research Bureau in regard

to the business results of the eleven principal silk reelers, the year 1932 witnessed a profit of 4% on the total capital employed, while in 1933 an enormous loss amounting to 10% of the total capital employed was registered.

TABLE 192

PROFITS AND LOSSES IN THE SILK-REELING INDUSTRY

(In yen per 1,000 *kin*)

	Market price of cocoons (per *kwan* or 6¼ *kin*)	Yield of raw silk	Net cost of cocoons	Manufacturing costs	Net cost of raw silk	Market price of raw silk	Profit or loss
		%					
1930	3·10	10·89	455	197	652	630	− 22
1931	3·03	11·44	424	197	621	568	− 53
1932	3·53	11·65	485	173	658	798	+ 140
1933	5·28	11·75	719	173	892	656	− 236
1934	2·46	12·15	324	173	497	560	+ 63

5. RAW SILK TRADE

System and Present Conditions. Silk markets for export and domestic consumption are managed in different ways. The export market organization is composed of wholesale dealers and exporters, and is remarkably simple in structure, leaving no margin for the activities of brokers.

The wholesale dealer is a legal entity who, at the request of the reelers, carries on business on a commission basis. In addition to the wholesale dealers who supply the bulk of raw silk to the market, there are some large reelers who undertake the sale of their products on their own account, and also the Japan Federation of Raw Silk Sales Co-operative Societies which serves as sales organ for co-operative societies. Including all these suppliers of raw silk in the term of wholesale dealers, according to law, the number of dealers registered at Yokohama and Kobe in March, 1935, was returned at 65. The exporter is generally a distributor of international importance, who exports silk on his own account. At present the number of exporters is registered as 16, 11 being Japanese and 5 foreigners. In the early days of the silk export trade, business was mainly carried on by foreign merchants, but at present about 97·8% of the total volume of raw silk exports is shipped by Japanese firms.

The raw silk markets in Japan proper are situated in Yokohama

and Kobe, both occupying, together with New York, a pre-eminent position among raw silk markets in the world. Like that in New York, the Japanese markets consist of term and spot markets.

Raw silk for export is subjected by law to conditioning of quality and determination of quantity at the State Silk Conditioning House. Business in or export of non-conditioned raw silk is prohibited. This forces the wholesale dealers to take steps for an examination immediately on receipt of the goods from reelers. Each bale of raw silk which has passed both examinations is labelled by the inspector, and a certificate giving the results of the examination is handed to the merchant. This certificate serves as a basis for transactions between the dealer and the exporter. Delivery of goods in spot transactions is effected within five days at the price agreed upon at the time of sale. In forward transactions, a contract is made between the dealer and the exporter for delivery at a fixed future date, forward sales being subdivided into two classes: forward sales at fixed and unfixed prices. In the former, the price of raw silk is fixed at the time of the sale, while in the latter, the price is not fixed, only the basis and the date for fixing the price being agreed upon. Forward transactions are effected in accordance with the Export Raw Silk Regulations drafted by the dealers and exporters with special reference to custom and practices that have long prevailed in the trade. Transactions are required to be carried on in public, the details being registered at the Export Raw Silk Registration Office, which publishes a statement giving the total number of transactions and the average price of raw silk registered at the Office.

The goods sold, either spot or forward, are delivered for the account of the seller at a given place on the agreed date, together with the certificates furnished by the Export Raw Silk Conditioning House and a sample of the silk appended for examination, which allows the exporter to re-examine the goods if necessary. The reeler's trade mark is replaced by that of the exporter, and the goods are ready for export when re-labelled.

Up to the middle of the Meiji era, Europe was the chief customer for Japanese raw silk, but with the growing consumption in the United States, the chief market was gradually shifted to that country. The price of Japanese raw silk, therefore, is in direct ratio to the prosperity of the United States. The factors for fluctuations are thus removed from Japan, and depend in the main upon conditions in the largest consumption centre, and herein lies the real reason for the practical failure of all the various measures hitherto adopted to cope with the serious condition in the silk industry. The

TABLE 193

QUOTATIONS IN SPOT TRANSACTIONS

(In yen per bale)

	Highest	Lowest	Average		Highest	Lowest	Average
1912	925	820	844	1924	2,160	1,480	1,783
1913	1,025	840	890	1925	2,130	1,770	1,957
1914	1,030	700	822	1926	1,990	1,420	1,580
1915	1,150	735	850	1927	1,490	1,270	1,375
1916	1,350	1,030	1,146	1928	1,490	1,220	1,321
1917	1,750	1,125	1,376	1929	1,420	1,155	1,315
1918	1,650	1,300	1,470	1930	1,190	540	775
1919	3,280	1,300	2,128	1931	760	500	583
1920	4,360	1,100	1,663	1932	1,110	390	698
1921	2,020	1,390	1,511	1933	1,090	520	761
1922	2,210	1,520	1,904	1934	675	445	534
1923	2,410	1,780	2,008	1935	1,005	575	717

price of raw silk is not only subject to the law of demand and supply, but also to the fluctuations in exchange rates. The recent noteworthy development of rayon has also adversely affected the price of raw silk.

Export and Domestic Consumption. The export of raw silk is estimated at over 70% of the total output. Of this total export volume, the United States alone accounted for 90–97%. There was a slight decline in the percentage in recent years owing to larger exports to Europe.

TABLE 194

EXPORT SHIPMENTS OF RAW SILK

(%)

	1914	1919	1925	1929	1932	1933	1934	1935
U. S. A.	83·2	96·2	96·5	96·6	93·7	90·5	83·7	84·4
Europe	15·7	3·5	3·3	2·4	5·1	8·2	11·7	11·5
Others	1·1	0·3	0·2	1·0	1·2	1·3	4·6	4·1
Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

Accurate figures are not available, but according to estimates, there was a remarkable increase to 190,000 bales in the volume of raw silk consumed at home in 1920, but subsequently consumption decreased. There has, however, been a brisk recovery since 1930, and in 1933 the level of 200,000 bales was exceeded. In recent years, domestic consumption accounted for approximately 30% of the total output.

TABLE 195

ESTIMATED CONSUMPTION OF RAW SILK IN JAPAN PROPER

	Total output (in bales)	Consumption in Japan proper (in bales)	Percentage
1914	234,743	63,888	27·2
1919	397,485	137,688	34·6
1925	517,770	109,585	21·2
1929	705,775	120,490	17·1
1930	710,314	147,752	20·8
1931	730,176	151,558	20·8
1932	693,169	194,818	28·1
1933	702,679	200,723	28·6
1934	754,056	236,380	31·3

6. SILK TEXTILES

Although the weaving of silk has been a tradition in Japan since olden times, it was only after the introduction of modern manufacturing processes that silk textiles attained their present prosperity. With the technical advance in both dyeing and weaving, it has become possible for the industry to turn out greatly superior goods, while, at the same time, there has been a remarkable increase in output.

In 1934, Japan produced broad-cloth to the extent of 205,880,000 metres, and narrow-cloth to the volume of 35,370,000 *tan*, of a total value of 341 million yen. The recent advance in the production of mixed tissues, especially of rayon mixtures, is worthy of note.

Parallel with the growing prosperity of the silk textile industry,

TABLE 196

PRODUCTION AND EXPORTS OF SILK TISSUES

(in million yen)

	Production				Exports
	Silk tissues	Mixtures	Rayon mixtures	Total	
1930	329	23	97	448	73·4
1931	323	21	105	449	49·6
1932	313	21	122	456	59·2
1933	323	22	150	495	80·4
1934	341	24	200	565	101·6
1935	...	...	...	...	102·4

the export of silk tissues and manufactures has shown remarkable progress in recent years, rising above 100 million yen in 1935. The export of crape is the most important in value, being followed by *fuji* silk. Other articles in order of importance are silk *kimono*, *habutae*, pongee, satins, handkerchiefs and shawls.

The recent development in the production of spun silk is also noteworthy. This branch of industry has not only attained the level of self-sufficiency, but is steadily finding its way into foreign markets.

7. Control Machinery

As the world depression tended to be prolonged, the silk industry in Japan was reduced to a serious condition, and on this account, the exercise of State control over the industry was strongly advocated as the only means of settling the various conflicting interests and securing for the industry a certain degree of permanent stability. In answer to this trend of public opinion, the Government decided to adopt a positive attitude in its policy towards the industry, which has, however, up to now been confined to the granting of financial assistance.

The Government policy as regards control over the various branches of the industry was first embodied in the Raw Silk Industry Law promulgated in 1911, but it was only after the enactment of the Raw Silk Industry Association Law in 1931 that the present system of collective control was established. The Law divides the industry into six branches and provides for the formation of an association in each prefecture, and the organization of the local associations into a single federation for each separate branch. The federations thus created are at present as follows:

The Federation of Cocoon Producers' Associations,
The Federation of Societies Producing Silkworm Eggs,
The Co-operative Filatures' Association of Japan,
The Filatures' Association of Japan,
The Raw Silk Traders' Guild,
The Raw Silk Exporters' Association.

These six federations organized the Central Raw Silk Association of Japan, which, as laid down in Art. 69 of the Law, is a legal entity, "to facilitate better connection between the federations and local associations, to promote the development of, and exercise control over the silk industry".

Dissatisfied, however, with the semi-official nature of this highest organ of control, reelers and exporters agreed upon the necessity of forming an entirely non-official and autonomous organization. The Japan Raw Silk Association thus organized includes reelers, wholesale dealers, exporters, raw silk exchanges and their members, and brokers. The purpose of the Association is to conduct investigations into fundamental problems affecting the industry, and generally to promote the development of the industry.

As a measure of control over the cocoon-raising industry, the Government promulgated the Silkworm Eggs Control Law in 1934. The Law provides that the Government shall supervise the production of original eggs, and aims at the improvement and standardization of eggs, by granting the prefectures a monopoly of the production of original silkworm eggs. The competent Minister is empowered to issue control orders when deemed necessary. The Law has been effective in establishing control over the quality of cocoons, but, in view of the fact that ordinary silkworm eggs are the most important factor in the production of cocoons, it may be necessary to exercise control over this supply in order to secure control over the volume of cocoons produced.

Excluding public utilities, the silk-reeling industry was the first commercial enterprise subjected to a licence system. According to the Silk Reeling Industry Law of 1932, those who are desirous of carrying on silk-reeling business have to obtain a licence from the competent Minister, and factories qualified to receive such licences must possess a plant equipped with over 150 cauldrons in commercial filatures and over 100 cauldrons in co-operative filatures. The main object of the Law is to provide a certain standard as regards the management of the industry, to prevent an excessive number of enterprises, to readjust the present condition of the industry by encouraging the amalgamation of small factories, and thus strengthen the industry against future depressions. The Law applies only to machine-reeling factories.

Since the enactment of the Law in 1932, silk reelers have been placed under strict control of the competent Minister and the prefectural governors.

In consonance with the recent tendency of centralized control, the Government submitted the Export Raw Silk Sales Control Bill to the Diet in 1934, but because of the various difficulties and inconsistencies inherent in price fixing, the Bill underwent considerable modifications and was enacted under the name of Export Raw Silk Marketing Law. The main modification was the deletion of the

clause providing for the adoption of maximum and minimum prices for raw silk.

The aims of the Law are to secure a standard in raw silk transactions, and to promote the amalgamation of wholesale dealers. Art. 8 provides for the registration of all transactions in raw silk, while Art. 3 institutes a licence system covering the wholesale dealers.

Although the clause regarding price control was struck out, the Government was required by a subsidiary resolution at the time of the passage of the Export Raw Silk Marketing Law to draft and introduce the Export Raw Silk Sales Control Bill in the next session of the Diet. The Government accordingly appointed the Export Raw Silk Sales Investigation Council, charged with conducting investigations into measures of control to be adopted in raw silk sales. In accordance with the findings of the Council, the Government later published its programme to induce reelers, wholesale dealers and exporters to organize legal associations through which to stabilize the price of raw silk.

The programme, however, met with strong opposition, those who voted against Government control of the price of raw silk emphasizing the difficulties and abuses which would arise from the practical application of such a law, basing their arguments mainly on the fluctuation of silk prices.

In view of the general opposition, the Council proposed a sweeping amendment to the Bill at its sitting held in January, 1935. The Bill, however, met with increasingly strong opposition, and the Government was compelled to suspend its introduction.

However, in view of the chaotic condition prevalent in various branches of the industry, some measure of control is of paramount importance. The guiding principle in the policy towards the industry appears to have changed from that of *laissez-faire* to one of planned economy.

8. Future Prospects of the Silk Industry

The effects of the world depression on the Japanese silk industry, which had sailed a comparatively easy course during the past seventy years, proved almost fatal. The price of raw silk continued to register an unheard-of low level, and the value of the export trade witnessed a very pronounced decline, with the result that the agricultural communities have been reduced to extremely unfavourable conditions which threaten the future development of the whole industry.

An examination of the consumption of various tissues in the United States reveals that there has been a big decline in the consumption of raw silk, cotton, and wool, while rayon alone has shown a progressive advance, which has been especially noticeable since the advent of the present depression. As the United States is the largest customer for raw silk, it is only natural that this has given rise to considerable misgivings as to the future of the silk industry in Japan.

The encroachment and menace of rayon is largely a matter of price. Being produced in large-scale factories, rayon is marketed at a price incomparably lower than that of raw silk, the production of which is still in the stage of a handicraft. It is natural, too, that the low price of rayon has won popular favour at a time when the purchasing power of the world has been abnormally depressed.

Thus it is clear that the central problem of the silk industry is that of price, which is, after all, merely a question of the cost of production. With the recent advance in the mechanization of the manufacturing process, there has been a considerable reduction in manufacturing costs of raw silk, while at the same time, a big reduction is predicted in the cost of production of the raw material, cocoons, as a result of further rationalization in the management of the industry. According to investigations conducted by the Federation of Cocoon Producers' Associations, a reduction in the production cost of cocoons to 80% of the present standard appears to be only a question of time. This reduction in conjunction with the recent improvement in the quality of raw silk due to mechanical inventions, and also in the quality of cocoons owing to the utilization of superior silkworm eggs, allows some hope for the future development of the industry.

The campaign for an increased consumption of raw silk in the United States appears to have borne fruit in the way of stimulating popular appreciation of the true worth of silk, which may, it is hoped, lead to an improvement in the near future in the export trade of Japanese silk textiles and manufactures. A wider distribution of raw silk markets appears, however, imperative, as dependence upon the American market has in the past been mainly responsible for the lack of stability in raw silk prices.

It is impossible to believe that raw silk is doomed to the fate of camphor and indigo, as popular taste will always remain many-sided, while silk retains distinguishing features possessed by no other tissue. In time, silk will change from its position as the aristocrat among tissues to a commodity within the reach of all, and will be in even greater favour than now, representing as it does an article

of luxury. In addition to the demand from a large circle of admirers of pure silk, there will be a wider scope for mixed silk textiles, especially for silk mixed with rayon. Although at present rayon is looked upon as the deadly enemy of silk, it is hoped that this relation will prove but a transient stage on the road towards future inter-dependence.

CHAPTER XVIII

OTHER TEXTILE INDUSTRIES

1. The Rayon Industry

Outline. The progress of the Japanese rayon industry to its present highly efficient state represents an outstanding industrial achievement. The low production costs of rayon yarn and fabrics are unequalled anywhere else, which makes them formidable competitors on the world markets.

In 1935, the output of rayon yarn was estimated at about 220 million lbs. This output is about 4½ times larger than that of 1931, and a further increase is anticipated for 1936.

It will be realized, therefore, that the international situation has undergone a rapid change, for, in 1930, Japan's production was only 9% of the world's total output, but in 1932, by surpassing France, Japan came next to Germany, Italy and England. In 1933, she had already left behind these three countries, her production coming very close to that of the United States. It is not altogether impossible that Japan will eventually occupy the first position in world production by exceeding the United States. This rapidly increasing production, however, has at length outrun the present demand, particularly in view of the trade barriers erected in foreign countries, but the Japanese rayon industry is in a very strong position and will be able to overcome the present difficulties.

Rayon Yarn. Japan's rapid increase of production has been a source of surprise to the world, and this development is all the more noteworthy in that, during the eight years from 1918 to 1925, the industry was still practically in the experimental period, the output in 1925 totalling only three million lbs.

In 1925, when the import duty on rayon yarn was raised from ¥87·90 to ¥125·00 per 100 *kin*, some of the importers and spinning companies felt the necessity of manufacturing their own supplies,

TABLE 197

RAYON PRODUCTION IN PRINCIPAL COUNTRIES

(in million lbs.)

	U.S.A.	Japan	Germany	Great Britain	Italy	France	Total (incl. other countries)
1927	75·5	10·5 (10·5)	41·2	38·8	53·7	24·4	298·0
1928	97·2	16·5 (16·5)	48·8	52·1	57·2	29·9	361·2
1929	123·3	27·0 (27·0)	58·2	52·7	71·2	41·8	438·0
1930	126·8	36·6 (36·0)	59·1	47·0	66·3	50·6	450·3
1931	150·9	48·9 (46·8)	61·7	52·7	76·1	44·0	501·4
1932	134·3	69·6 (64·4)	55·0	69·9	70·6	54·0	525·7
1933	208·5	98·3 (90·4)	62·0	30·0	81·7	57·2	666·0
1934	208·5	153·1 (137·8)	90·0	88·9	84·1	60·0	775·0
1935	256·7	224·0 (201·0)	90·0	88·9	84·1	60·0	950·0

Based on *Textile Organon*, figures in brackets by the Teikoku Jinzo Kenshi Co. and the Rayon Manufacturers' Association.

and, in 1926, besides the Teikoku Jinzo Kenshi Co., Asahi Kenshoku Co. and Mie Jinzo Kenshi Co., which started some years earlier, the Toyo Rayon Co., Tokyo Jinzo Kenshi Co., Kurashiki Kenshoku Co. and Nippon Rayon Co. were newly established. In 1927, the Nippon Keori Co. added a rayon department to its activities, and in 1928 and 1929 the Showa Rayon Co. and Nippon Bemberg Kenshi Co. were newly organized.

The rayon output in Japan, accordingly, took a sharp upward tendency after 1926, reaching 46 million lbs. in 1931. The reimposition of the gold embargo in December, 1931 was a turning point

TABLE 198

RAYON OUTPUT BY DENIERS

(in 1,000 lbs.)

	1931	1932	1933	1934	1935
Under 100 denier	602	1,259	1,780	2,379	2,242
	(%) *1·3*	*2·0*	*2·0*	*1·7*	*1·1*
120 denier	23,125	37,489	58,301	93,297	143,306
	(%) *49·5*	*58·2*	*64·5*	*67·7*	*71·3*
150 denier	16,317	19,242	22,544	27,556	39,227
	(%) *34·9*	*29·9*	*24·9*	*20·0*	*19·5*
Above 200 denier	6,721	6,393	7,803	14,563	16,256
	(%) *14·4*	*9·9*	*8·6*	*10·6*	*8·1*
Total	46,764	64,382	90,429	137,795	201,032
	(%) *100·0*	*100·0*	*100·0*	*100·0*	*100·0*

in the industry, the old-established rayon companies greatly developing their equipment, and new companies being formed on account of the high profits then obtainable. Consequently, the monthly output went from record to record, and the annual production reached the enormous figure of 200 million lbs. in 1935. (If outsiders' production be added, the amount would be 220 million lbs.). Meanwhile, the quality of yarn was also greatly improved, the increase in 120 denier being far greater than in 150 denier, the former representing 71·3% of production in 1935.

All rayon production in Japan, except that of the Bemberg Co., was by the Viscose method. In about 1931, thin multi-filament of single yarn and matted yarn were produced, and several innovations introduced by the major companies greatly improved the quality of the yarn.

Exports and Imports. Imports of rayon yarn in the latter part of the Taisho era were about 1 million lbs. annually. In 1927, they reached 3,300,000 lbs., but the increase in the import tariff in that year encouraged home production to the detriment of imports. However, in 1930, due to the removal of the gold embargo and the high rate of yen exchange, imports again increased After the reimposition of the gold embargo, imports dwindled to insignificant amounts.

In former years, until about 1927, Great Britain and Italy were the chief suppliers of rayon yarn, followed by Germany, France, the Netherlands and Switzerland. From about 1930, Italy was the greatest supplier, the Netherlands ranking next with a small quantity, while imports from Germany, France and Great Britain were reduced to negligible quantities.

Japan has now become an exporting country, and imports of rayon yarn are at present of little consequence. Until 1929, Japanese exports of rayon yarn were very small, but later, with the decline in prices, exports to China became active. At first, the main purpose of exports was to ease the situation in the domestic market, but after 1930 export shipments of rayon yarn assumed a new importance.

TABLE 199

EXPORTS OF RAYON YARN

	1929	1931	1932	1933	1934	1935
Quantity (in 1,000 lbs.) .	154	2,555	7,353	8,858	22,212	30,428
Value (in 1,000 yen) . .	183	2,244	5,910	9,483	22,397	22,853

The reimposition of the gold embargo at the end of 1931 acted as a fresh stimulus to rayon exportation, which increased enormously from the year 1932, the figure for 1935 amounting to 30,428,000 lbs. (¥ 22,853,000). Japanese rayon yarn was mostly exported to Asiatic countries, among which Manchoukuo and, since 1934, British India, were the chief destinations. Exports to China diminished after 1933 on account of the anti-Japanese boycott movement in that country.(1)

Parallel to Japanese rayon production, domestic consumption of rayon yarn has advanced since 1930, a remarkable increase being noted in 1935, chiefly due to the expansion in the export trade of rayon tissues.

TABLE 200

DOMESTIC CONSUMPTION OF RAYON YARN

(in 1,000 lbs.)

	1930	1931	1932	1933	1934	1935
Production . . .	35,959	46,764	64,382	90,429	137,795	201,032
Imports	842	1,161	371	504	67	44
Total	36,801	47,925	64,753	90,933	137,862	201,076
Exports	3,179	2,555	7,353	8,858	22,212	30,428
Domestic consumption .	33,622	45,370	57,400	82,075	115,650	170,648

Rayon Tissues. Rayon yarn, being a semi-manufacture, consumption increases with the development of rayon tissues. Old-established Japanese silk weavers, noting the improvement of the quality of

TABLE 201

PRODUCTION OF RAYON TISSUES

(in 1,000 yen)

	1930	1931	1932	1933	1934
Fukui prefecture . .	36,515	48,371	58,819	64,150	106,440
Ishikawa „ . .	9,761	10,255	15,032	28,936	10,064
Aichi „ . .	5,452	11,888	19,761	26,605	35,746
Gunma „ . .	27,948	24,104	21,399	17,366	25,448
Kyoto „ . .	14,831	12,227	10,812	12,035	14,978
Tochigi „ . .	4,072	3,475	5,019	8,354	12,616
Total (incl. other prefectures) .	109,712	122,731	149,951	189,905	257,662

(1) Cf. Chap. XXX, Table 385.

rayon yarn, began to use this new material, at first mixing it with natural silk, and later weaving pure rayon tissues. This was chiefly due to the success attending the export of rayon tissues, although, it should be noted, a great part of the output was at first disposed of in the domestic market. There also appeared on the market tissues of cotton and wool with an admixture of rayon yarn, which helped to stimulate the demand for rayon.

In general, the districts noted for the production of natural silk tissues are also the important centres in rayon tissue production. The long experience and skill in silk weaving has been successfully adapted in these days to the production of rayon fabrics.

Of pure rayon tissues, broad-cloth accounts for 70% of the total, in particular the production of crape and figured tissues reaches to a very high figure. These are generally of uniform prices and destined for export, while single-breadth cloth and specialties are multifarious and used for the domestic market.

TABLE 202

CLASSIFIED OUTPUT OF RAYON TISSUES

(in 1,000 yen)

	1930	1931	1932	1933	1934
Pure	97,286	104,773	121,741	150,019	200,972
Broad-cloth . .	59,908	70,094	89,203	111,471	154,142
Single-breadth cloth	13,401	13,144	12,813	30,073	24,921
Specialties . . .	23,978	21,555	19,725	18,476	21,908
Mixtures . . .	12,426	17,958	28,210	39,886	56,690
Total . . .	109,712	122,731	149,951	189,905	257,662

Exports of rayon tissues showed a sharp increase from 1928, and in the following year reached 47,518,000 sq. yards, or about 3½ times the total of the previous year (13,031,000 sq. yards), a further increase to 84,209,000 sq. yards being registered in 1930. The reimposition of the gold embargo provided a further stimulus, leading to annual increases commencing with 1932, until in 1935 the export trade in tissues reached more than 424 million sq. yards (¥ 128,243,000), thus becoming one of the principal exports, ranking next only to cotton goods and raw silk.

The destination of rayon tissues was, until 1931, exclusively Asia, but in 1932 shipments to Africa became important. From 1933, exports to Central and South America developed greatly.

Exports of tissues account for more than 40% of the total output,

hence the dependency of the rayon industry on the export trade is very great.

TABLE 203

EXPORTS OF RAYON TISSUES ACCORDING TO DESTINATIONS

(in 1,000 sq. yds.)

	1930	1931	1932	1933	1934	1935
Asia	77,310	111,483	170,042	151,642	178,043	228,878
Manchoukuo and Kwantung L. T.	708	396	1,193	6,135	16,344	28,343
China and Hong Kong	8,374	4,912	376	814	2,324	13,038
Siam	2,338	1,127	1,269	2,114	6,145	12,279
Straits Settlements	10,497	7,434	8,542	11,643	10,735	5,997
British India	24,779	61,354	92,572	62,007	76,283	75,231
Philippines	11,401	8,689	6,674	2,920	6,075	18,719
Netherlands East Indies	19,136	27,496	59,393	60,803	46,726	49,987
Europe	—	—	—	4,608	5,302	12,297
North America	2,299	5,488	2,204	642	882	1,554
Central America	—	—	—	9,931	20,744	15,566
South America	—	—	—	4,650	13,383	20,838
Africa	—	14,773	45,635	50,563	68,157	69,878
Egypt	—	—	19,795	16,206	26,612	20,032
Australia	—	1,258	8,319	22,746	46,462	75,130
Total	84,209	139,517	241,565	260,055	345,656	424,141
Value (in 1,000 yen)	*32,858*	*39,713*	*60,539*	*77,366*	*113,467*	*128,243*

Compiled by the Rayon Manufacturers' Association.

Price Movement. Quotations are following a downward tendency on the whole, this being due to the sharp increase of production and the low cost of manufacture consequent upon improvements in the art of production. The cheapness of rayon has become a menace to raw silk and to high-grade cotton yarn. Noteworthy in the movement of prices are the violent fluctuations which have characterized the market since 1922.

Up to about December, 1926, prices were fixed by the companies, and in those days Teijin 150 C was quoted at the fabulous price of between ¥ 220 and ¥ 550, per 100 lbs., but on account of Italian dumping in that year, it became impossible to maintain these prices, and quotations developed more in accordance with the market situation. However, due to the advance of the import tariff in 1927, Teijin 150 C, the standard yarn in those days, maintained the comparatively

high level of about ¥200 during 1928–29. In 1929, quotations started to take a downward tendency, which movement was aggravated by the anticipated lifting of the gold embargo, and in November, Teijin Iwakuni 120C dropped to ¥124, when the Rayon Manufacturers' Association resolved to restrict production and to advance rayon exports through joint effort.

The decline in the exchange value of the yen after the reimposition of the gold embargo brought about a recovery in rayon quotations. In the autumn of 1932, a large increase of exports of rayon tissues threatened to cause a shortage in rayon yarn, and quotations rose to ¥250 spot in December of that year. The quotation was high enough to encourage imports of yarn, but an extremely sharp reaction occurred early in 1933, which was later checked by activity in the export trade, during the autumn of the same year, prices being stabilized at the improved level of ¥150.

In 1935, many companies had completed their equipment for increasing production. But as the export trade did not realize expectations, overproduction was the natural result, and quotations dropped below the level of ¥60 in April. Restriction of production became again imperative, and on May 18th the Rayon Manufacturers' Association decided to curtail the output by 20%, and this measure temporarily stabilized the market.

The unprecedentedly low quotations early in 1935 gave rise to new demands in many fields, but a price below ¥60 was entirely unremunerative, and the rayon industry, which had been prosperous since 1931, now appears to be facing a change in its fortunes.

TABLE 204

DEVELOPMENT OF RAYON QUOTATIONS

(in yen per 100 lbs.)

	Highest	Lowest		Highest	Lowest
1927	288 (Apr.)	214 (Nov.)	1932	225·0 (Dec.)	70·5 (June)
1928	280 (Feb.)	204 (June)	1933	188·1 (Jan.)	81·0 (Mar.)
1929	253 (Apr.)	130 (Nov.)	1934	107·6 (Apr.)	86·8 (Nov.)
1930	210 (Apr.)	98 (July)	1935	88·0 (Jan.)	53·1 (July)
1931	185 (Mar.)	65 (Dec.)			

Industrial Profits. It is generally claimed both at home and abroad that the cost of rayon production in Japan is very much cheaper than abroad, but correct figures have never been made public, and can only be estimated by outsiders.

During the past few years, the cost of rayon production has been lowered in every country. The cause of this reduction, apart from the general decline of commodity prices due to the general economic depression, is the remarkable progress made in production methods. In this connection it may be mentioned that requirements for pulp have been greatly reduced, that alkali is almost completely recovered, that the utilization of coagulating liquid has been rendered more economical, and that costs of fuel, power and labour have been lowered on account of improvements in mechanical and chemical equipment.

In view of the late start and the up-to-date equipment, the improvement in Japan was even more thorough than abroad, but the low cost of production must be chiefly ascribed to the exceptionally cheap labour cost. According to some interesting statistics, the cost of wages in relation to raw material is much lower in Japan than in other countries, which would in itself enable Japanese rayon to meet competition in foreign markets.

The cost of producing rayon of 120 denier per 100 lbs. is supposed to range from ¥ 43 to ¥ 55 for first-class companies excluding depreciation, although some new companies may not be able to produce at less than ¥ 60. The average cost of production is, however, clearly lower than in other rayon producing countries.

TABLE 205

INTERNATIONAL COMPARISON OF COST OF PRODUCTION

(in yen per 100 lbs.)

	U. S. A.	Great Britain	Germany	Italy	Japan
Pulp	11·0	11·0	11·2	11·4	11·4
Chemicals . . .	38·8	38·2	35·0	29·9	18·6
Wages	54·3	49·3	36·5	17·6	10·8
Motive power . .	23·3	22·8	17·3	20·2	11·4
Working charges .	28·0	27·0	25·0	8·8	7·8
Total . . .	155·4	148·3	125·0	87·9	60·0

Source: Dr. K. Atsuki: "Present Situation of the Rayon Industry in Japan" in the *Teijin Times*, Vol. 10, No. 5.

Structure of the Rayon Industry. Rayon production, requiring as it does a high degree of modern chemical research and technique, can never be carried on to full advantage on a small scale, and as the unit of production is being gradually increased—the smallest unit of production is estimated at 20 tons per day, which requires about

¥ 300,000 per ton initial outlay in equipment—there is a tendency for enterprises to grow in scale.

The oldest establishment in Japan is the Teikoku Jinzokenshi Company. It is noteworthy that some companies, organized after 1926, represent investments by leading cotton spinning companies. These subsidiaries of the large cotton spinning companies are in a better position to tide over hard times, and at the same time, can safeguard the interests of their parent organizations when trade is active.

Because of large profits since 1919, the organization of new companies was too hastily and unsystematically carried out, for there were, as a matter of fact, only a few companies actually manufacturing rayon yarn at the end of 1920. This condition was mainly due to the great initial difficulties encountered in production. The newly-organized companies now find themselves in a very unfavourable position on account of the unexpectedly low quotations of rayon.

The daily production capacity of the principal rayon manufacturers at the end of 1934 was as follows:—

Teikoku Jinzokenshi Co.	58·0 tons.
Toyo Rayon Co.	40·0 tons.
Nippon Rayon Co.	19·5 tons.
Tokyo Jinzokenshi Co.	5·0 tons.
Asahi Bemberg Kenshi Co.	38·0 tons.
Kurashiki Kenshoku Co.	35·0 tons.
Toyo Boseki Co.	35·0 tons.

The Japan Rayon Manufacturers' Association was organized in March, 1927 with the aim of promoting the interests of rayon manufacturers, the Association members including all rayon companies except the Nippon Keori Co. During the hard times from the autumn of 1929, the Association enforced curtailment of production and compulsory exports in order to adjust the demand and supply in the domestic market. However, after the reimposition of the gold embargo in December, 1932, the curtailment was abolished. With overproduction threatening to prevail lately, curtailment of production is again discussed, but as most of the newly-organized companies are outsiders, organized control is considered to be somewhat difficult.

The Association controls the supply of rayon, but does not interfere with the sales. The Association of Special Agents of Rayon Manufacturers, which was organized on September 6th, 1930, is concerned with the sole duty of sales agreements.

The financial condition of the five principal rayon companies since 1928 is shown in the following table. Until 1931, their paid-up capital did not increase much, and profits were comparatively stable; business conditions were in happy contrast to the general economic depression. After 1932, under the influence of the general business activity, capital investments gradually increased, and net profits also expanded to the substantial average of 32% in the first half of 1934.

During the period of prosperity, all companies were enabled to provide on a lavish scale for the depreciation of properties, and saved the greater part of their profit. Accordingly, they are fully able to withstand a period of depression years. This financial strength is the main basis for the optimistic view about the future of the Japanese rayon industry.

TABLE 206

FINANCIAL CONDITIONS OF THE PRINCIPAL RAYON COMPANIES

(in 1,000 yen)

	Paid-up capital	Net profit	Annual profit rate (%)	Dividend rate (%)
1929	44,300	4,881	11·0	7·2
1930	45,800	4,742	10·4	7·1
1931	45,800	4,478	9·8	6·9
1932	49,300	6,165	12·5	8·7
1933	86,550	17,059	19·7	11·2
1934	107,971	29,650	27·5	13·3
1935	125,500	22,331	17·8	14·1

The period from the first half of 1930 to the first half of 1934 covers the business results of five companies, Teikoku Jinzokenshi, Asahi Bemberg Kenshi, Kurashiki Kenshoku, Showa Rayon and Nippon Rayon. In the first half of 1934, on account of the merger of Showa and Toyo Boseki, Toyo Rayon is substituted for Showa.

2. WOOLLEN INDUSTRY

The woollen industry in Japan is typical of those industries which made rapid progress due to the depreciation of the yen, which followed the gold embargo of 1931. While the industry had previously shown development in the direction of muslin weaving, the greater part of woollen cloth and serge had to be imported. The depreciation of the yen not only checked imports from Europe and America, but led to the establishment of a substantial export trade. Japanese woollen goods, though in small quantities, have even found their way to England, the woollen textile producing country *par excellence*.

Raw Materials. The production of wool is very small in Japan, hence this raw material must almost entirely be procured from abroad. The import of tops, however, has shown a conspicuous decrease since 1928, declining to less than 50,000 or 60,000 lbs. per year. During the period from 1911 to 1926, the industry was still in its infancy, and the process of scouring and combing raw wool was rather difficult for wool spinners. In those days, therefore, it was more profitable to import tops, which, as a semi-manufacture, did not require much treatment. After 1927, however, the technique in this direction was improved, which not only caused a great decline in the import, but even promoted an export trade, which, in turn, occasioned an ever-increasing import of raw wool.

TABLE 207

IMPORTS OF TOPS AND RAW WOOL

(in 1,000 lbs. and 1,000 yen)

	Tops		Raw wool		Goat and camel hair		Total
	Quantity	Value	Quantity	Value	Quantity	Value	Value
1925	11,458	33,891	70,145	87,182	725	628	121,702
1928	1,716	3,439	115,697	108,434	501	341	112,213
1929	707	1,143	107,949	100,673	336	290	102,106
1930	58	57	115,560	73,550	381	313	73,920
1931	149	124	190,572	86,021	653	376	86,522
1932	41	26	205,824	87,534	993	762	88,321
1933	64	101	240,715	164,090	1,842	1,626	165,818
1934	66	74	181,529	186,382	1,311	1,212	187,668
1935	79	93	243,439	191,668	1,797	1,331	193,092

An examination of imported raw materials shows a rapid increase of wool after 1931. In 1935, imports exceeded 240 million lbs., nearly double the annual average during the four years 1927–1930. Australia practically enjoys a monopoly in Japanese wool imports, though imports from South America, the Union of South Africa and New Zealand have shown slight increases since 1932. The importation of wool from Central and South America and South Africa was contemplated in 1934 as a matter of policy, and a scheme for reduction in freights and for adjusting the difference in prices was adopted with funds contributed by general exporters and the Japan Woollen Industry Association, but the results proved discouraging.

Woollen and Worsted Yarns. Due to the technical progress achieved

in recent years by woollen and worsted yarns spinning companies, production is increasing with the expansion of combing plants and improvement in processes. Production figures of the member companies of the Japan Woollen Industry Association and of eleven leading companies, as recorded by the Ministry of Commerce and Industry, are as follows:—

TABLE 208

PRODUCTION OF WOOLLEN AND WORSTED YARNS

(in 1,000 lbs)

	1929	1930	1931	1932	1933	1934
Output of member companies	64,302	55,048	77,587	89,661	101,361	103,246
Output of 11 leading companies	—	38,861	58,238	58,129	67,353	62,821

TABLE 209

NUMBER OF WOOLLEN SPINNING MACHINES

(at end of each year)

	No. of mills	Worsted			Woollen	
		Combing machines	Mules	Rings	Carding machines	Mules
1928	29	540	366,950	56,332	168	72,565
1929	28	605	369,350	76,852	163	73,664
1930	25	595	364,880	78,532	152	69,528
1931	26	794	459,930	103,780	159	75,096
1932	27	864	468,040	113,524	179	87,893
1933	28	1,030	518,170	159,220	180	88,403
1934	33	1,164	559,120	163,166	186	91,272

Sharp decreases were recorded in the import of woollen and worsted yarns after the gold embargo was reimposed, the total in 1935 declining below one-tenth in quantity and one-seventh in value compared with 1931. The drop was due to higher import duties, the depreciation of the yen, and the improved technique achieved in yarn spinning in Japan.

Before 1931, small trial lots were shipped to China and Manchoukuo, which led to annually increasing exports later. Exports have also been expanding in other directions, particularly to British India. Special mention should be made of the export of worsted yarn to Europe, which was once a big supplier of this article to Japan.

TABLE 210

IMPORTS OF WOOLLEN AND WORSTED YARNS

(in 1,000 lbs. and 1,000 yen)

	Worsted yarn		Woollen yarn		Total	
	Quantity	Value	Quantity	Value	Quantity	Value
1929	7,423	18,628	61	118	7,483	18,746
1930	7,912	14,010	99	140	8,011	14,150
1931	9,238	12,130	312	325	9,550	12,455
1932	2,911	4,602	308	540	3,219	5,141
1933	1,505	2,766	133	255	1,638	3,021
1934	829	1,525	91	183	920	1,708
1935	1,014	1,801	62	130	1,076	1,931

TABLE 211

EXPORTS OF WOOLLEN AND WORSTED YARNS

(in 1,000 lbs.)

	1929	1931	1932	1933	1934	1935
Manchoukuo and Kwantung L. T.	129	198	441	1,271	1,226	...
China and Hong Kong	242	497	600	703	1,582	...
British India	—	3	213	826	2,191	...
Netherlands East Indies	—	—	2	73	149	...
Great Britain	—	—	21	54	32	...
Other European countries	—	—	3	25	326	...
South America	—	—	1	169	220	...
Total (incl. other destinations)	371	698	1,289	3,168	5,920	5,277
Value (in 1,000 yen)	*803*	*861*	*1,697*	*5,293*	*12,185*	*9,688*

TABLE 212

DOMESTIC DEMAND AND SUPPLY OF WOOLLEN AND WORSTED YARNS

(in 1,000 lbs.)

	1929	1930	1931	1932	1933	1934	1935
Production of member companies	64,302	55,048	77,587	89,661	101,361	103,246	...
Imports	7,483	8,011	9,550	3,219	1,638	920	1,076
Exports	371	617	698	1,289	3,168	5,920	5,277
Home consumption	71,414	62,442	86,439	91,591	99,831	98,246	...

From the above table, the home consumption of woollen and worsted yarns can be estimated at about 100 million lbs. in 1934, or about 50% more than in 1930. As the production does not include that contributed by companies outside the Association, this estimate cannot claim complete accuracy, but may indicate the general trend of consumption.

Woollen and Worsted Tissues. In contrast with worsted and woollen yarns which are produced in modern mills, weaving is carried on by small-scale rural enterprises. Muslin and other textiles suited to large-scale production are manufactured by large companies, while serges and other woollen tissues are mainly manufactured in Aichi and Osaka prefectures, on a very small scale but on an ingenious and interlocking system, which has been the pivot on which the Japanese woollen industry has been able to attain its remarkable successes.

The following table, prepared by the Ministry of Commerce and Industry, shows that the increasing production of woollen cloth and serge reflects the advance of the rural industry above mentioned, while the production of muslin keeps barely stationary.

TABLE 213

PRODUCTION OF WOOLLEN AND WORSTED TISSUES

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934
Muslin	82,732	54,519	49,476	51,380	48,276	50,848
Flannel	3,730	3,543	3,393	4,224	3,783	3,062
Serge for Japanese clothing . . .	29,176	29,095	30,832	29,728	29,162	29,627
Serge for foreign clothing . . .	46,880	39,934	33,959	43,847	63,850	114,433
Woollen cloth . .	23,507	19,360	18,498	21,931	29,927	36,711
Blankets . . .	4,204	3,699	4,273	3,644	5,898	6,580
Total (incl. other tissues)	210,512	164,584	153,824	167,010	201,138	264,131

A substantial recovery has been witnessed in production value since 1932, the figures for 1934 exceeding already the previous high peak of 1929.

Imports of woollen and worsted goods were formerly very large, amounting to 64 million yen in 1924, after which year they declined, though the total still reached 35 million yen in 1927. On account of

the subsequent development of the Japanese woollen industry and the increase of import tariff in 1926, import figures declined sharply in later years, and in 1935 totalled only 7 million yen. The greatest part of the imported woollen textiles come from Great Britain.

TABLE 214

IMPORTS OF WOOLLEN AND WORSTED TISSUES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Pure wool	12,328	6,033	6,548	3,366	2,443	3,522
Mixed wool and cotton	7,019	3,541	3,570	3,682	2,639	3,123
Mixed wool, silk and cotton	539	408	365	162	107	103
Velvet and plush	56	11	5	3	10	5
Total	19,941	9,993	10,488	7,213	5,199	6,753
Principal sources						
Great Britain	15,034	7,885	8,598	6,834	5,041	6,536
France	590	195	157	52	28	50
Germany	3,942	1,700	1,542	297	105	130
Italy	65	12	8	7	2	2
United States	8	11	18	5	8	8

Exports, which had shown a decreasing trend up to 1931, sharply advanced as a result of the progress made in the methods of production and the heavy decline of the yen, total shipments in 1935 reaching ¥ 32,401,000.

A closer examination reveals that exports of cloth and serge, constituting 64% of all woollen tissue exports, have shown a greater increase than those of muslin.

Exports of woollen tissues were mainly confined to China and

TABLE 215

EXPORTS OF WOOLLEN AND WORSTED TISSUES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Muslin	752	281	569	1,200	2,185	1,227
Quantity (1,000 sq. yds.)	*1,178*	*660*	*1,517*	*2,560*	*4,102*	*2,397*
Woollen cloth and serge	3,119	695	2,532	8,020	19,099	21,416
Quantity (1,000 sq. yds.)	*2,201*	*727*	*2,854*	*7,654*	*16,128*	*18,888*
Total (incl. other tissues)	4,153	1,396	4,481	12,377	29,849	32,401

Manchoukuo until 1931, but now extend to markets all over the world. Export statistics relating to 1934 show that, in addition to increased shipments to China and Manchoukuo, exports to British India, the Netherlands East Indies and Egypt have also appreciably advanced. Though small in value, exports to Hawaii, the Union of South Africa and South America are interesting in that these are new markets.

Forms of Enterprise. The development of the Japanese woollen industry was at first chiefly confined to muslin, the progress in serge and woollen cloth being of later date. From the standpoint of factory operation and business management the industry took the form of large-scale enterprise, but as mentioned elsewhere, the recent sharp advance in the exports of woollen goods owes much to the rapid progress made by small and medium mills which have lately developed.

TABLE 216

PRODUCTION OF WOOLLEN AND WORSTED GOODS FOR JAPAN, AICHI PREFECTURE AND BY COMPANIES

(in 1,000 yen)

	All Japan	Aichi prefecture	Ratio to total (%)	Member companies of the Association	Ratio to total (%)
1925	182,481	55,202	30·25	124,889	68·44
1929	210,512	79,975	37·18	100,603	47·79
1930	164,584	78,402	47·64	59,578	36·20
1931	153,824	73,768	47·96	57,363	37·29
1932	167,010	84,260	50·45	60,663	36·32
1933	201,137	104,415	51·91	77,137	38·35

The development of small mills in Aichi prefecture dates back to the time when weavers of Japanese cloth there turned from cotton fabrics to woollen tissues. The technique acquired in the production of woollen tissues for Japanese cloth was later utilized in the weaving of serge for foreign-style cloth, and the small mills have succeeded where the larger ones failed. The small scale of factory operation in Aichi prefecture is revealed by statistics relating to the year 1932, which also show the aggregate production value to be equal to that of the large concerns.

	Member companies of the Association	Aichi prefecture
Number of mills	27	766
Value of output (in 1,000 yen)	60,663	60,694
Number of weaving machines	10,042	9,476
Value of output per mill (in 1,000 yen)	2,247	79
Number of weaving machines per mill	372	12

Wages paid in the smaller mills are lower than in larger establishments as may be seen from the following table compiled by the Ministry of Commerce and Industry. The percentage of female workers is also larger in smaller mills, which is an important factor in assessing their competitive power.

TABLE 217

DAILY WAGES OF FEMALE WORKERS

(Monthly average in sen)

	Japan proper (average)		Aichi prefecture	
	Highest	Lowest	Highest	Lowest
1934	85	81	81	75
1935	87	77	85	71

It is interesting to note that the success of the smaller mills stimulated the growth of companies specializing in spinning, and these concerns have shown better results than companies which do both spinning and weaving.

Organized Control. Control of the woollen industry was initiated at the time of the reactionary economic depression that occurred after the European War, when production curtailment became compulsory. In July, 1924, the Federation of Muslin Weavers' Associations was formed for the purpose of acting as intermediary for adjusting the production of muslin. The Japan Woollen Industry Association also came into existence in September of the same year. The latter is divided into three sections, as to production, of woollen cloth, muslin and woollen and worsted yarns. It was instrumental in obtaining an increase of import duties on woollen textiles in 1928.

In the same year, muslin dealers, wool importers, warehousemen and ship-owners joined the Association, and a fourth department was created, which widened the scope of control. The Association was successful in securing from shipowners a reduction in freight rates on Australian wool. Early in 1934, the Association decided on a 40% curtailment of worsted yarn production in view of the decline in prices, but the curtailment has been gradually reduced.

Business Results. Business results of woollen spinning and weaving companies, which were adversely affected by the economic depression during 1929 and 1930, improved in the latter half of 1930, and maintained an upward tendency until the latter half of 1933. During

that period, the woollen industry made rapid progress, and the rate of profit in the latter half of 1933 advanced to 17·5%. After 1934, the rate of profit tended to decline.

TABLE 218

BUSINESS RESULTS IN THE WOOLLEN INDUSTRY

	No. of companies	Paid-up capital (1,000 yen)	Net profit (1,000 yen)	Profit rate (%)	Dividend rate (%)
1929	8	86,916	- 9,359	- 10·8	5·1
1930	9	78,810	- 5,188	- 6·6	5·2
1931	9	84,685	7,195	8·5	5·8
1932	9	82,082	9,689	11·8	6·6
1933	9	83,082	13,839	16·7	7·6
1934	10	95,260	10,724	11·3	6·8
1935	10	77,242	9,528	12·3	9·2

3. MANUFACTURES OF HEMP, JUTE AND SIMILAR PRODUCTS

General Survey. The first attempt at production on a large scale under modern conditions dates back to 1886 and synchronised with the development of other branches of the textile industry. A glance at the later history of the industry, however, reveals that development was greatly circumscribed because of a restricted peace-time demand. In time of war, military requirements stimulate a sudden rise in demand, which compels the existing companies to extend their plants, while new companies are formed in rapid succession. With the termination of hostilities, however, the demand returning to normal, the industry finds itself faced with a serious situation, necessitating drastic readjustment. This alternating cycle of activity and depression has been witnessed in the successive wars which Japan fought in the past, namely, the Sino-Japanese War, the Russo-Japanese War and the World War. The long and serious struggle for recovery, which the industry made after each short period of feverish activity, has been greater than in any other industry.

The industry as described here refers to that branch of the textile industry which employs as its raw material, flax, ramie, jute and Manila hemp. So far as manufacture is concerned, this industry may be divided into two main groups, the one principally manufacturing hemp and flax products, and the other producing goods from ramie.

Under the circumstances, it was found necessary, after the close of the World War, to envisage measures for the regulation of production. With the present rigid enforcement of control in the form of a trust under the Teikoku Seima Company, fears of a recurrence of the disturbed conditions of past years have been greatly alleviated. However, the blow that the industry received from the post-war economic reaction was so severe that, in spite of the recent industrial activity, this industry is far from having achieved a complete recovery, and the improvement is slow when compared with the rapid advance in other branches of the textile industry.

The first factory for ramie dates back to 1899, when the Nippon Senshi Company (the present Osaka factory of the Teikoku Seima Company) was established. Later, in the Taisho era, new companies were formed in rapid succession owing to the World War, but during the period of depression following the War, most of them went into liquidation. At present there are eight ramie factories in Japan, the most important of which is the Toyo Asaito Company.

The jute industry originated early in 1890, but in view of the retarding influence of the post-war depression, and also from the lack of a sufficient supply of material, its development has not been very marked.

Production. Except Hokkaido flax which is scarcely sufficient to cover the home demand, Japan draws most of the raw materials

TABLE 219

CROPS OF HEMP, FLAX, JUTE AND RAMIE

	1928	1929	1930	1931	1932	1933	1934
Quantity (1,000 *kin*)							
Hemp	14,763	13,441	14,389	11,958	13,807	13,115	12,915
Flax	22,326	29,412	25,937	29,143	19,484	39,013	49,319
Jute	1,765	1,483	1,660	1,665	1,760	2,014	1,816
Ramie	91	129	93	104	140	267	492
Value (in 1,000 yen)							
Hemp	3,982	3,825	2,212	1,688	2,085	2,446	2,529
Flax	980	1,274	1,005	878	514	1,224	1,613
Jute	278	223	197	171	182	214	190
Ramie	40	57	32	28	44	82	150

Based on *Statistical Year Book of the Ministry of Agriculture and Forestry.* In 1933, production of hemp and ramie in Chosen amounted to 32,921,000 *kin* (¥ 5,451,000) and 908,000 *kin* (¥ 603,000) and that of jute and ramie in Taiwan 8,794,000 *kin* (¥ 759,000) and 415,000 *kin* (¥ 415,000) respectively.

from abroad. Chosen produces several times as much raw hemp and ramie as Japan proper, and the production of jute fibre in Taiwan is worthy of mention. In view of the heavy annual fluctuation in the ramie crop in China, the cultivation of ramie in Japan proper has been greatly stimulated, while the sudden development of ramie plantations under Japanese management in Davao, in the Philippine Islands, deserves mention. The future outlook of flax plantations in Manchoukuo is also very promising.

The Philippines, British India and China are the most important sources of raw materials for the industry. Manila hemp is, of course, imported from the Philippines, jute from British India, and ramie from China.

TABLE 220

IMPORTS OF RAW MATERIALS

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Flax and ramie	2,598	3,128	4,736	5,856	9,215	6,137
(Quantity in million *kin*)	(*12.5*)	(*17.6*)	(*18.1*)	(*17.5*)	(*25.6*)	(*19.2*)
China	2,598	3,108	4,691	5,577	9,006	...
Hemp, jute, and manila	11,660	8,815	10,201	13,904	15,094	18,531
(Quantity in million *kin*)	(*90.6*)	(*102.5*)	(*96.7*)	(*111.5*)	(*133.5*)	(*154.7*)
Manchoukuo (incl. Kwantung L. T.)	5	63	91	333	508	...
China	1,605	1,410	992	1,502	850	...
British India	1,702	896	2,444	3,601	3,583	...
Philippines	8,317	6,302	6,634	8,863	10,207	...

The first production process of hemp and flax manufactures is that known as rotting, or a putrefactive operation to recover the fibre from the plant. In foreign markets, this is done on the field before the purchase of the raw materials by spinners. The Japanese spinning mills perform this operation at their own factories, which is a characteristic of the Japanese industry.

Manufactured goods vary from mosquito-nets, thick sail-cloth, canvas, fish-nets, cloths and hose, to sheets, table-cloth, napkins and shirts. The processes of refining, bleaching and weaving are all undertaken by the spinning mills.

As shown in the following table, there has been since 1929 a rapid decline in the production of fabrics, the decline continuing until 1931, after which a slight recovery became apparent. Quantitatively, the decline in 1931 was not so sharp as in value, showing the great fall in prices per unit of manufactured goods. Considering the re-

TABLE 221

PRODUCTION OF HEMP, JUTE AND FLAX TISSUES

(in 1,000 yen)

	1929	1931	1932	1933	1934
Broad-cloth	9,614	6,118	8,002	7,551	9,531
Sail-cloth	2,870	976	715	984	1,288
Mosquito-nets	572	564	705	636	845
Single-breadth cloth	6,573	5,364	6,279	5,729	7,116
Bleached and unbleached cloth	1,158	1,098	1,073	1,199	1,819
Striped and chequered cloth	2,379	1,395	1,398	1,293	1,532
Mosquito-nets	1,902	1,597	2,502	1,849	1,796
Specialities	2,560	1,955	1,299	2,198	1,868
Belts and hoses	2,502	1,891	1,137	846	1,057
Total	18,747	13,436	15,581	15,477	18,515

Based on *Statistical Year Book of the Ministry of Commerce and Industry.*

covery in prices, the increase in production after the reimposition of the gold embargo has been rather negligible.

Exports and Imports. An examination into the balance of Japanese trade in this class of goods shows an annual excess of about

TABLE 222

EXPORTS OF MATERIALS AND MANUFACTURED GOODS OF HEMP, JUTE AND FLAX

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Ropes, string and cordage	1,501	2,003	1,700	2,049	1,838	3,830
Manchoukuo and Kwantung L. T.	714	250	527	754	801	...
Asiatic Russia	405	1,500	1,011	1,003	528	...
Yarns (incl. codilla and waste)	390	675	101	272	376	850
Tissues (incl. canvas)	836	727	239	349	1,072	941
Gunny bags	1,176	949	1,421	1,911	2,872	2,288
Manchoukuo and Kwantung L. T.	627	692	1,066	1,487	2,117	...
China	457	189	205	74	238	...
Hemp plaits	2,250	874	1,779	4,946	6,396	2,489
Great Britain	739	149	240	635	1,009	...
U. S. A.	502	314	308	2,092	4,237	...
Total	6,153	5,229	5,240	9,527	12,554	10,397

10 to 20 million yen of imports over exports. This is accounted for by the fact that the supply of raw materials is mostly obtained from abroad. Except for small quantities of codilla, the greater part of exports consists of manufactured goods, which show a considerable excess over imports.

The most important manufactures exported are hemp plaits, which are shipped to the United States, Great Britain, Germany, and France as millinery materials. The advance in exports of that commodity since 1931 has been extraordinary, the total rising from ¥874,000 in 1931 to ¥6,396,000 in 1934. The United States is the best customer, and accounts for most of the past increase.

Next in importance are gunny bags, for which Manchoukuo is the largest customer. The export of this commodity has increased three-fold during the period 1931–34. The export trade in ropes and twines is chiefly dependent upon the Soviet Union, and has remained practically stationary during the past few years. Tissues, the exports of which had hitherto been the smallest item, made a notable advance in 1934, the total value reaching ¥1,000,000, due to active demand from the United States and the Philippines, in addition to Manchoukuo, the principal customer for this article.

CHAPTER XIX

ENGINEERING AND SHIPBUILDING

1. General Survey

Up to the time of the World War, Japan lagged far behind Western countries in shipbuilding and engineering, but development since then has been rapid. How great the technical progress achieved within a relatively short period has been, will be understood by the fact that Japan now produces the most complicated types of machinery such as steam and Diesel engines, locomotives, electrical machinery and apparatus, etc. Whilst the import of machines has been on the increase during the last few years on account of the great progress of industrialization, the advance in exports has even been at a greater rate, and this resulted in the practical disappearance of the former large excess of imports.

In the sphere of shipbuilding, the construction of warships and other special vessels for naval use, which were principally ordered from Western countries until about the beginning of the Taisho era (1912), has attained remarkable development. Both in design and construction, Japanese shipbuilding technique has now reached a high degree of efficiency and originality. Many excellent large liners with superior equipment are now being constructed at various local shipbuilding yards. The former large import of propulsion machinery, boilers, and auxiliaries has in a great measure been replaced by home products. The shipbuilding industry is at present passing through a very prosperous period, due to numerous orders for every description of new vessels including ships to be constructed under the terms of the Ship Improvement Plan.

The same rapid development is to be found in electrical engineering. The economic recovery of the last few years has brought about a conspicuous advance in power consumption, and consequently the erection of many large power generating stations, both hydro and thermal electric in different parts of the country. Smaller electrical

machines and appliances, particularly those for radio broadcasting, telegraphy and telephony (including wireless), electric fans, small electric motors, dynamos, electric welders, furnaces, etc. are now produced extensively, and there are prospects for Japanese manufacturers developing a market abroad. Electric bulbs have already secured a firm footing in overseas markets, and are being exported in large quantities.

Except for automobiles, all kinds of cars and vehicles are now entirely manufactured in the country. Manufacturers of rolling stock are enjoying prosperous times, on account of large orders from Manchoukuo. The automobile industry alone is still in its infancy, the greater part of motor cars being of American make. Several large concerns have, however, entered this field and the development of an efficient national industry is likely to materialize in the near future. Japan is following closely the development of aircraft throughout the world, and is also developing an efficient national industry in this line, utilizing foreign patents on a large scale.

Machine tools, excepting some specialities, are now manufactured locally to an extent more than sufficient to meet domestic requirements, the surplus production being exported. Activities in this branch cover almost the entire field of mechanical engineering, from large spinning and weaving machines, cranes, elevators, winches, air compressors, mining machines, etc. to scientific instruments and apparatus. Great progress is being achieved in the manufacture of chemical instruments and apparatus, and the home demand is now entirely met by domestic production.

The marked development during the World War was checked by the post-war depression, although output continued to increase. This led eventually to a large accumulation of stocks which created a difficult situation for the industry. The year 1932 proved to be the worst ever experienced, but there was a considerable improvement in the following year on account of the business recovery and the activity in the armament industries.

According to *Factory Statistics* compiled by the Ministry of Commerce and Industry, the number of engineering works at the end of 1933 was 7,850. It must, however, be considered that most of these establishments, in 1933 85·8%, work on a very small scale employing 30 or even fewer operatives. The number of operatives in the whole industry registered an increase of about 50% during the three years from 1931 to 1933, the total being returned at 249,000 at the end of 1933. The total output of the engineering industry

in 1933 reached 888 million yen in value, a conspicuous increase of about 390 million yen on the figure of 1931. A further great expansion in production value was shown in 1934.

TABLE 223

FACTORIES, WORKERS AND PRODUCTION

	1925	1929	1931	1932	1933	1934
Number of factories .	4,093	5,296	5,850	6,738	7,850	9,181
Number of workers .	224,177	190,154	158,351	194,572	249,302	314,669
Production (in million yen)	unavailable	808·2	498·0	598·8	888·2	1,159·2

Taken from *Factory Statistics.*

Raw and other materials constituted about 40% of the production value in 1933 compared with only 35% in 1931. On the other hand, the ratio of wages in relation to value of production declined from 23·2% in 1931 to 17·2% in 1933, although actual earnings increased by 55% and the average rate per hour from 20 sen to 24 sen in the

TABLE 224

PRODUCTION AND COST FACTORS

(in 1,000 yen)

	1931	1932	1933	1931	1932	1933
Production				Percentage to total		
Shipbuilding . . .	87,901	92,709	118,403	17·7	15·5	13·3
Vehicle construction .	80,775	86,855	133,972	16·2	14·5	15·1
Electrical engineering .	137,280	151,895	234,751	27·6	25·4	26·4
Other engineering products	192,059	267,381	401,069	38·6	44·6	45·2
Total . . .	498,015	598,840	888,195	100·0	100·0	100·0
Factors in production costs				Ratio to total value of production (%)		
Cost of raw materials .	172,647	224,179	355,814	34·5	37·4	40·1
Wages paid . . .	99,455	116,495	153,328	23·2	19·5	17·2
Fuel (excluding gas) . .	5,961	6·815	11,752	1·4	1·1	1·3
Gas (million cubic metres) .	77·9	68·2	82·2	—	—	—
Electric power (million kw.h.) .	596·7	459·7	390·4	—	—	—

Ibid.

same period. Thus the advance in the cost of materials was compensated by an enhancement of efficiency, and there has been no marked advance in the cost of production.

Companies engaged in engineering and shipbuilding activities

numbered 2,882 at the end of 1934, with a capitalization of 836·9 million yen, representing 9·5% of the total investment in industrial companies. Most of these companies are small limited partnerships, the greatest capitalization being shown by joint-stock companies, which numbered only 836.

Business profits of engineering and shipbuilding companies were generally lower than in other branches of industry, the average rate for the past seven years ending 1934 being 5·8%. Electrical machinery and vehicle manufacturing showed comparatively good results, but the extremely depressed situation of the shipbuilding industry,

TABLE 225

BUSINESS RESULTS OF ENGINEERING AND SHIPBUILDING COMPANIES

(Joint-stock Companies)

	1928	1929	1930	1931	1932	1933	1934
Number of companies	562	589	598	621	637	699	836
Paid-up capital (million yen) . .	488·1	517·7	511·0	517·2	458·6	555·4	664·6
Net profit (million yen)	28·9	32·3	25·9	4·7	16·4	41·3	71·9
Rate of profit (%) .	5·9	6·2	5·1	0·9	3·6	7·4	11·2
Dividend (million yen) .	22·7	25·0	32,8	18·9	18·9	28·0	44·7
Rate of dividend (%) .	4·7	4·8	6·4	3·6	4·1	5·1	7·4
Shipbuilding							
Rate of profit (%) .	-3·8	-0·7	-3·2	-6·7	-2·6	1·2	5·8
Rate of dividend (%)	1·9	2·1	1·6	0·2	0·2	0·5	3·3
Vehicle building							
Rate of profit (%) .	13·0	20·1	13·5	10·4	7·6	7·9	13·0
Rate of dividend (%)	9·8	8·5	13·4	11·6	12·1	10·1	11·4
Electrical machinery							
Rate of profit (%) .	10·4	9·6	9·6	4·3	4·6	10·0	13·2
Rate of dividend (%)	6·1	6·1	9·4	4·3	4·0	6·7	7·6
Other machinery							
Rate of profit (%) .	6·8	5·5	6·8	3·1	6·0	11·6	13·6
Rate of dividend (%)	4·9	5·3	6·2	4·5	4·3	6·5	7·9

Based on *Company Statistics* compiled by the Ministry of Commerce and Industry.

which recorded losses each term up to the end of 1932, affected the business results of engineering concerns as a whole. Apart from the continued depression in shipbuilding, the great decline in demand for machinery, combined with competition from imported goods, adversely affected business results up to the time of the reimposition of the gold embargo.

The recovery after 1932 was reflected in business results in and after 1934, when the financial condition of companies improved considerably, partly on account of increased earnings and partly through the amortization of irrecoverable fixed assets and outstanding losses. The rate of profit in 1934 rose to 11·2% from 0·9% in 1931, the increase being even more pronounced in electrical machinery and other machinery manufacturing, which registered an advance in profits to 13·2% and 13·6% respectively. Even the shipbuilding industry, which did not merge from the depression until some time later, eventually shared in the general prosperity as a result of the Ship Improvement Plan.

The economic recovery since 1932 has brought about a steady augmentation in the demand for machinery, which, in spite of the great advance in national production, is reflected in the import figures of the last few years. Exports, however, have shown an even greater advance, totalling 159 million yen against imports worth 164 million yen in 1935. The share of imports in the total domestic requirements of machinery which in the period before the outbreak of the World War approximated 30%, decreased to about 23% in 1929, and to less than 14% in 1933.

TABLE 226

DEMAND AND SUPPLY OF MACHINERY AND TOOLS

(in 1,000 yen)

	Production	Exports	Imports	Excess of imports	Demand	Ratio of imports to home demand (%)
1914	110,960	5,922	36,348	30,426	141,386	25·5
1925	458,570	24,736	164,786	140,050	598,620	27·5
1929	682,162	42,568	190,587	148,019	830,181	23·0
1931	443,341	35,121	82,281	47,160	490,501	17·9
1932	543,842	43,931	96,594	52,663	596,505	16·8
1933	805,115	77,812	110,209	32,397	837,512	13·2
1934	*1,000,000	138,001	147,409	9,408	...	...
1935	*1,200,000	159,409	164,088	4,679	...	...

* Estimated.

The main sources of imports of principal machinery are the United States, Germany and Great Britain, followed by Switzerland, Sweden, and France. Imports from these countries show an increasing tendency, notably those from the United States, Germany and Sweden. The chief markets for Japanese manufactures are the Kwantung Leased Territory, Manchoukuo, China, and other South Asiatic

countries. Most of the export increase in recent years is attributable to larger shipments to Kwantung.

TABLE 227

EXPORTS AND IMPORTS OF MACHINERY AND TOOLS

(in 1,000 yen)

	Exports			Imports		
	1929	1931	1935	1929	1931	1935
Vessels	6,389	3,960	1,289	2,478	80	3,216
Vehicles	6,371	4,583	57,829	34,127	15,725	33,158
Electrical machinery, etc.	12,300	11,447	33,852	17,218	5,017	4,738
Other machinery, apparatus, etc.	17,508	15,132	66,439	136,764	61,459	122,976
Total	42,568	35,121	159,409	190,587	82,281	164,088

TABLE 228

EXPORTS AND IMPORTS OF PRINCIPAL MACHINERY AND TOOLS BY COUNTRIES

(in 1,000 yen)

	1929	1931	1933	1934
Exports				
Manchoukuo (incl. Kwantung L.T.)	17,032	10,859	4,135 28,668	5,520 68,710
China	10,516	11,529	9,367	16,553
British India	1,770	1,970	7,122	7,917
Straits Settlements	760	575	2,644	4,634
Netherlands East Indies	1,545	1,335	5,511	7,544
Asiatic Russia	2,880	2,217	2,031	2,071
Siam	293	336	780	1,116
U. S. A.	3,023	3,062	3,440	4,111
Total (incl. other countries)	41,239	34,273	73,547	131,291
Imports				
Great Britain	41,703	14,732	16,734	17,204
France	5,761	2,301	7,426	4,042
Germany	28,421	14,528	22,833	29,530
Switzerland	11,066	3,975	4,310	6,356
Sweden	2,342	1,272	4,015	5,713
Denmark	5,474	356	187	1,116
U. S. A.	78,846	34,276	39,021	70,943
Total (incl. other countries)	181,877	78,446	106,566	143,582

2. The Shipbuilding Industry

General Survey. Japanese shipbuilding witnessed the greatest height of prosperity during the World War, when vessels changed hands for fabulous sums. The subsequent reaction was intense and continued with ups and downs until the beginning of 1933. At that time, Japanese shipping was burdened with much old tonnage built at the time of the World War. In the interest of both shipping and shipbuilding, which are considered of paramount importance to the State, the Government introduced the Ship Improvement Plan with the object of scrapping old ships and replacing them with new tonnage, through the grant of subsidies. The measure was enforced in 1932, and the activity thereby engendered in shipbuilding was reflected in the business results for 1933. Eight principal companies, which for the three consecutive business terms ending in the second half of 1932 had incurred losses, realized a reasonable margin of profit in the following year.

The enforcement of the Ship Improvement Plan proved most helpful in relieving the depressed state of the industry, which also benefited by orders for war materials from the army and the navy. Vessels launched increased to 67 in 1933 and 177 in 1934, Japan attaining to second rank in world shipbuilding output in the latter year. Of ships launched in 1934 only 13 were steam-driven, the greater part being fitted with internal combustion engines. Among the cargo tonnage constructed, there were many high-speed, Diesel-engined vessels built in accordance with the provisions of the Ship Improvement Plan.

By virtue of the Plan, which is still in operation, a second construction programme for the current fiscal year has been started. The new tonnage authorized is 50,000 tons, the Government granting a subsidy of ¥30 per ton on new ships whether passenger or cargo vessels. With this second shipbuilding programme, combined with continued orders for war materials, the present activity of the shipbuilding industry is expected to continue for a few years.

Some of the cargo boats built under the provisions of the Ship Improvement Plan referred to later embody the result of research and experiments conducted at the experimental tanks of the Mercantile Marine Experimental Institute, Ministry of Communications, and the Nagasaki Shipyard of the Mitsubishi Jukogyo Kabushiki Kaisha (Mitsubishi Heavy-Industries, Limited), which have contributed greatly to the advancement of shipbuilding technique. The very high speed of these ships is due to a fundamental change in

ship form and to improvement in propulsion machinery. High-power Diesel engines from 7,000 to 9,000 H.P. are now produced in Japan, and 26 out of the 31 new motor vessels built recently under the Ship Improvement Plan have single screws. Some of the boats recently built have been fitted with two sets of high-speed, small-type engines from which motive power is transmitted by means of gears to the propeller shaft. This system has been devised with a view to reduce the weight of the engine without sacrificing the efficiency of propellers. The tendency to replace Diesel engines with reciprocating engines has now become noticeable, and the economical utilization of coal is being seriously considered by shipbuilders.

Shipbuilding Capacity. At the time of the World War, the Japanese shipbuilding industry had a building capacity of about 700,000 tons per year. The maximum was computed to be somewhat higher, but owing to the insufficient supply of materials, shipbuilding yards could not build more than 700,000 tons. At present there are as many as thirty large shipbuilding yards, each capable of building ships of over 1,000 gross tons, and it is assumed that with the progress in technique and equipment it would be easy for Japanese shipbuilders to construct from 700,000 to 1,000,000 tons a year.

TABLE 229

VESSELS LAUNCHED OF OVER 100 TONS

	Ship-building yards	Vessels		Sailing vessels		Total	
		Number	Gross tonnage	Number	Gross tonnage	Number	Gross tonnage
1921	352	69	226,081	12	1,711	81	227,792
1926	324	27	51,303	5	560	32	51,863
1930	430	49	148,382	11	5,849	60	154,231
1932	531	46	56,084	20	2,679	66	58,763
1933	559	39	75,907	28	3,913	67	79,820
1934	...	78	141,856	99	13,004	177	154,860
1935	...	...	...	...	...	195	145,901

Based on returns of the Ministry of Communications.

The equipment of large shipbuilding yards is in no way inferior to that of the leading shipyards in Western countries, and the total capacity is more than adequate for the requirements of the country.

Material Cost and Price of Ships. Recent progress in shipbuilding technique has brought about a lowering of construction costs, whilst

steel, which was formerly largely imported, is now supplied by domestic production.

Prices of shipbuilding materials advanced sharply after the removal of the gold embargo at the end of 1931. Fuel also advanced by about 10%, whilst the rates for power and wages remained stationary, with a slight downward tendency. Factory statistics compiled by the Ministry of Commerce and Industry, put the ratio of expenses for raw materials to the production value in 1933 at 38·0% against 23·5% in 1931, labour costs at 23·5% and 27·2%, and fuel at 1·9% and 1·7% respectively.

TABLE 230

SHIPBUILDING CONSTRUCTION COSTS

(in 1,000 yen)

	1931	1932	1933	1931	1932	1933
				Ratio to total value of production (%)		
Production .	87,901	92,709	118,403			
Raw materials	20,638	25,043	45,075	23·5	27·0	38·0
Steel . .	*3,934*	*9,226*	*16,829*	*4·4*	*9·9*	*14·3*
Wages . .	23,994	23,924	27,775	27·2	26·0	23·5
Fuel (excl. gas).	1,545	1,464	2,218	1·7	1·6	1·9

TABLE 231

PRICES OF NEW TONNAGE

(per deadweight ton in yen)

	Vessels over 7,000 tons	Vessels over 4,000 tons	Vessels over 1,000 tons
1928	140– 90	160–130	160–120
1929	160– 90	160–100	150–110
1930	110– 90	120–100	130–100
1931	100– 85	110–100	130–110
1932	120– 80	130– 90	150–120
1933	150–100	160–100	200–120
1934	160–120	170–150	200–180

3. THE VEHICLE INDUSTRY

General Survey. Historically, the vehicle industry in the modern sense of the term, originated in 1883 with the repair of imported bicycles, but already ten years later, railway locomotives could be manufactured in Japan. It was, however, after the Russo-Japanese

War (1904–05) that car manufacture came into being as an independent industry, since when development has been continuous. The World War in particular contributed greatly to the technical progress of the industry, which now occupies an important position among manufacturing enterprises. The manufacture of bicycles has attained a high degree of development and a firm footing on foreign markets, but the Japanese motor car industry is still in its infancy, the country depending upon outside sources, particularly America. The Government, recognizing the necessity of firmly establishing this industry from an economic as well as a national point of view, has decided to bring it under the control of the State, with which object the Motor Car Industry Law has been projected.

Factories engaged in the vehicle industry in Japan at the end of 1933 numbered 1,164, employing 32,934 operatives, with an output of 134 million yen. Motor car manufacturing leads in respect of total output. This seeming inconsistency is, however, explained by the fact

TABLE 232

PRODUCTION CONDITIONS OF VEHICLE INDUSTRY IN 1933

	Number of factories	Number of operatives	Prime movers in operation		Production (in 1,000 yen)
			Number	Actual H.P.	
Railway cars .	53	9,930	1,704	25,291	32,605
Motor cars .	475	10,550	1,781	18,055	66,350
Bicycles . .	545	11,683	1,452	10,636	33,048
Other vehicles.	91	771	96	327	1,969
Total . .	1,164	32,934	5,033	54,309	133,972

TABLE 233

PRODUCTION COSTS IN VEHICLE INDUSTRY

(in 1,000 yen)

	1931	1932	1933	1931	1932	1933
				Ratio to total value of production (%)		
Production . .	80,775	86,855	133,972			
Raw materials .	33,635	45,382	59,142	41·5	52·0	44·5
Wages . . .	19,202	13,219	19,806	15·0	15·2	15·0

that the greater part of production is due to Ford and General Motors, which concerns have assembling plants in Japan. The

industry as carried on by Japanese is insignificant compared with the production of railway cars and bicycles.

Annual production decreased during the three years from 1929 to 1931, the output in the latter year having declined to 75 million from 153 million yen in 1929. However, in subsequent years production again advanced, reaching 114 million yen in 1933. The figure for

TABLE 234

PRODUCTION OF VEHICLES

(in 1,000 yen)

	1929	1931	1932	1933
Locomotives . . .	18,030	8,206	5,111	9,706
Passenger and freight cars	15,451	4,102	4,162	9,917
Electric cars . . .	7,501	3,512	1,472	2,164
Motor cars . . .	89,384	41,211	39,703	60,318
Bicycles (incl. motor cycles)	18,843	16,795	23,596	30,265
Total (incl. other vehicles)	153,239	75,615	77,261	114,241

TABLE 235

EXPORTS AND IMPORTS OF CARS AND OTHER VEHICLES

(in 1,000 yen)

	Railway cars	Motor cars		Bicycles(a)		Other Vehicles (b)	Total (c)
		Complete	Parts	Complete	Parts		
Exports							
1925	—	—	—	—	2,295	1,242	3,531
1930	—	—	—	—	3,429	2,942	6,371
1931	—	—	—	—	3,296	1,286	4,583
1932	—	—	—	—	6,028	1,100	11,560
1933	—	—	—	—	12,114	7,388	19,501
1934	8,422	613	—	3,826	15,078	17,077	45,016
1935	29,957	1,424	5,762	4,414	13,022	3,249	57,828
Imports							
1925	3,686	4,630	7,062	2,803	3,413	—	21,595
1930	2,482	9,545	19,107	1,606	1,236	7,354	32,914
1931	191	3,378	10,866	754	399	4,007	15,529
1932	144	2,894	11,503	583	211	2,296	15,761
1933	204	1,864	11,998	511	109	1,826	14,696
1934	71	3,357	28,936	511	72	3,252	32,957
1935	65	3,202	29,377	323	85	344	33,158

(a) Including motor cycles. (b) Including internal combustion engines not exceeding 250 kilograms in weight. (c) Does not include the value of internal combustion engines.

1934, though not definitely known, is presumed to have approximated that of 1929. Motor cars imported in parts and assembled in Japan constitute the largest value, the annual output of all other vehicles not exceeding 70% of total production in 1933.

The export of vehicles, though gradually expanding after the World War, was limited in volume until recently, the value for 1929 being only 6 million yen compared with imports of 33 million yen in the same year. In 1932, exports advanced sharply to 11 million yen, approaching imports, and in the following year exceeded imports with a total of about 20 million yen. The year 1935 witnessed a further increase in the value of exports to ¥57,800,000, and an excess of ¥24,670,000 over imports, which also showed a sharp increase.

Bicycles figure most prominently in the export trade, while motor car parts and railway locomotives have shown a marked increase in recent years. The import of railway cars has gradually declined since 1926, and only a very small number is imported at present. The import of finished motor cars has also gradually decreased, but, on the other hand, more parts are coming from abroad to be assembled in the country.

Railway Cars. The Kisha Seizo Co. (Rolling Stock Mfg. Co.) established in 1893 in Osaka was the pioneer in manufacturing locomotives. Both the equipment and production capacity of this company was very small at the outset, but expanded subsequent to the nationalization of the railways in 1906. In 1908, the Kawasaki Dockyard Co. of Kobe established a branch factory at Hyogo for the production of locomotives.

Since 1912, these two concerns have been on the approved list of makers of locomotives for the Government Railways. Due to the technical progress attained by these two concerns, the import of locomotives has gradually disappeared and locomotives made in Japan are now even exported. This applies to steam locomotives, but electric locomotives which were formerly imported from Germany are also constructed in the country by the Shibaura Engineering Works, the Hidachi Engineering Works, the Mitsubishi Heavy Industries, Limited, and the Kawasaki Rolling Stock Co., and seven cars of this type were completed in 1932. The progress attained has entirely eliminated foreign manufactures in recent years.

The railway car industry, which was greatly depressed a few years ago, has benefited by large orders amounting to over 10 million yen from Manchoukuo, and by the requirements of the State and private railways in 1934.

The import of rolling stock, which annually amounted to not less than 5 million yen, and sometimes even exceeded 10 million yen before 1926, sharply decreased after 1931. On the other hand, exports, which were negligible until recently, recorded in 1934 a total of ¥ 8,350,000 to Manchoukuo.

Motor Cars. The demand for motor cars has increased enormously of late. The total number in Japan proper and dependencies advanced to 134,859 at the end of Oct., 1935 from 30,215 in 1925, the annual increase for the ten years averaging about 10,000 cars. This rate will probably be maintained and should expedite the establishment of a national motor car industry.

Up to about 1931 the greater part of the automobiles produced in Japan consisted of assembled cars, the scope of the industry being mainly confined to assembling operations. The number of cars built from home-made parts was only 300 to 400 a year, which increased to about 2,700 in 1934.

TABLE 236

MOTOR CARS MADE AND ASSEMBLED IN JAPAN

	1929	1930	1931	1932	1933	1934
Home-made cars .	437	458	434	840(*144*)	1,612 (*557*)	2,701 (*1,366*)
Locally-assembled cars . . .	28,087	18,663	18,908	13,327	14,084	30,884

Based on investigations made by the Ministry of Commerce and Industry. Figures in brackets are small cars.

The motor car industry in Japan owes its present development to the encouragement extended by the Army authorities who, by virtue of the law for granting aid to the manufacturers of military motor cars, enacted in 1919, ordered motor lorries for military purposes from several private factories, of which the Tokyo Gas & Electric Industrial Co. now alone remains. Later, the Ishikawajima Shipbuilding Yard and the DAT Motor Car Mfg. Co. joined in the manufacture of lorries. These three companies attained proficiency in technique and workmanship, but found it difficult from an economic point of view to maintain manufacture as an independent national industry. In 1931, the Ministry of Commerce and Industry conducted an investigation, as a result of which a decision was taken to protect and encourage the manufacture of motor cars of standard types to be defined by a committee. Meanwhile, the Manchurian

incident occasioned a demand for military automobiles, and several concerns including the Mitsubishi Heavy Industries, Ltd., the Kawasaki and the Nippon rolling stock companies either restarted or newly commenced the manufacture of motor cars, imports having became prohibitive due to the depreciation of Japanese currency. Standard types of cars were manufactured tentatively by the National Motor Car Manufacturers' Association organized by the Ishikawajima Motor Manufacturing Co., the DAT Motor Car and the Tokyo Gas & Electric Industrial companies. Recognizing the necessity of amplifying production capacity and reducing costs, the Ministry of Commerce and Industry, in the spring of 1933, prepared a plan for the annual production of 5,000 cars after 5 years through the amalgamation of the three concerns mentioned. The Motor Car Industrial Co. was thus established through the fusion of the Ishikawajima and the DAT companies, excluding the Tokyo Gas & Electric Industrial Co.

The standard cars adopted by the aforementioned committee were of intermediate class. The motor bus services started by the Ministry of Railways in 1931, as auxiliary traffic organs of the State railways, proved helpful to the national motor car industry, as did the growing demand for military cars. Motor-bus services of the State railways were at first operated with imported cars, but later home products were adopted on all routes. Passenger cars manufactured in Japan, which appeared on the market during 1934, are the "Rokko" produced at the Kawasaki Works and the "Atsuta" manufactured by the Nippon Motor Car Mfg. Co. The manufacture of passenger cars is still in the early stage of development, and those now being manufactured are mostly of small type. "Datsun", "Ota" and "Kyosan" are popular cars of this type. "Datsun" cars are exported to Australia, South Asia, etc.

Among automobiles lately developed in Japan are cars with Diesel or charcoal and wood fuel engines, the latter being still in the experimental stage. Diesel cars are manufactured by the Mitsubishi Heavy-Industries, Limited, the Niigata Iron Works and the Ikegai Iron Works, all being experienced makers of Diesel engines. The manufacture of electric motor cars was started in 1929. The demand for this class of car is gradually increasing, and the future of the electric motor car industry appears to be hopeful.

Apart from those mentioned, there are the Ford Motor Co. of Japan (establ. 1925), the General Motors Co. of Japan (establ. 1926), the Nippon Motor Car Co. and some other concerns which manufacture cars from imported parts.

Formerly, the manufacture of parts in Japan was largely an

imitation of foreign accessories, but due to technical progress, reduced cost of production, higher import duties and principally to the depreciation of Japanese currency, the demand for home manufactures is advancing.

Bicycles. Bicycles were imported for the first time in 1882, and in the following year an imitation of the imported article was constructed. Many years elapsed, however, before the production of bicycles materialized as a manufacturing industry. The Okamoto Bicycle Manufactory of Nagoya, established in 1899, commenced the manufacture in 1904, with frames and accessories imported from England. The enterprise did not succeed, but was revived in the following year, the necessary parts being procured from the United States. The result was successful and the business developed. Until about 1908, the American cycle predominated in the Japanese market, but later was replaced by bicycles of English make. The bicycle manufacturing industry, however, did not really prosper in Japan until about 1911, but the stoppage of imports, consequent on the outbreak of the World War, gave an impetus to the development of the industry which effected a big expansion during the war period. By the time the World War came to an end, Japanese bicycles were exported to China, India, South Asia, New Zealand, etc.

Bicycles are extensively used in Japan, the number being returned at over 7 million, or 1 bicycle to every 9 persons. In this respect Japan ranks foremost of all other nations with the single exception of the Netherlands.

The annual output in recent years approximates 2,600,000, representing a value of 52 million yen. These figures cover the supply to the home market, exports (excluding tyres) amounting to about 19 million yen a year, making a total production of 71 million yen.

Bicycle manufacture as carried on in Japan may be classified into two categories. There are firms which make all or the major portion of the parts and accessories and assemble the machines themselves, or establishments who make the parts and accessories and have the machines assembled elsewhere. Under the latter system, each kind of accessory is manufactured at small factories specializing in the particular manufacture, for supply to a wholesaler who assembles the machines. In some cases, the wholesaler furnishes the parts to retail traders who themselves assemble the machines.

Factories manufacturing bicycles or parts are generally on a small scale. About 92% of the 545 bicycle factories existing throughout the country in 1933 were small establishments, employing not more than

50 operatives. Although very limited in scale, many of these factories are well organized and equipped with efficient machinery.

Because of the recent development of the export trade in bicycles, the necessity of establishing some form of control became necessary, hence the formation of the Japan Federation of Bicycle Manufacturers' Associations, which regulates the production and price of parts, whilst the Japan Federation of Bicycle Exporters' Associations (establ. 1929) undertakes the inspection of parts for export. For the control of export volume and prices, a quota system has been adopted. In determining the minimum export price, the same quota system is observed, the standard varying according to destination.

The export trade in bicycles and parts has shown great expansion. Up to about 1931, exports, excluding tyres, did not exceed 3 million yen a year, but there has since been a steady advance. Principal destinations are South Asia, China, British India, the Kwantung Leased Territory and Manchoukuo.

Imports in recent years have been limited to motor cycles and parts from the United States and England, the total amounting to about ¥400,000–800,000.

TABLE 237

PRODUCTION, EXPORTS AND IMPORTS OF BICYCLES INCLUDING PARTS

(in 1,000 yen)

	1929	1932	1933	1934	1935
Production[a]					
Bicycles (incl. parts)	18,731	21,982	28,561	...	...
Motor cycles	113	1,619	1,706	...	...
Total	18,844	23,602	30,267	...	...
Exports					
Bicycles and frames	*	*	*	3,826	4,414
Saddles	*	*	*	1,343	1,239
Rims, forks and handle bars	*	*	*	2,712	2,422
Parts and accessories	*	*	*	11,022	9,361
Total	3,430	6,028	12,114	18,904	17,436
Imports					
Motor cycles	1,562	580	510	510	323
Other bicycles	45	3	0·8	0·3	0·9
Parts and accessories	1,236	211	109	72	85
Total	2,843	794	620	584	408

(a) Production of factories employing more than five operatives. * Unavailable.

4. The Electrical Engineering Industry

General Survey. The electrical engineering industry in Japan dates back to the year 1872, when the first telegraphic apparatus was produced. In the initial stages, activities did not extend beyond the repair and imitation of imported articles. However, as a result of technical progress, the industry by the close of the Russo-Japanese War (1904–1905), developed to the stage where a large variety of machines and apparatus was produced. The outbreak of the World War, which interrupted and almost stopped the importation of foreign manufactures, coupled with the expansion of electric power enterprises, gave an impetus to this branch of engineering, which at the present time is in a position to compete with Western countries both as to technique and production in almost all lines of electrical machines and supplies. The output has been so amplified of late that, in addition to production meeting the whole domestic demand, large quantities of apparatus are now exported.

TABLE 238

Production Conditions of the Electrical Engineering Industry

(in 1933)

Manufactures	Number of factories	Number of workers	Prime movers in operation		Output (¥ 1,000)
			Number	Actual H.P.	
Electrical machinery, apparatus, tools, etc.	432	22,312	4,835	39,091	89,057
Telegraphic, telephonic and other apparatus for communication purposes	164	6,958	1,294	3,759	31,346
Batteries	52	3,183	420	3,656	13,821
Electric bulbs	310	9,715	3,052	11,215	32,888
Wire and cables	86	5,240	1,658	19,124	67,639
Total	1,044	47,408	11,359	76,693	234,751

At the close of 1933, there existed in the country over 1,000 factories with about 58,600 employees, including more than 47,000 operatives engaged in factory work. Prime movers in operation during that year exceeded 11,000, with a total horse-power of 76,693, the total production reaching 235 million yen. The electric branch accounts for 19% of the number of operatives, 20% of the actual

horse-power of prime movers in operation, and 26% of the total value of output of the entire engineering industry.

The ratio of the cost of materials to production rose to 46·2% in 1933 from 43·0% in 1931, while that of wages to production declined

TABLE 239

FACTORS IN PRODUCTION COSTS OF ELECTRICAL ENGINEERING

	1929		1931		1933	
		Ratio to output (%)		Ratio to output (%)		Ratio to output (%)
Production (¥ 1,000)	231,506		137,279		234,751	
Cost of materials (¥ 1,000)	85,550	37·0	99,111	43·0	108,384	46·2
Wages (¥ 1,000)	24,635	10·6	19,140	14·0	26,825	11·4
Fuel (excl. gas: ¥ 1,000)	1,106	0·48	998	0·7	1,464	0·6

to 11·4% in 1933 from 14·0% in 1931. The increase in the cost of materials is mainly due to an advance in prices, particularly of copper. It is presumed, however, that this price advance was offset by improved efficiency.

Total production in 1929 reached 196 million yen. A decline to 122 million yen was recorded in 1931, but production has again advanced since 1932, and in 1933 amounted to 208 million yen.

TABLE 240

PRODUCTION OF ELECTRICAL MACHINERY, APPARATUS AND TOOLS

(in 1,000 yen)

	1929	1931	1932	1933
Electric generators	7,914	4,866	4,638	7,721
Electric motors	16,032	10,869	9,886	21,554
Rotary converters	1,714	1,083	599	1,470
Transformers	12,331	5,884	6,618	9,977
Electric heaters	1,904	1,131	1,311	1,416
Electric meters	2,128	2,657	3,997	7,312
Insulated wires	36,651	21,442	26,329	39,488
Electric cables	21,316	10,421	10,190	17,850
Communication instruments (wire)	4,715	9,582	11,552	19,298
Communication instruments (wireless)	9,111	6,284	7,032	7,697
Batteries	12,421	7,581	8,598	11,457
Electric bulbs	17,764	18,039	19,685	21,971
Total (incl. other goods)	195,878	122,367	132,386	207,544

Although figures for 1934 are still unavailable, it is estimated that the value of output approximated 270 million yen in that year.

Electrical goods have been exported since 1925 in increasing quantities, the value in 1935 reaching about 39 million yen. On the other hand, imports, which formerly exceeded exports, have declined gradually of late, the ratio of imports to domestic demand declining from 8·6% in 1929 to 1·7% in 1934.

Electric bulbs, insulated wires and electrical machines were the leading items in exports until about 1925, but thereafter shipments of electric bulbs increased considerably, reaching 10 million yen in 1932, or over 70% of the total exports of electrical machinery and supplies. In recent years, however, exports of electric bulbs have fallen off, while those of the two other items have increased, remarkably. There was also a sharp advance in telephone apparatus, batteries, etc., particularly of the former, in 1934, chiefly to the Kwantung Leased Territory and Manchoukuo.

TABLE 241

EXPORTS AND IMPORTS OF ELECTRICAL MACHINERY, APPARATUS, TOOLS, ETC.

(in 1,000 yen)

	Electrical machinery	Machinery for communication	Batteries	Electric bulbs(a)	Insulated cables	Total
Exports						
1925	2,132	354	*	2,222	1,775	6,483
1929	2,454	920	*	5,400	3,529	12,300
1931	2,686	521	*	5,874	2,366	11,447
1934	10,055	5,241	1,443	8,942	7,362	33,044
1935	8,042	5,067	1,724	7,637	11,382	33,852
Imports						
1925	12,882	16,924	*	738	2,471	33,015
1929	8,810	3,821	422	986	1,942	17,218
1931	2,322	1,223	176	494	290	5,017
1934	1,439	1,468	133	620	100	3,762
1935	2,474	1,514	85	557	108	4,738

(a) Import figures for electric bulbs include electric carbon. * Unavailable.

Principal imports are electrical machines and telegraphic and telephonic instruments, which until about 1926, amounted to 10 million yen each annually, but have since recorded a continuous decline.

Electrical Machinery. Trial production of machinery for electric power generation in Japan was undertaken by the Miyoshi Engin-

eering Works in 1884. Later on, home manufacturers succeeded in manufacturing and repairing such machinery for the Tokyo Electric Light Company. After the World War, the industry suffered with other branches from the reactionary depression, though much technical progress continued to be made.

Generators. With the improved situation of electric power enterprises, there has arisen an increase in the demand for alternating current dynamos required for the erection of new power stations or the enlargement of existing plants, and for factories engaged in the manufacture of export articles and war supplies. Advancing at an equal pace has been the demand for direct current dynamos for steel works, and the electro-chemical industry, where they are principally used for electrolyzing and electro-plating purposes. There is also a good demand for direct-current dynamos for marine purposes.

Electric Motors. A marked development both in the quality and production of induction motors has been shown, particularly of three-phase induction motors for steel works. Among other electric motors which have been in great demand recently are those used for compressors, fans and pumps, for individual drive of spinning and weaving machines, small-type motors for the rayon industry, etc.

Transformers. The manufacture of transformers also deserves mention. Among special transformers in good demand are those for interconnection of power transmission systems, as well as for voltage and phase-regulation in electric furnaces.

Electric Meters. Until some time after the Electricity Measurement Law was enacted in 1912, all integrating electric meters were imported. Meters were

TABLE 242

EXPORTS AND IMPORTS OF ELECTRICAL MACHINERY

(in 1,000 yen)

	1932	1933	1934	1935
Exports				
Manchoukuo (incl. Kwantung L. T.)	795	2,036	8,920	...
China	297	342	760	...
Total (incl. other countries) .	1,414	2,724	10,055	8,042
Imports				
Electric meters	312	178	128	136
Electric generators and motors	1,643	1,734	1,224	2,257
Transformers	111	64	85	75
Dynamos combined with prime movers	47	112	2	6
Total	2,114	2,089	1,439	2,474
Germany	*786*	*1,039*	*568*	...
U. S. A.	*716*	*489*	*480*	...

first produced in Japan in about 1914, and the present output is considerable. Volt meters, amperemeter and wattmeters for switch boards were developed many years ago, and production has now reached substantial proportions. In the manufacture of special measuring instruments, Japanese industry has made big strides, and is now in a position to compete with foreign manufactures.

Home production of electrical machinery, apparatus, instruments, etc., has now almost supplanted imported articles, and these articles are now exported in increasing volume.

Telegraphic and Telephonic Instruments. The manufacture of these instruments in Japan antedates all other branches of electrical engineering. A working model of a telegraphic instrument was made as early as 1872, and five years later ten Morse inkwriters were manufactured by Kobusho (the defunct Department of Industries), being followed in the year 1881 by the completion, at the same Department, of telephonic and telegraphic instruments. About this time, the Oki Co. commenced manufacture as the first private establishment in this line. When the first telephone exchange service was inaugurated between Tokyo and Yokohama in 1900, the machines and apparatus needed were manufactured by the Department of Communications.

TABLE 243

EXPORTS AND IMPORTS OF TELEGRAPHIC AND TELEPHONIC INSTRUMENTS

(in 1,000 yen)

	1932	1933	1934	1935
Exports				
Telephonic instruments and apparatus	642	2,834	5,241	5,067
Manchoukuo (incl. Kwantung L. T.)	*574*	*2,396*	*4,186*	...
China	*34*	*56*	*505*	...
Imports				
Telegraphic instruments and apparatus	219	384	111	548
Telephonic instruments and apparatus (incl. radio broadcasting instruments)	1,445	2,606	1,358	966
Total	1,664	2,990	1,468	1,514
U.S.A.	*693*	*691*	*531*	...
Great Britain	*229*	*461*	*134*	...
Germany	*638*	*1,741*	*487*	...

The invention of wireless telegraphy and of the crystal wave-detector stimulated the development of long-distance wireless communication, and gave rise to a new industry engaging in the manufacture of wireless apparatus.

The demand for electrical apparatus for communication purposes has grown in recent years on account of the extension of the automatic telephone switchboard and the erection of radio broadcasting stations (first station established in 1925). Requirements of the Army and Navy are also increasing.

Batteries. The manufacture of storage batteries was started in Japan only after 1883, but large quantities continued to be imported for some time. During the World War two large plants specializing in the manufacture of secondary batteries were established, one in Kyoto and the other in Osaka. These are the Nippon Denchi Kaisha (Japan Battery Manufacturing Co.) of Kyoto, established in 1917 and the Yuasa Chikudenchi Seizo Kaisha (Yuasa Storage Battery Manufacturing Co.) of Osaka founded in 1918. Since 1925, storage batteries have come to be widely used, but the demand for radio broadcasting has fallen off recently on account of the change to the eliminator system. On the other hand, the use of batteries in motor cars has become more extensive than before, so that requirements in this direction are increasing steadily. Batteries appeared in export statistics for the first time in 1934, the total amounting to ¥1,444,000 in that year and ¥1,724,000 in 1935. Imports in 1934 and 1935 are valued at about ¥134,000 and ¥85,000, respectively.

Electric Bulbs. Electric bulbs manufactured in the country appeared on the market for the first time in 1890. They were the products of the Hakunetsusha, an electric bulb factory belonging to the Tokyo Electric Light Company. The establishment was reorganized as an independent joint-stock company in 1896, and three years later renamed the Tokyo Electric Company. At the same time, the factory was enlarged and brought up-to-date with the aid of capital supplied by the General Electric Company of America. As a result of the installation of modern equipment and the technical progress attained, the products of this concern are now not inferior to the imported articles. Several other factories came into existence after 1907, and the industry was thus enabled to meet the home demand by the end of 1911. The World War offered an opportunity for the exploitation of overseas markets.

The number of houses fitted with electric lamps throughout the country was about 11,380,000 at the end of 1933, corresponding to

90% of the total number of households. Except Switzerland, no other country equals Japan in the utilization of electricity for lighting purposes. The annual output of electric bulbs at present exceeds 340 million bulbs. The larger part of the total output is exported, totalling 270 million bulbs in 1933.

TABLE 244

PRODUCTION AND EXPORTS OF ELECTRIC BULBS

(in 1,000 yen)

	1926	1929	1932	1933	1934
Production	15,225	17,764	19,685	21,971	...
Quantity (in million bulbs)	*62·6*	*134·2*	*286·7*	*340·4*	
Exports	2,955	5,400	10,187	10,167	8,942
Quantity (in million bulbs)	*30·4*	*96·5*	*272·0*	*271·0*	*226·0*
U. S. A.	1,485	2,846	4,470	3,065	2,962
British India	62	269	433	456	442
Manchoukuo (incl. Kwantung L. T.)	477	456	259	379	390

According to *Factory Statistics*, factories engaged in the manufacture of electric bulbs numbered 310 at the end of 1933. In addition, there are a large number of smaller factories employing not more than five workers. As manufacture is on a small scale, competition is very keen, which hinders the expansion of the Japanse export trade. The Tokyo Electric Company, the largest maker of electric bulbs is affiliated with the General Electric Company of America and manufactures bulbs for the domestic market only, while the bulk of exports is supplied by smaller establishments. Between 1931 and 1932, the Tokyo Electric Bulb Manufacturers' Association, the Tokyo Export Electric Bulb Manufacturers' Association, the Osaka Export Electric Bulb Manufacturers' Association and the Kwansai Standard Electric Bulb Manufacturers' Association (in Osaka) were established as controlling organs of the industry, in order to eliminate excessive competition. In November, 1933, a national control organ of the industry, known as the Japan Federation of Electric Bulb Manufacturers' Associations, was organized by amalgamation of the aforementioned associations.

Electric Cable and Wire. The Sumitomo Densen Kaisha (Sumitomo Wire Company), founded in 1897, is the pioneer in the manufacturing of electric cable and wire on an extensive scale. Other important makers are the Nippon Densen Kaisha (Japan Electric Wire Company) and the Tokyo Seisen Kaisha (Tokyo Electric Wire Company), established in 1910 and 1912, respectively. Due to the development

of electric power enterprises subsequent to the outbreak of the World War, many new concerns in this line came into existence. In the post-bellum period, especially after the rehabilitation works for the earthquake disaster in 1923 was completed, the requirements for electric cable and wire were greatly reduced until a sharp increase in the consumption of electric power in recent years led to a revival of the industry. However, the greatest stimulus to the recent growth of production was the marked development of the export trade. Imports of electric wire are decreasing year by year, and those of submarine cable were substantially reduced after 1932.

TABLE 245

EXPORTS AND IMPORTS OF ELECTRIC WIRE

(in 1,000 yen)

	1932	1933	1934	1935
Exports[a]	1,997	4,597	7,362	11,382
Manchoukuo (incl. Kwantung L. T.)	1,152	2,665	4,569	...
China	525	1,155	1,710	...
British India	73	149	214	...
Netherlands East Indies	54	193	183	...
Siam	43	98	134	...
Imports	131	75	100	108

(a) Insulated wire.

Great technical progress has been achieved by the electric wire manufacturing industry in recent years, and besides ordinary copper wire, many other kinds are now produced. Noteworthy is the aluminium wire manufacture by the Furukawa Denki Kogyo Kaisha (Furukawa Electrical Industry Co.) for the first time in 1920. Submarine cables are manufactured by the Furukawa, Sumitomo and Fujikura companies. A large concern specializing in the manufacture of submarine cable was organized in June, 1935, as a joint enterprise of the aforementioned three companies.

5. OTHER MECHANICAL INDUSTRIES

General Survey. Grouped under the heading of this section are all departments of engineering other than shipbuilding, car construction and the manufacture of electrical machines, apparatus, implements, etc., dealt with separately in the preceding sections. These miscellaneous branches, as a whole, occupy a very important position

in the engineering industry in Japan. The number of factories and workers engaged in this section of industry at the end of 1933 corresponded to 68% and 52%, respectively, of the total for all branches of engineering, while the production represented 45% of the total value of the engineering output. The enterprises coming under this head are numerous, but the more important, from the viewpoint of production, are the manufacture of prime movers, spinning and weaving machines, machine tools, fire-arms and ordnance, machines for the chemical industries, meters and gauges, etc.

TABLE 246

CLASSIFIED FACTORY STATISTICS AND OUTPUT FOR 1933

	Number of factories	Number of workers	Prime movers in operation		Value of production (¥ 1,000)
			Number	Actual H.P.	
Prime movers	454	8,280	1,237	7,746	22,874
Spinning and weaving machines	603	18,931	1,761	12,147	48,106
Machine tools	493	9,974	1,027	7,594	25,779
Machines for chemical industries	85	2,842	258	2,734	14,277
Gramophones	7	1,077	507	9,198	12,902
Fire-arms and ordnance	67	8,852	942	7,946	25,066
Other machinery, implements, apparatus, tools, etc.	3,573	89,957	10,341	63,612	252,068
Total	5,282	129,913	16,073	110,977	401,072

The development of these branches of engineering was even more marked than in other mechanical sections, production increasing from 192 million yen in 1931 to 401 million yen in 1933.

Viewed from the angle of production, the increase was more pronounced than in other engineering manufactures. Production dropped from 280 million yen in 1929 to 207 million yen in 1931, a decrease of 26%, but in 1933 jumped to 445 million yen or more than twice the figure of 1931. The value of the output of prime movers advanced to 71 million in 1933 from 28 million yen in 1931.

The increase was particularly pronounced in internal combustion engines and steam turbines, the output of the latter augmenting by more than five times compared with 1931.

During the same period, the production of machines for manufacturing and finishing purposes showed more than twofold advance from 59 million in 1931 to 126 million yen in 1933. Machines for the

metalworking industry advanced about three times, spinning and weaving machines about twice, and those for the chemical and ceramic industries five times and a half. Among other lines which similarly increased, are fire-arms, ordnance, elevators, cranes, winches, scientific and medical instruments, optical instruments, etc.

Production in Japan of machines in this category is still insufficient to meet the entire demand of the country, and there was a fair

TABLE 247

OUTPUT OF IMPORTANT MACHINERY AND TOOLS

(in 1,000 yen)

	1929	1931	1932	1933
Prime movers, including boilers	39,586	28,584	38,568	70,921
Steam boilers	5,650	6,369	4,449	11,555
Steam turbines	755	1,459	1,023	7,269
Internal combustion engines	27,123	18,494	30,575	48,147
Machine tools	11,559	9,175	13,514	22,847
Metalworking machines	5,585	3,944	8,189	15,403
Woodworking machines	1,625	1,419	1,354	1,976
Mechanical tools	4,348	3,812	3,962	5,468
Spinning and weaving machines	30,059	22,756	27,479	44,151
Spinning machines	5,700	6,038	7,981	12,237
Weaving machines	8,787	5,187	5,863	8,532
Assorting and working machines	1,288	840	981	2,019
Other textile machines	3,382	1,925	4,387	5,665
Parts and accessories	10,903	8,762	8,263	15,659
Other manufacturing and working machines	40,508	27,371	35,173	59,227
Agricultural machines and implements	4,419	2,915	4,298	4,756
Mining machines	3,558	2,047	3,060	6,190
Ceramic machines	2,744	710	1,044	4,352
Machines for the chemical industry	3,876	2,638	4,869	14,341
Machines for the foodstuff industry	4,930	3,443	3,563	5,496
Printing machines	7,076	5,321	6,616	6,993
Fire-arms and ordnance	18,646	13,443	23,186	32,218
Elevators, cranes and winches	9,619	5,507	6,083	11,248
Pumps	8,608	6,238	6,511	9,669
Weights and measures	11,373	6,882	6,931	8,762
Clocks, watches and time-recording machines	9,067	6,075	6,669	8,365
Experimental, scientific, medical and surveying apparatus	11,112	3,288	4,366	7,638
Microscopes, telescopes and binoculars	521	422	824	5,125
Musical instruments and gramophones	6,964	7,078	6,980	9,641
Other machinery	82,715	69,761	111,805	155,264
Total	280,336	207,181	288,089	444,896

TABLE 248

EXPORTS AND IMPORTS OF IMPORTANT MACHINERY AND TOOLS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Boilers and parts	604	409	344	577	2,652	1,901
Metal and wood working machines	401	220	216	566	1,189	1,941
Spinning and weaving machines	3,661	5,156	3,651	4,879	8,378	12,547
Printing machines	454	249	372	900	1,128	1,105
Clocks, watches and time-recording machines	2,055	689	920	2,092	3,221	3,400
Scientific and musical instruments	2,958	2,638	3,199	6,773	9,597	11,873
Pumps	384	352	344	909	1,572	1,623
Spectacles	292	222	413	997	1,451	2,056
Mechanics' tools and cutlery	975	445	830	2,845	4,495	6,205
Other machinery, instruments, apparatus and tools	5,724	5,752	5,027	15,726	25,146	23,788
Total	17,508	15,132	13,316	36,264	58,829	66,439
Imports						
Boilers and fuel economizers	2,679	2,506	1,243	1,915	4,484	6,842
Internal combustion engines	18,113	10,931	12,471	16,148	20,778	15,559
Air compressors	2,540	643	810	669	1,724	1,053
Metal and wood working machines	5,624	3,070	5,808	16,249	21,433	18,296
Spinning and weaving machines	15,757	3,875	8,522	3,731	8,271	6,747
Sewing machines and parts	9,502	2,735	3,266	2,187	5,866	7,473
Fire-arms	1,968	779	5,827	6,452	1,031	1,117
Clocks, watches and time-recording machines	6,988	2,769	2,997	2,445	2,796	4,213
Scientific and musical instruments	10,799	6,417	6,679	7,376	6,936	8,870
Mechanics' tools	2,850	1,249	801	532	1,024	1,287
Other machinery, apparatus, instruments and tools	59,944	26,575	27,607	31,282	36,221	15,519
Total	136,764	61,459	76,031	88,893	110,582	122,976

volume of imports, the value in 1929 totalling 137 million yen as against exports of 17 million yen. Imports decreased in 1931, but again advanced in later years due to the demand for internal combustion engines, metalworking machines and textile machinery. Exports advanced to an even a greater extent, although the total figure has not yet reached more than half the amount of imports. The increase in exports was fairly general, but was particularly prominent in scientific and musical instruments, steam boilers, spectacles, mechanics' tools, etc.

Prime Movers. Formerly, large machinery, such as steam turbines, water turbines, etc., were mostly imported, but as a result of the marked proficiency attained by home makers, imports have steadily declined. The growing demand for motive power, due to the recent industrial expansion, has brought about the erection of new power plants and the extension of existing ones, and such a development has favoured the home industry specializing in the manufacture of prime movers. The high-pressure and high-temperature steam turbines of 53,000 kw. capacity, installed in the power house of the

TABLE 249

EXPORTS AND IMPORTS OF PRIME MOVERS INCLUDING BOILERS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Boilers	604	409	344	577	2,652	1,901
Manchoukuo (incl. Kwantung L. T.)	*146*	*209*	*218*	*263*	*2,187*	...
China	*54*	*58*	*44*	*140*	*251*	...
Asiatic Russia	*400*	*122*	*73*	*132*	*184*	...
Imports						
Boilers and fuel economizers	2,679	2,506	1,243	1,915	4,484	6,842
Great Britain	*1,464*	*1,909*	*808*	*1,376*	*3,692*	...
Steam turbines	1,099	771	272	343	771	1,331
Switzerland	*208*	*136*	*30*	*92*	*235*	...
Internal combustion engines	18,113	10,930	12,471	16,148	20,777	15,559
U.S.A.	*8,649*	*4,379*	*5,331*	*6,134*	*14,639*	...
Water-turbines	1,096	—	9	—	150	91
Germany	*191*	—	—	—	*150*	...
Total	22,987	14,207	13,995	18,406	26,183	23,823

Kwansai Kyodo Karyoku Company in 1933, are representative specimens of home-made machinery. Water turbines of 50,000 kw., 52,500 kw., 62,200 kw., and 75,000 kw. have been supplied by home makers in recent years.

Earlier types of Japanese-made internal combustion engines were small petroleum engines for agricultural purposes, and these are at present exported to a considerable amount. The manufacture of large engines for power generation is of comparatively recent development.

The production capacity of the home industry is still insufficient to meet the domestic demand, and consequently imports of prime movers and similar machinery in 1934 amounted to about 26 million yen ,comprising mainly internal combustion engines. An increase in imports was noted in almost all kinds of machinery in this line, while exports were limited to steam boilers and their accessories.

Machine Tools. The first home-made tools offered for sale were lathes manufactured by the Ikegai Iron Works of Tokyo in 1899. About the same time there also appeared on the market lathes of English type produced in Osaka. The Russo-Japanese War (1904–1905), afforded this branch of engineering an opportunity for development, on account of the large demand for lathes used in the manufacture of war supplies.

In the meantime, development continued and the Karatsu Iron Works, established in 1909, succeeded in the manufacture of large-type machine tools for naval arsenals, private dockyards and shipbuilding yards, while the Ikegai Iron Works took up the manufacture of lathes for the Japanese and Russian military authorities. The World War brought about a further expansion of the industry due to the suspension of imports. Among newly established enterprises, the more prominent were the Tokyo Factory of the Niigata Iron Works, the Tokyo Gas & Electric Industrial Co., the Kisha Seizo Co., the Sonoike Engineering Works, the Rokuroku Shoten Engineering Department, etc. The unusual activity and prosperity of the machine tool industry lasted almost throughout the period of the World War, but with the termination of hostilities, a reactionary depression severely affected the industry. The situation was further aggravated by the conclusion of the Washington Treaty in 1922, and the world-wide economic depression in later years. Better times were, however, in store for those enterprises which survived this difficult period and remained in the field.

The Manchurian incident in the autumn of 1931 resulted in an expanding demand from the armament industries, and from the

industries manufacturing export goods. The tools in good demand, and produced in large quantities, were those required in the manufacture of ordnance, aircraft, and other products requiring a comparatively high degree of precision in the process of manufacturing and finishing.

Because of the great improvement in the quality of home-made machine tools, Japan is no longer dependent on imported tools, except some special kinds which are not yet produced at home. However, on account of the enormous demand in recent years, which exceeded the increased production capacity of the home industry, the value of imports advanced to ¥21,400,000 in 1934 and ¥18,000,000 in 1935.

Principal sources of supply were the United States, Germany and Great Britain. The export of machine tools, though small, has shown a big increase and would probably have been greater but for the pressure of the home demand.

TABLE 250

EXPORTS AND IMPORTS OF MACHINE TOOLS

(in 1,000 yen)

	1931	1932	1933	1934	1935
Exports					
Manchoukuo and Kwantung L.T.	47	66	334	912	...
China	61	67	70	86	...
Asiatic Russia	106	73	147	142	...
Total	219	216	566	1,189	1,941
Imports					
Great Britain	363	1,249	1,708	2,172	...
Germany	1,334	1,373	8,055	9,246	...
U.S.A.	1,129	2,929	5,724	8,810	...
Total	3,069	5,808	16,247	21,432	18,296

Spinning and Weaving Machines. The manufacture of spinning and weaving machines in Japan was first undertaken at about the time of the Sino-Japanese War (1894–95). The expansion of the spinning and weaving industry after the Russo-Japanese War (1904–05) stimulated the production of these machines, the quality of which showed great improvement. The suspension of imports during the World War brought about a further expansion and even led to an export trade.

The Toyoda Weaving Machine Co., the Nogami Automatic Weaving Machine Co., and the Toyoda Automatic Weaving Machine Co., are the most prominent producers. The Toyoda automatic weaving machine, invented in Japan some years ago, deserves special mention as indicating the progress attained in this line. These concerns manufacture woollen and other weaving machines, in addition to cotton weaving machines. The manufacture of silk and rayon weaving machines is well developed, and is conducted as a special line.

Before the World War, almost all spinning machines were imported from Great Britain. Later, in 1919, the Toyoda Weaving Machine Mfg. Co. started the manufacture of ring frames, roving frames, etc. This enterprise proved a success, and in 1921 the company supplied 10,000 spindles to a spinning concern in Shanghai. In addition, the Toyoda Automatic Weaving Machine Mfg. Co. also makes several kinds of spinning machines. Thus, Japan is now supplying spinning machines to foreign countries, though the volume is still very limited. The expansion in all lines of the textile industry, which induced many concerns to increase their capacity and also led to the establishment of several new enterprises, offered the spinning and weaving machine industry a fine opportunity for development as well as rapid technical progress. Nearly all large factories where foreign machines predominated formerly, have now adopted home-made machines.

This branch of mechanical engineering has recently shown great activity due to the demand for equipment from new enterprises and extensions. Recent developments have led to the standardization of spinning and weaving machinery with a resultant cut in production costs.

Imports of spinning and weaving machines reached the highest mark following the close of the World War, with a total exceeding ¥ 30,000,000, but have gradually declined to ¥ 3,000,000 in 1933, and ¥ 8,270,000 in 1934. The decline is even more marked than the import value reveals in view of the fall in Japanese exchange rates. The greater part of imports were spinning machines from France and Germany. Exports of spinning and weaving machines have expanded in recent years to ¥ 8,378,000 in 1934, and ¥ 12,550,000 in 1935, eclipsing the total import in the same year. The principal destinations were China, British India and Manchoukuo.

[TABLE

TABLE 251

EXPORTS AND IMPORTS OF SPINNING AND WEAVING MACHINES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Manchoukuo and Kwantung L. T.	223	192	114	474	580	...
China	3,010	4,518	2,698	3,019	5,866	...
British India	325	329	712	1,234	1,561	...
Total	3,661	5,156	3,650	4,878	8,377	12,547
Imports						
Spinning machines	14,486	3,513	7,998	3,520	6,394	4,613
France	*2,585*	*474*	*3,542*	*2,430*	*2,489*	...
Germany	*2,036*	*1,242*	*1,130*	*534*	*2,098*	...
Weaving looms	637	55	106	12	40	225
Germany	*250*	*36*	*65*	*11*	*32*	...
Finishing machines	411	161	342	116	62	265
Germany	*267*	*113*	*318*	*84*	*35*	...
Knitting machines	222	145	75	82	1,773	1,645
Germany	*104*	*30*	*38*	*62*	*1,289*	...
Total	15,756	3,873	8,522	3,730	8,270	6,747

CHAPTER XX

THE CHEMICAL INDUSTRY

1. General Survey

The chemical industry has made unprecedented progress in recent years and now excels in importance many of the older manufacturing industries of the country. At the end of 1934, capital investment in the chemical industry amounted to 935 million yen, or 13·8% of the entire industrial investment. The number of chemical plants, according to *Factory Statistics*, was 4,313 at the end of 1934, while the workers in this branch were returned at 8·9% of the total number engaged in the manufacturing industries. Production amounted to 1,480 million yen in 1934, and exports were valued at 260 million yen, or 10·6% of the total exports in 1935.

The number of companies engaged in the manufacture of chemical products at the end of 1934 was 2,600, with a total paid-up capitalization of 935 million yen, of which 209 million yen were invested in the production of artificial manure, 196 million yen in paper mills and 153 million yen in the rayon industry. The capital invested in enterprises engaged in the manufacture of oils and fats, pharmaceutical products and heavy chemicals is also comparatively large.

The business results of the companies concerned reveal that during the depression, which prevailed from 1929 to 1931, the rate of profits was rather smaller in the chemical than in other branches of manufacturing industry, but in the subsequent economic recovery, the advance in profits was much more rapid in the former, the rate in 1934 being 11·7% as against 8·6% in the manufacturing industries as a whole.

Rayon, dyestuffs, heavy chemical and celluloid enterprises have been most prosperous in recent years, while the match industry is still in a depressed condition. The results of companies manufacturing oils and fats, rubber products, pigment, pharmaceutical products and artificial manure have much improved, but are still below the average of the chemical industry in general.

TABLE 252

BUSINESS RESULTS OF CHEMICAL COMPANIES

	Net profit rate (% p. a.)				Dividend rate (% p. a.)			
	1929	1931	1933	1934	1929	1931	1933	1934
Pharmaceutical products	8·3	5·6	6·8	5·7	5·3	3·8	3·7	4·5
Heavy chemicals	4·6	4·4	12·4	14·9	3·0	2·7	6·7	8·5
Dyestuffs	10·3	5·4	20·8	22·8	5·2	4·5	6·4	9·3
Paint and pigment	6·1	5·4	4·8	7·6	4·4	3·7	3·6	4·6
Soap and toilet articles	11·7	5·1	11·1	10·6	7·0	13·1	4·0	4·7
Matches	- 2·8	-13·4	-17·7	- 3·7	0·03	0·02	0·02	0·1
Oils and fats	3·9	- 1·2	5·7	4·9	3·4	1·3	4·0	3·2
Rubber products	2·7	- 2·5	9·2	9·6	4·3	2·0	8·5	8·4
Celluloid	13·5	5·7	16·8	20·6	6·3	3·8	6·7	8·6
Rayon	7·6	6·4	18·2	17·7	3·1	4·4	10·5	11·3
Paper	12·7	5·5	12·0	12·9	10·0	5·0	8·2	7·7
Artificial manure	9·9	1·7	10·3	9·5	8·3	3·4	5·9	6.6
Other chemical products	8·0	4·1	11·2	9·4	5·2	4·1	4·2	9·2
Total	8·8	3·5	11·2	11·7	6·5	4·0	6·7	7.5

Based on *Company Statistics*. - Indicates losses.

2. PRODUCTION

Production of chemical manufactures in 1929 was valued at 1,078 million yen, but advanced to 1,300 million yen in 1933.

The manufacture of heavy chemicals is the most advanced, the value of output in 1933 in this branch being returned at 205 million yen. Next in importance are paper and pulp, manure and rayon.

The progress in fundamental heavy chemicals and of chemical products of rather high quality is particularly noteworthy as indicating the trend of the industry. Rayon, dyestuffs and intermediates, mineral oil, photographic materials and heavy chemicals are among those which have shown the greatest expansion in output. Although their value is still insignificant, carbon products, artificial perfumery and phenol resin have also shown an advance.

Heavy Chemicals. This basic branch of the chemical industry has only recently shown a significant development. Production in 1933 represented an increase of 76% over the figure for 1929, compared with an advance of 21% for the chemical industry as a whole.

The principal heavy chemicals produced in Japan are sulphuric acid, hydrochloric acid, nitric acid, soda ash, caustic soda, am-

TABLE 253

CLASSIFIED OUTPUT OF CHEMICAL MANUFACTURES

(in 1,000 yen)

	1929	1930	1931	1932	1933
Pharmaceutical products	78,093	66,620	60,063	61,605	75,584
Heavy chemicals	116,269	113,276	113,553	140,916	205,111
Dyestuffs and intermediates	15,856	12,547	12,717	22,172	34,041
Paint, varnish and pigment	39,203	35,113	34,341	40,280	52,615
Soap and toilet articles	70,571	65,391	60,215	61,614	72,889
Explosives	8,666	8,260	6,437	8,272	15,501
Mineral oils	37,291	40.142	43,035	59,314	78,012
Animal and vegetable oils and fats	73,258	59,168	46,068	54,070	76,853
Rubber manufactures	76,599	60,767	56,105	65,883	86,705
Paper and pulp	211,258	170,809	145,808	143,066	175,925
Celluloid	19,508	12,346	10,404	12,218	24,202
Raw celluloid	12,279	8,030	7,801	7,975	16,675
Toys and combs	2,561	2,122	1,255	2,098	4,132
Rayon	45,393	49,687	50,696	61,703	104,072
Photographic materials	2,437	2,556	2,970	3,419	4,717
Manure	177,774	135,972	109,911	135,520	172,486
Hides	17,500	14,603	12,707	15,068	22,802
Vegetable volatile oils	15,146	13,749	11,183	13,280	14,533
Camphor	8,102	8,266	6,288	6,060	6,264
Camphor oil	786	969	945	977	1,027
Peppermint and peppermint oil	6,066	4,196	3,650	5,728	6,574
Perfumery	893	1,230	1,143	1,375	1,822
Phenol resin products	373	1,002	754	1,684	2,287
Gramophone records	6,030	6,540	6,154	8,740	11,640
Vulcanized fibre	1,132	686	731	709	1,458
Thickening material	3,669	3,043	2,976	3,786	4,982
Abrasives and products thereof	1,687	1,474	1,010	1,889	2,616
Carbon manufactures	1,616	1,645	1,574	1,946	3,396
Coke	25,710	23,809	16,569	17,207	21,048
Briquettes	4,351	1,932	5,505	6,517	11,154
Total (incl. other chemical products)	1,077,609	924,018	825,520	967,022	1,300,336

Taken from *Factory Statistics*.

monia, oxygen, carbide, bleaching powder, acetic acid, glycerine and magnesium carbonate. The output of ammonia, soda ash, magnesium carbonate and caustic soda has particularly increased of late.

It is noteworthy that the alkali industry has made great strides in recent years, notwithstanding the scarcity of domestic salt resources.

Synthetic chemicals have shown much development, synthetic nitric acid production registering a nineteenfold advance and syn-

thetic hydrochloric acid nearly a fivefold increase within the period from 1929 to 1933.

TABLE 254

OUTPUT OF PRINCIPAL HEAVY CHEMICALS

(in 1,000 metric tons)

	1929	1930	1913	1932	1933	
						(Value in 1,000 yen)
Sulphuric acid	1,146	976	1,051	1,334	1,614	31,019
Hydrochloric acid	34·8	36·1	40·0	47·4	67·6	2,422
Synthetic	7·3	8·2	18·4	25·1	34·6	1,371
Others	27·5	27·9	21·6	22·3	32·9	1,051
Nitric acid	15·5	19·7	27·6	35·0	56·9	7,256
Synthetic	2·9	14·4	23·9	33·2	53·9	6,728
Others	12·6	5·4	3·6	1·8	3·0	529
Soda ash	43·6	57·2	93·2	134·8	272·2	26,895
Caustic soda	57·6	34·7	48·5	75·1	131·7	22,007
Carbide	216	300	171	234	217	16,505
Bleaching powder	50·8	49·5	45·0	48·4	61·1	4,839
Acetic acid	6·1	5·3	5·9	4·5	6·8	3,013
Synthetic	1·8	2·9	3·6	4·5	6·2	2,869
Others	4·3	2·5	2·3	0·1	0·6	145
Glycerine	4·4	5·0	4·1	6·3	6·7	4,622
Magnesium carbonate	5·3	13·8	14·3	14·4	17·5	4,098
Oxygen	18·7	26·7	43·4	31·9	39·2	4,814
Ammonia	2·2	14·5	24·0	70·8	108·6	23,835

Ibid.

Pharmaceutical Products. Good progress has been made in the production of pharmaceutical products of coal tar and alkaloid derivation, among which may be mentioned antipyrine, aspirin, saccharin, salicylic acid, quinine, codeine phosphate and strychnine nitrate. The synthetic manufacture of adrenalin from safrol should also be mentioned, as well as the recent advance of hydrogen peroxide, glycerine, and formalin. Yeast for medicinal purposes is now extensively produced by breweries. Although the output of medicinal products has expanded in recent years, it cannot yet compare with the development of this branch in Europe and America.

Dyestuffs. Sulphide dyes are quantitatively the most significant, the output in 1933 totalling 12,000 metric tons, or approximately 75% of the total dyestuff production. The output of cotton colours amounted to 1,700 metric tons (11%) in the same year, that of basic colours to 730 metric tons (4·5%), vat colours, 570 metric tons (2·9%) and acid colours, 460 metric tons (2·9%). Although the output of acid

mordant colours is not large, the rate of production increase is notable. Vat dyestuffs and direct cotton dyestuffs also show an increasing tendency, particularly artificial indigo, which accounts for about 90% of the vat colour production.

TABLE 255

CLASSIFIED OUTPUT OF DYESTUFFS

(in metric tons)

	1929	1930	1931	1932	1933	
						Value (¥ 1,000)
Basic dyestuffs . .	376·8	257·6	316·8	566·5	725·7	4,128
Direct dyestuffs . .	701·8	609·4	744·3	1,321·5	1,748·2	5,681
Acid dyestuffs . .	309·4	239·6	217·4	393·6	459·2	1,806
Acid mordant dyestuffs	28·6	41·6	31·6	140·1	240·1	938
Mordant dyestuffs . .	19·8	20·8	27·6	14·6	11·9	87
Sulphide dyestuffs . .	6,290·0	6,472·9	8,106·9	11,172·7	12,008·4	6,041
Vat dyestuffs . . .	77·7	94·5	139·6	240·1	567·9	2,791
Oil and other dyestuffs	8·5	44·0	85·1	194·1	121·5	588
Total	7,812·6	7,780·4	9,659·4	14,043·1	15,972·8	22,060
Intermediates . . .	11,517	7,164	9,014	11,985	10,999	13,781

Based on investigations by the Ministry of Commerce and Industry.

Paint, Varnish and Pigment. In this category, paint accounts for approximately half the total production exclusive of pigment. The output of varnish and pyroxyline lacquers, the next important items, has shown a great advance in recent years. A similar trend has also been evident in regard to insulating materials, solvents and particularly fermented acetone and butanol.

Zinc oxide is of most consequence in the pigment class, followed by colours for painting, red lead, lithopone, printing and other inks. The success which has been achieved in the manufacture of high-grade lithopone, the advance in production methods of titanium oxide, and the rise of rubber chloride manufacture, are examples of the technical development attained by the pigment industry of the country.

Celluloid. The most developed branch of the chemical industry is that of cellulose, covering rayon, paper and celluloid manufacture. The rayon and paper industries are treated fully in other sections of this book. Features of the celluloid industry are the qualitative improvement and the advance achieved in the manufacture of incombustible celluloid and other celluloid-like plastics.

TABLE 256

OUTPUT OF PAINT, VARNISH AND PIGMENT

(in 1,000 yen)

	1929	1930	1931	1932	1933
Paint and varnish					
Japanese lacquer .	1,397	1,184	1,186	1,121	965
Varnish . . .	3,840	4,090	3,734	4,462	6,004
Paint	10,913	8,925	8,355	9,719	12,386
Pyroxyline lacquer .	769	611	59	985	1,192
Total (incl. other products)	18,334	17,589	15,744	17,839	23,869
Pigment					
Zinc oxide . .	3,961	3,796	3,602	4,420	6,260
Red lead . . .	1,937	1,347	1,316	1,861	1,972
Lithopone . . .	433	501	426	732	1,119
Colours for painting	938	1,305	1,514	1,942	2,130
Printing ink . .	5,540	5,613	4,700	5,417	6,495
Other inks . .	3,097	1,423	3,502	3,131	3,695
Total (incl. other pigments)	20,869	17,524	18,597	22,441	28,746

Based on *Factory Statistics*.

Artificial Manure. Mineral manure accounted for 51% (of a value of 110 million yen) of the total output of artificial manure in the year 1934. The production in 1934 of mixed manure was valued at 43 million yen (20%), vegetable manure, 33 million yen (15%), and animal manure, 30 million yen (14%).

The output of mineral manure has increased greatly during the past fifteen years, in contrast with a decline in vegetable manure.

TABLE 257

OUTPUT OF ARTIFICIAL MANURE

(in 1,000 yen)

	Animal manure	Vegetable manure	Mineral manure	Mixed manure	Miscellaneous	Total
1929	19,619	43,521	87,284	60,116	217	210,757
1930	12,703	30,061	76,953	38,551	62	158,330
1931	13,092	24,083	61,557	25,910	85	124,727
1932	19,678	25,806	81,798	30,659	48	157,989
1933	25,891	31,563	102,026	42,408	48	201,936
1934	30,026	33,338	109,837	42,812	86	216,130

Taken from *Statistical Return of Manure*, issued by the Ministry of Agriculture and Forestry. In addition, the output from unlicensed factories is estimated at about 26 million yen.

Soya bean cake, colza cake and cotton seed cake are the most important manures of vegetable origin; sardine oil cake, fish meal, herring oil cake and powdered fish bone, among animal manures, and sulphate of ammonia, superphosphate of lime and calcium cyanamide among mineral manures. The production of potassic manure is still very small.

TABLE 258

OUTPUT OF PRINCIPAL ARTIFICIAL MANURE

(in 1,000 metric tons)

	1929	1930	1931	1932	1933	
						Value (¥ 1,000)
Vegetable manure						
Soya bean cake	268	233	279	221	245	16,986
Colza cake	94	99	103	79	74	6,332
Cotton seed cake	50	43	26	20	29	1,887
Animal manure						
Herring oil cake	12	20	22	28	30	2,770
Sardine oil cake	55	42	77	125	141	9,418
Fish meal	20	25	44	48	82	7,010
Powdered fish bone	37	34	29	27	26	2,021
Mineral manure						
Sulphate of ammonia	235	266	393	460	471	41,151
Calcium cyanamide	161	228	168	181	223	15,159
Superphosphate of lime	947	957	862	1,041	1,117	33,148
New manure(a)	121	82	56	104	168	11,637
Mixed manure	777	627	547	617	710	42,408

Ibid. (a) Includes such kinds of manure as ammophos and leunaphos.

The rapid development of the production of mineral manure, and especially of sulphate of ammonia, has been a feature in recent years. Various improvements have been made in the methods of manufacture, such as the invention of catalysers, and apparatus for the oxydation of ammonia. It is also interesting to note that hydrogen used in the manufacture of sulphate of ammonia, which was hitherto mainly derived from the electrolysis of water, is now obtained also from water gas, coke oven gas and complete gasification gas.

Oils and Fats. The most important products in this category are of vegetable origin, the output in 1933 totalling 44 million yen, or 38% of the entire oil and fat production in that year. Other leading products are hardened and boiled oils, candles, animal oil and fat, and Japan wax.

The production of oils and fats has not been of outstanding importance in recent years. The output of animal oils and fats and

Japan wax has recently increased, but is still below that of 1929. Among vegetable oils and fats, soya bean oil is of first importance, followed by colza oil, perilla oil, linseed oil, coconut oil, cotton seed oil, sesame oil and castor oil.

TABLE 259

CLASSIFIED OUTPUT OF OILS AND FATS

(in 1,000 yen)

	1929	1930	1931	1932	1933
Vegetable oils and fats(a)	40,193	32,245	26,999	28,494	44,264
Soya bean oil	14,004	9,313	9,060	9,720	12,791
Colza oil	7,905	8,051	5,543	5,785	7,074
Animal oils and fats	8,833	6,461	2,354	3,659	5,077
Hardened and boiled oils, etc.	17,559	13,885	10,949	15,714	20,562
Japan wax	1,498	1,809	1,294	1,250	1,440
Candles	5,175	4,768	4,472	4,953	5,510
Total	73,258	59,168	46,068	54,070	76,853

Taken from *Factory Statistics*. (a) According to *Statistical Year Book of the Ministry of Commerce and Industry*, production of vegetable oils and fats in 1934 amounted to ¥ 49,902,000, compared with ¥ 44,358,000 in the previous year.

Much technical progress has been made in recent years in connection with the manufacture of hardened oil, the extraction of soya bean oil and the extensive use of the albuminous part of soya beans.

3. EXPORTS AND IMPORTS

General Survey. In spite of the expansion of the domestic chemical industry, production is not sufficient to meet requirements. Imports in 1935 exceeded exports by 100 million yen, though exports are now increasing at a greater rate than imports. Compared with 1929, exports advanced by 105%, and imports by only 19% in 1935, thus

TABLE 260

EXPORTS AND IMPORTS OF CHEMICAL MANUFACTURES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports	126,999	92,978	113,719	176,618	205,186	259,881
Ratio to total exports (%)	*6·3*	*8·3*	*8·3*	*9·6*	*9·6*	*10·6*
Imports	303,042	210,713	225,893	259,089	297,452	359,718
Ratio to total imports (%)	*13·7*	*17·1*	*15·8*	*13·5*	*13·0*	*14·6*
Excess of imports	176,043	117,735	112,174	82,471	92,266	99,837

producing an appreciable improvement in the balance of trade in chemical products. The relation of exports of chemical manufactures to total exports increased from 6·3% in 1929 to 10·6% in 1935, while imports also advanced from 13·7% to 14·6% in the same period.

A classified survey of the chemical trade reveals that more rubber, rayon, celluloid products, pharmaceutical products and heavy chemicals, soap and toilet articles, matches and explosives, paint, varnish and pigment were exported than imported in 1935. On the other hand, the import of oils, fats, pulp and paper, chemical manure, photographic plates and films, and dyestuffs exceeded the export trade in these products in the same year.

Compared with 1929, exports of semi-manufactured articles increased by about 70%, while exports of manufactured articles increased by more than 130% in 1935. Imports of semi-manufactured articles and of products, the raw materials for which are not found in Japan, increased by about 80%, while imports of manufactured goods declined by about 40% in the same period.

Exports. The value of exported chemical munufactures rose from 127 million yen in 1929 to 260 million yen in 1935, an increase of 105%. Pharmaceutical products and heavy chemicals were the chief items, but rayon exports show the greatest rate of progress in recent years, while dyestuffs, chemical manure, paint, varnish and pigment have also advanced greatly.

The bulk of exports of pharmaceutical products and heavy chemicals consists of pyrethrum, sulphur, camphor and peppermint, which may almost be considered natural products. In recent years, exports of heavy chemicals such as caustic soda, calcium carbide, soda ash, potassium chlorate and nitric acid have greatly advanced, reflecting the progress in nitrogen fixation and the electro-chemical industry.

The value of oils, fats, and manufactures thereof exported in 1935 totalled 55 million yen, of which vegetable oils accounted for 32 million yen, hardened oil for 9 million yen, fish and whale oil for 7 million yen, and mineral oils for 5 million yen. The bulk of vegetable oil is shipped to the United States, and the principal destinations of fish and whale oil are Germany, Great Britain and the Netherlands; China and the Kwantung Leased Territory are the largest consumers of Japanese mineral oils. Japan wax is mainly exported to the United States and Germany, and hardened oil to Italy, China, the Philippines, Germany and Great Britain.

Compared with 1929, exports of celluloid advanced tenfold in

quantity, and celluloid combs by four and a half times in value in 1935. On the other hand, exports of celluloid toys declined in recent years, though more recently have again reverted to an upward tendency. The largest customers for celluloid combs are the United States and Great Britain, and for toys, Great Britain, the United States, British India and Italy.

Overseas shipments of paint, varnish, pigment and filling materials have been active in recent years. Paint is the most important in this class, exports having quadrupled since 1929, followed by coal-tar, pitch and ink. Paints are exported principally to the Kwantung Leased Territory, British India and the Netherlands East Indies; pencils to China, the United States and Great Britain; coal-tar and pitch to Germany and China, and ink to China, the Kwantung Leased Territory and Manchoukuo.

Soap exports in 1935 were valued at ¥ 3,981,000, an increase of over twofold compared with 1929, while those of toilet articles advanced by 84% during the same period. Toilet soap is shipped mainly to Manchoukuo, the Netherlands East Indies, China and British India; other kinds of soap to Manchoukuo and British India, and toilet articles to Manchoukuo, the Netherlands East Indies and British India.

From the point of view of value, the trade in synthetic dyes is

TABLE 261

CLASSIFIED EXPORTS OF CHEMICAL PRODUCTS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Pharmaceutical products and heavy chemicals	28,410	19,211	27,198	41,530	45,608	50,023
Rubber manufactures[a]	22,990	23,137	28,800	45,600	39,394	40,193
Pulp and paper	31,716	23,847	17,888	25,214	29,407	34,366
Oils, fats and manufactures thereof	21,503	11,266	16,172	19,630	25,777	54,807
Rayon	184	2,245	5,911	9,483	22,400	22,853
Celluloid manufactures	8,767	5,230	6,367	10,998	14,496	19,021
Paint, varnish, pigment and filling materials	4,765	3,619	4,495	8,846	11,260	13,006
Soap and toilet articles	3,688	1,682	2,533	5,675	6,558	7,747
Coal-tar dyes	370	509	1,523	2,896	4,259	7,305
Matches and explosives	4,306	1,635	1,052	4,337	3,945	4,147
Chemical manure	[b] 300	[b] 597	[b] 1,780	[b] 2,409	2,582	3,413
Total	126,999	92,978	113,719	176,618	205,686	259,881

(a) Including estimated figures. (b) Not including sulphate of ammonia.

adverse to Japan; quantitatively, however, the reverse is the case, the reason being that the bulk of the synthetic dyestuffs exported consist of cheap sulphide dyes, while imports comprise mostly high-grade articles. Exports of sulphide dyes in 1935 represented 64% in volume and 30% in value of the total exports of synthetic dyes.

Principal destinations for Japanese matches are Hong Kong, the Straits Settlements and the United States, and for explosives, Manchoukuo and China. The export of chemical manure is still insignificant, amounting to only 3·4 million yen, or 1·3% of the total value of chemical manufactures exported in 1935. The principal destinations are the United States, British India, the Kwantung Leased Territory, the Netherlands East Indies and Hawaii.

Imports. The value of chemical products imported in 1935 totalled 360 million yen, or 14·6% of the total imports. There has been a gradual lessening of imports of comparatively high-grade articles and wholly manufactured goods, as against an advance in imports of semi-manufactured goods.

The most important items were oils and fats, which represented 45·3% of the total imports of chemical products in 1935. The import of these products and photographic plates and films has increased greatly during the past few years.

There has been a marked decline in the importation of rayon, rubber manufactures and chemical manure, and a similar tendency is observed as regards heavy chemicals, paint, varnish, pigment, soap, toilet articles and explosives.

Imports of chemical manure, with the exception of chloride of potash, have declined greatly since 1929, the downward tendency being most marked in sulphate of ammonia and nitrate of soda. Sulphate of ammonia is chiefly obtained from Germany and Great Britain; sulphate of potash from Germany and France; chloride of potash from the United States, Spain, Germany and Soviet Russia; and nitrate of soda from Chile and the United States.

The greater part of dyestuff imports are synthetic dyes. Quantitatively, imports have declined in recent years, but there has been a slight advance in value on account of the depreciation of Japanese currency. Colours other than mordant and acid mordant colours have declined remarkably, this tendency being most pronounced in artificial indigo. The import value of vat colours (excluding indigo), mordant and acid mordant colours, acid and direct cotton colours, especially of the first mentioned, has shown an advance.

The most important source of dyestuff imports is Germany, which

supplied about two-thirds of the total volume in 1935. The United States contributed 16% and Switzerland 12%, small quantities being also obtained from Great Britain and France in the same year.

Of paint, varnish, pigment and filling materials, Japanese lacquer is the most important, followed by carbon black, oxide of cobalt, pitch and asphalt. Japanese lacquer is mainly obtained from China and French Indo-China, carbon black from the United States, oxide of cobalt from Canada, Germany and Great Britain, and pitch and asphalt from the United States.

TABLE 262

CLASSIFIED IMPORTS OF CHEMICAL PRODUCTS

(In 1,000 yen)

	1929	1931	1932	1933	1934	1935
Oils, fats and manufactures thereof	108,140	95,170	108,648	119,270	133,429	162,811
Pulp and paper	28,524	25,108	29,735	40,363	59,277	72,296
Pharmaceutical products and heavy chemicals	47,466	35,283	41,160	44,757	44,348	44,557
Chemical manure	78,586	27,363	13,221	22,499	29,549	45,645
Dyestuffs	9,277	7,559	9,475	8,484	9,667	9,992
Paint, varnish, pigment, and filling materials	12,163	7,323	7,607	8,508	8,901	10,621
Photographic plates and films	5,877	4,831	5,982	6,773	6,614	7,627
Soap and toilet articles	4,101	3,058	3,479	3,554	3,549	4,301
Explosives	1,617	814	4,709	3,373	1,005	893
Rubber manufactures	6,436	3,198	1,469	870	990	889
Rayon	855	1,006	408	638	123	86
Total	303,042	210,713	225,893	259,089	297,452	359,718

4. RAW MATERIALS

Of sulphur and salt, the two basic materials of the chemical industry, sulphur is available in abundance either in a natural state or as sulphides. The domestic demand for sulphur is more than adequately met by home supply, and there was a considerable export amounting to 3·6 million yen in 1935. In the matter of salt, however, the resources of the country are very poor. Rock salt is not found in Japan, and the production of salt from brine is not large. Accordingly, Japan is at present obliged to obtain considerable sup-

plies, especially salt for industrial purposes, from abroad. In order to remedy this situation, the production of salt in the Kwantung Leased Territory, Manchoukuo and Taiwan has been greatly developed, though not to an extent to assure self-sufficiency. Salt was formerly almost entirely obtained from China and the Kwantung Leased Territory, but recently supplies from Africa, particularly

TABLE 263

IMPORTS OF SALT, PHOSPHORITE AND POTASSIC MANURE

(in 1,000 piculs)

	1930	1931	1932	1933	1934	1935
Salt						
Quantity	5,119	6,175	7,674	14,787	17,941	17,558
Value (1,000 yen)	*3,986*	*4,280*	*5,556*	*11,709*	*14,839*	*14,540*
Principal sources						
Manchoukuo	2,167	3,476	2,591	654	1,902	···
Kwantung L. T.	2,685	1,822	2,238	2,352	2,788	···
China	*	*	*	2,221	2,901	···
Netherlands East Indies	*	*	*	263	1,212	···
Africa	28	521	2,598	7,613	8,128	···
Phosphorite						
Quantity	9,704	6,867	9,324	11,728	11,376	12,628
Value (1,000 yen)	*12,012*	*7,213*	*11,097*	*15,374*	*16,677*	*20,060*
Principal sources						
Egypt	2,636	1,333	3,459	4,943	3,674	4,405
Oceania	*	*	*	2,469	2,472	···
United States	4,085	3,512	2,815	2,444	3,152	3,317
Straits Settlements	*	*	*	—	1,057	758
Sulphate of potash						
Quantity	1,130	642	312	390	815	1,410
Value (1,000 yen)	*7,699*	*4,360*	*2,111*	*3,987*	*6,065*	*10,218*
Principal sources						
Germany	1,068	510	232	311	753	···
France	3	140	66	78	49	···
Chloride of potash						
Quantity	399	474	236	562	764	1,281
Value (1,000 yen)	*2,664*	*3,287*	*1,825*	*5,009*	*5,790*	*8,935*
Principal sources						
United States	230	341	84	271	338	···
Germany	114	48	19	1	134	···
Spain	*	7	118	280	129	···

* Unavailable.

Egypt and Somaliland, have increased to such an extent as to account for about 45% of the total imports in 1934. Low freight rates on homeward-bound Japanese ships and superior quality with little magnesium contents are the main reasons for the expansion of salt imports from Africa.

The mineral resources in Japan auxiliary to the chemical industry are of little volume though of great variety. The output of iron, lead and zinc, important articles for the manufacture of pigments, is insufficient to meet the domestic demand, and a considerable quantity has to be procured from abroad. The output of phosphorite and potassium salts for the manure industry is also very small, and the bulk has to be imported. Phosphorite imported in 1935 totalled 12·6 million piculs, valued at 20·1 million yen, and was obtained chiefly from Egypt, the United States and Oceania. Potassium salt is imported from the United States, France, Spain and Soviet Russia.

Coal, which, apart from its utilization as fuel, is an important raw material in its natural and carbonized forms, is sufficiently produced in the country to meet the requirements of the chemical industry. However, the carbonization industry relies for part of its coal requirements on supplies from China and French Indo-China. The output of coke is adequate, but by-products from coal carbonization are not produced in sufficient quantities, and coal-tar distillates and products therefrom were imported to an amount of 121,959 piculs (¥ 1,655,000) and 22,301 piculs (¥ 3,541,000), respectively, in 1935.

In contrast with the favourable coal situation, the output of petroleum is exceedingly small, representing less than 10% of the yearly requirements. Petroleum is imported from the United States, the Netherland East Indies, Soviet Russia and British North Borneo. As regards paraffin and carbon black from natural gas, the domestic output has been steadily increasing in recent years.

The production of fish oil is most extensive, allowing of considerable exports, but the output of tallow is insignificant. Imports of beef tallow, mainly from Australia, the United States and New Zealand, amounted to 95,926 piculs (¥ 2,340,000) in 1935. The output of vegetable oils and fats is almost sufficient to meet requirements, though tung oil, olive oil, and cotton seed oil are imported to some extent. The importation of tung oil amounted to ¥ 796,000 in 1935, this oil being almost exclusively obtained from China. France supplies most of the olive oil, while cotton seed oil is almost entirely procured from the United States. Imports of vegetable oils and fats are small, but the import trade in oil seeds is of fair proportions. Cotton seed is quantitatively the most important, followed by rape

seed, mustard seed, and perilla seed. The greater part of oil seeds is procured from China, Manchoukuo, the Netherlands East Indies and British India.

The cultivation of rubber trees was once attempted in the Bonin Islands and Taiwan, but the results were not satisfactory. At present all rubber requirements are met by imports, the Straits Settlements being the principal source, followed by the Netherland East Indies.

A rubber-reclaiming industry has developed in recent years, but the present output is negligible. The production of synthetic rubber has not yet been attempted on a commercial scale.

Rosin is mostly obtained from the United States, and shellac from British India.

TABLE 264

IMPORTS OF RESINS

(in 1,000 piculs)

	1930	1931	1932	1933	1934	1935	
							Value (¥ 1,000)
Rosin . . .	334·8	409·1	349·3	368·2	351·3	461·2	4,271
Shellac . .	24·8	26·6	25·8	31·6	33·7	43·4	3,101
Gum arabic .	11·9	14·5	12·2	13·6	16·7	25·3	989
Other resins .	34·5	32·1	38·6	40·8	54·6	59·9	1,813

Imports of pulp have more than trebled during the last five years, rising from 79,000 long tons in 1930 to 270,000 long tons in 1935. The domestic production has not been able to keep pace with the rapid advance of the paper and rayon industries, and large quantities of pulp are imported from the United States, Norway, Sweden and Canada.

Abundant supplies of natural camphor are available in Taiwan, but due to the recent development in the manufacture of synthetic camphor, the future does not appear promising unless the cost of the natural product is reduced by improved methods of extraction and refining, and the utilization of by-products.

The production of hides and skins at present is insignificant, and imports in 1935, mainly from the United States and China, amounted to 21 million yen.

Very little tanning material is produced in Japan, the bulk of the requirements being imported. Gall-nuts and other tanning materials are mainly procured from South Africa and China, while catechu and other tanning extracts are obtained from Argentine, South Africa, British North Borneo and the Straits Settlements.

CHAPTER XXI

THE CERAMIC INDUSTRY

1. The Glass Industry

Development and Position in National Economy. Historically, the glass industry in Japan dates back to the year 1873. However, it was only about the end of the year 1912 that it emerged as a modern industry, and in subsequent years, notably during the World War, the foundations of the industry were established. The outbreak of the War caused a suspension of foreign imports which stimulated the domestic industry to an extent as to ensure a state of self-sufficiency within the following few years. Production was not only adequate to meet the home demand, but allowed for overseas exports, and the growth of demand in those markets prompted the promotion of new enterprises and the extension of existing plants, which resulted in an augmentation of production month by month.

The year 1920 witnessed a boom in the industry, the total output of glass and glassware in that year aggregating over 53 million yen or ten times the production value of 1913. The industry has, of course, suffered from occasional ups and downs, and during the economic depression from 1930 to 1932, output recorded a remarkable decline to only 35 million yen. Later, with a revival in trade subsequent to the reimposition of the gold embargo toward the end of 1931, both production and exports gradually increased.

The Japanese glass industry now occupies a position where it is able to compete with the advanced countries in Europe and America as to technical development. High-grade window-pane glass of superior quality is produced at a very low price, and in this article Japan now occupies the foremost rank among glass producing countries. The progress which the industry has attained should not be attributed only to the World War, which without doubt favoured the Japanese industry by giving it an opportunity for development and expansion, but also to various causes such as rationalization of

management and machinery, the increased efficiency of labour and the development of the soda-ash industry in recent years, which provides raw material at cheap cost.

Glass production in Japan is highly diversified though the output is not sufficient in some articles. In recent years, the demand for window-pane glass has somewhat waned and there is overproduction, but, on the other hand, the fall in the value of Japanese currency has occasioned a sharp advance in the price of foreign sheet glass, which has interfered with importation. As a result, some manufacturers have quite recently commenced the manufacture of high-grade sheet glass to replace the imported article.

The position of the glass industry in the national economy of the country will be apparent from the fact that the output of glassware during 1933 reached 53 million yen. Exports in the same year amounted to 16 million yen, and to 21 million yen in the following year.

Production. Glass manufacture in Japan includes sheet glass, bottles, table utensils, ornaments, mirrors, articles for electric illumination, for medical purposes, etc. Production in 1931 amounted to 34 million yen, but, although the figures for 1934 are not yet available, they are estimated to have approximated 60 million yen, due to the advance in overseas shipments.

TABLE 265

CLASSIFIED OUTPUT OF GLASS AND GLASSWARE

(in 1,000 yen)

	1929	1930	1931	1932	1933
Tableware	3,361	2,871	2,455	4,193	4,143
Ornamental ware	1,712	1,833	710	1,415	1,139
Glass for lighting purposes	1,762	1,083	1,384	1,125	1,779
Glass for electric purposes	1,142	1,243	936	1,571	1,904
Glass for medical use	308	451	335	555	277
Acid and heat-resisting glass	40	109	111	226	80
Bottles (incl. thermos flasks)	18,319	15,187	11,071	11,463	17,360
Plate and sheet glass, uncoloured	14,805	15,427	15,033	14,171	22,373
Panes, not exceeding 2·2 mm. thickness	12,121	12,915	13,690	9,908	15,237
Panes, not exceeding 4 mm. thickness	427	2,291	1,010	2,138	3,989
Other panes	2,257	220	333	2,125	3,147
Mirrors	790	256	129	235	289
Other glassware	2,936	2,545	2,369	2,548	3,696
Total	45,175	41,005	34,532	37,503	53,041

Based on *Factory Statistics.*

The principal producing centres are Osaka, Fukuoka, Tokyo, Hyogo, Kanagawa and Aichi, the combined volume of these six prefectures accounting for more than 96% of the total production.

In contrast with other articles of this industry, sheet glass is a typical product of large-scale mechanical enterprise. The leading makers of sheet and plate glass are the Asahi Glass Co., the Nippon Sheet Glass Co., and the Shoko Glass Co., the last named having its factory in Dairen, Manchuria. The term sheet glass and plate glass used here covers, besides common window-panes, such articles as photo plates, polished plate glass, figured glass, wire glass, etc. Manufacturers, until a few years ago, chiefly concentrated on window-panes, until the Asahi Glass Co. succeeded in producing photo plates of excellent quality. The figures for sheet and plate glass given in the aforementioned table represent the output of the Asahi Glass and Nippon Sheet Glass companies, whose combined production increased from 2,305,626 cases in 1932 to 3,130,443 cases in 1934. Formerly, Japan was third in the manufacture of window-panes among the producing countries of the world, coming next to the United States and Belgium, but due to the steady development of this particular article in recent years, Japan took the leading position from about 1933.

PRODUCTION OF SHEET GLASS IN 1932 AND 1933

	1932	1933
United States	2,500,000 cases	2,494,418 cases
Belgium	2,617,417 „	2,210,411 „
Japan	2,305,626 „	2,802,555 „

The manufacture of bottles is mostly confined to small enterprises, or is carried on as a household industry, except for a few large concerns and some factories attached to beer breweries. The total annual production, including thermos bottles, amounted to upwards of ¥17,300,000 in 1933, corresponding to 33% of the total production of all glass manufactures. The leading centres of bottle manufacture are Osaka, Tokyo and Hyogo, which contribute about 75% of the total production of the country.

The production of tableware has developed remarkably of late, some of the works utilizing modern mechanical processes on a large scale. The value of the annual production now is more than 4 million yen, and about 80% is manufactured in Osaka prefecture, which is the principal centre of this branch of industry.

Glass beads, broaches and other ornaments are chiefly produced in Sakai and the neighbouring districts mainly for export, the yearly production ranging from ¥1,000,000 to ¥1,400,000.

Technical Progress and Rationalization. A considerable number of concerns engaged in the manufacture of glassware are small establishments not comparable with the few modern factories which turn out large quantities by mechanical process. Most of these small establishments specialize in the manufacture of some particular article or artistic product, and their productions do not go beyond the limits of handicraft and household industry. The bulk of the glass is supplied by the large companies utilizing machinery, and to these concerns is largely due the development achieved in the glass industry as a whole. To mention some of the machines installed in the factories of these large concerns for the production of sheet glass, bottles, electric bulbs, glass tableware, etc., the Asahi Glass Co. adopted in 1928 the Fourcault Process (continuous sheet drawing) for the manufacture of sheet glass, in place of Lubbers' cylinder process. In 1930, the same company adopted the Pittsburgh Plate Glass Process, and as a result can produce, besides window-panes, glass articles of very thin quality, such as photo plates, as well as the thicker variety of sheet glass for motor car and show windows. The Nippon Glass Co., which employs the Colburn Process for the manufacture of sheet glass, has recently remodelled its one-tank one-machine system into a one-tank two-machine system to increase production capacity.

Automatic machines, such as Owen's, Graham's, O'Neil's and Lynch's are in common use in bottle manufacture. The Kirin Brewery Co. has recently added to its equipment a Hall automatic bottle machine of British make, while the Dai-Nippon Brewery Co. has also of late installed an Owen automatic machine developed in America. The daily capacity of these latest machines ranges from 20,000 to 60,000 bottles per machine.

In the field of electric bulbs, the Tokyo Electric Co. has been employing since 1930 Ivanhoe automatic blowing machines, in addition to Danner tube-drawing machines previously installed. The Ivanhoe automatic blowing machine is said to be capable of turning out 75,000 to 80,000 bulbs every 24 hours.

Glass and glassware makers have practically all adopted new-type mould machines, designed for mass production, and mention should be made here of the improved tank block, used as a melting tank, for supplying molten glass to the mould machines, an innovation by the Asahi Glass Co. Compared with the clay blocks hitherto used, the Corhart blocks are much more corrosion-resisting, and, moreover, have the special advantage of producing molten glass of superior quality.

Plate and sheet glass, is generally manufactured by large com-

panies, while tableware, ornaments, special glassware, etc. are produced at smaller factories, mostly individually owned and of limited capitalization. Factories employing fewer than 50 workers constitute about 86·5% of the total number of enterprises.

Production Costs. The principal items of expenditure are raw materials, fuel, wages and some miscellaneous expenses. According to *Factory Statistics*, the amount disbursed by all glass manufacturing concerns in 1933 for raw materials, fuel and wages was as follows:—

	Raw materials	Fuel			Wages	Total
		Coal	Gas			
Expenditure (in 1,000 yen)	15,614	4,756	1,643		8,006	30,019
Ratio to total (%)	52·0			21·3	26·7	100·0

It should be noted that the figures for gas are calculated on the basis of 30 sen per 1,000 cubic feet; the official returns from which they are quoted give only the quantity of gas consumed and not the actual cost thereof. Electricity is not much employed, and accordingly, is not an important constituent in the cost of production, the electric power consumed in 1933, according to official returns, being about 40 million kw. h. Assuming the average rate to be 2 sen per kw. h., the total outlay would not exceed 800,000 yen or less than 10% of the amount expended on wages.

The most important raw materials for ordinary glass, window-panes, tumblers, etc. are silica sand, limestone, soda ash, salt, etc., silica representing the largest ingredient. Silica sand used in the manufacture of bottles is of rather inferior quality, containing a comparatively large percentage of iron, and such silica sand is abundantly produced in Japan, notably in Shikoku, Fukuoka and Nagoya. Sand used in the manufacture of sheet and other high-grade glassware must be of superior quality, free from, or with a low percentage of iron content. As there are no deposits in Japan proper, such superior silica sand is imported from Chosen, French Indo-China and other regions. Sand of a rather fine quality is found in Chosen though it cannot rival that imported from Indo-China.

The consumption of soda ash is rather limited, being 20 to 30% of that of silica sand, but on account of its high cost is an important item in production costs. Formerly, large quantities were imported, but as the result of the development of the soda industry in Japan, ample supplies can be obtained at a cheaper price than the imported article, and there is no fear of stoppage or scarcity of supply from which the industry suffered very often in the days when it had to depend upon overseas sources. The independence of the soda in-

dustry, which has attained the stage of self-sufficiency, has in no small measure contributed to the stabilization of the glass industry and also to a diminution in the cost of production.

As regards fuel, gas is a big item, and every large glass factory is equipped with gas producers to provide for its own needs. The coal used is of the non-caking variety, which is mined in large quantities throughout the country, and there is no fear of the supply falling short of the demand.

An adequate supply of highly-efficient and yet cheap labour is one of the main contributory factors in the expansion of the Japanese glass industry. The ratio of wages to total production costs is rather high in the glass industry, and workers are required to possess a comparatively advanced technical skill and knowledge.

The glass industry, along with other branches of industry, has been fairly prosperous since the reimposition of the gold embargo at the end of 1931. An examination into the margin between the cost of production and the market price on the basis of figures given in the official statistics reveals that in the year 1931, when economic conditions were unfavourable, the profits realized by glass manufacturing concerns declined by 44% as against 30% by all other industries, compared with the year 1929, but in 1933, they recovered by 137%, as against 61% by other industries. The rate of profit to paid-up capital of sheet glass manufacturing companies advanced to 35·1% in 1934 from 10·9% in 1932, according to an investigation by the Mitsubishi Economic Research Bureau.

Exports and Imports. Of the total production in 1934, about 69% was consumed at home, the balance being exported. Only those descriptions of glass and glassware which are not manufactured in Japan, and some special kinds, are imported.

Imports during 1933 and 1934 were slightly above 7 million yen, but declined to 6 million yen in 1935.

Uncoloured plate and sheet glass of 2·2 mm. or less in thickness are for window-panes, the major part being manufactured by the Shoko Glass Co. in the Kwantung Leased Territory, a joint enterprise of the Asahi Glass Co. and the South Manchuria Railway Co., so that these imported products may reasonably be regarded as part of the home production.

Imported glass, other than window-panes, is all of purely foreign manufacture, the greater part being polished plate glass, figured glass, wire glass, and photo plates. Photo plates of excellent quality are now being made in Japan in moderate quantities, though not

nearly sufficient to meet the demand. Special plate glass, such as polished and figured glass, wire glass, etc., of high-grade quality, has until recently not been made in Japan and is imported from Great Britain, France, Belgium, Czechoslovakia, Germany, and the United States.

TABLE 266

CLASSIFIED IMPORTS OF GLASS AND GLASSWARE

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Plate and sheet glass						
Uncoloured						
Under 2·2mm. in thickness	887	826	978	1,090	954	337
Under 4 mm. in thickness	324	67	260	255	357	288
Other uncoloured plate glass	3,176	1,773	1,886	1,623	1,866	1,810
Other plate and sheet glass	1,261	833	846	929	677	460
Wire glass	498	367	505	633	754	637
Photo plates	2,082	1,473	1,640	2,195	1,824	1,736
Other glass and glassware	946	458	681	649	1,011	1,053
Total	9,174	5,797	6,795	7,374	7,442	6,322

TABLE 267

IMPORTS OF SPECIAL PLATE GLASS

(in cases)

	1933	1934	1935	
				Value (1,000 yen)
Polished plate glass	21,600	23,800	23,400	2,098
Figured glass	49,500	34,000	19,700	460
Wire glass	17,700	22,000	17,100	637
Total	88,800	79,800	60,200	3,195

Glass exports, which declined up to 1931, increased sharply after the reimposition of the gold embargo, but in 1933 had scarcely reached the high level of the post-war period. A further advance developed in 1935, when exports totalled nearly 25 million yen, heralding a return to the favourable situation which had prevailed from 1919 to 1920. The export trade in window-panes has specially developed in recent years.

The depreciation in Japanese exchange rates no doubt largely contributed to the expansion of exports. In spite of high tariffs imposed in various countries, the Japanese glass industry appears to

TABLE 268

CLASSIFIED EXPORTS OF GLASS AND GLASSWARE

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Window-panes	384	203	378	969	1,597	1,219
Thermos flasks	1,495	690	556	1,331	1,654	2,284
Bottles	4,099	2,110	2,815	3,796	4,618	5,741
Tumblers, etc.	2,427	1,449	1,725	2,827	3,327	3,891
Tableware	562	168	338	749	926	1,242
Watch glasses	225	71	83	100	133	182
Glass beads	775	371	1,043	1,180	1,352	989
Eye-glasses	292	222	413	997	1,451	2,056
Mirrors	2,214	908	1,306	2,226	2,645	3,573
Bracelets	1,834	815	1,068	1,091	1,647	1,613
Other articles	739	342	626	1,152	1,751	2,160
Total	15,045	7,349	10,349	16,417	21,101	24,950

be able to maintain the position it has secured in those markets.

Exports of Japanese glassware are very widely distributed, but British India provides the best market with a total in 1934 of over 7 million yen, or about 33% of the whole export trade in glassware. Other important customers are the United States, the Netherlands East Indies, China, Manchoukuo and the Philippines. The progress in new markets such as Australia, Africa and the Near East has been particularly rapid in recent years to the detriment of Belgian, French and Czechoslovakian manufactures.(1)

As to the future prospects of the Japanese glass industry, it is anticipated that the home demand for window-panes will be maintained at about the present level. The manufacture of plate glass, other than window-panes, especially polished plate glass for the motor industry, was commenced in 1935 on the basis of a probable demand of 20,000 to 30,000 cases annually. The increasing population may expand the demand for other glassware to some extent, but it would appear that an outlet for the rapidly increasing production will have to be found in overseas markets.

2. THE CEMENT INDUSTRY

The experimental manufacture of cement was first attempted in Japan in the year 1875, though it was not till after 1887 that the

(1) For detailed statistics, refer to Chapter XXX, Table 399.

industry became firmly established. Concurrent with the development of industries in general, this particular branch has made steady progress until it is now counted as one of the important industries of the country.

Cement made in Japan is of the Portland variety, and limestone and clay, raw materials for its manufacture, are found everywhere in Japan to a sufficient extent. The major portion of the cement produced is consumed in the country, which no longer depends upon imports.

The manufacture of cement requires little skilled labour, but large outlay for comprehensive plants. The development and improvement of cement-making machinery is exceptionally rapid, and it may be said that important innovations are made about every five years. It is difficult to store cement, so that a considerable outlay has to be made on adequate arrangements for storage. A lack of balance between demand and supply will soon upset the market, resulting in intense competition among the makers, hence the industry has tended to become monopolized by a small number of firms, which accounts for the efficient control exercised in the industry.

Production. The present annual output (1934) is about 5 million tons, ranking next to the United States and Great Britain in volume. The initial progress made by the industry was due mainly to the demand for railway construction, and further development was attained after the Russo-Japanese War. The World War and the reconstruction work subsequent to the disastrous earthquake in the year 1923, combined with the construction of modern buildings, have greatly accelerated the demand for cement.

The expansion of cement-making plants beyond the limits of requirements has made curtailment of production necessary since the year 1924, though the output has consistently shown an upward tendency in keeping with the growth of demand. Production reached the highest figure in 1929, but later rapidly dwindled owing to the depression which prevailed in the subsequent two years. However, there was again a sharp turn for increase from 1932, when public works for the relief of the distressed agrarian communities, etc. were put in hand.

As a consequence of improvements effected in working operations and the erection of new plants, an increase in productive capacity beyond the limit of actual demand frequently occurs after a boom. Output capacity increased from 5 million tons in 1929, to 7,840,000 tons in 1933, and to 9,560,000 tons in the year 1934. This expansion

of productive capacity has gravely disturbed the balance between demand and supply and created a situation making the control of production imperative. Accordingly, curtailment has been enforced since the organization of the Cement Manufacturers' Association in October, 1924, the present volume of production being about half the capacity, or about 4,790,000 tons in 1934.

TABLE 269

PRODUCTION CAPACITY AND ACTUAL OUTPUT

(in 1,000 metric tons)

	1929	1930	1931	1932	1933	1934
Production capacity .	5,004	5,805	6,365	6,750	7,835	9,562
Actual output . . .	4,349	3,748	3,615	3,731	4,781	4,790

Compiled by the Cement Manufacturers' Association.

Consumption. The demand for cement has increased continually during the past twenty years at a regular rate of from 10% to 15%, but declined to a marked extent in 1930 and 1931 on account of the world-wide depression and the Government retrenchment policy. The reimposition of the gold embargo, combined with emergency relief works undertaken by the Government, had a most beneficial effect in increasing consumption, in addition to which the general industrial prosperity and extensive building operations in Manchoukuo must be mentioned as favourable factors. Exports, which had hitherto been about 10% of the total demand, augmented considerably due to requirements in Manchoukuo.

According to statistics issued by the Cement Manufacturers' Association, 60% of the cement manufactured is used for public works and building purposes, while that for the manufacture of artificial stone, slates, pipes and tiles is only about 3%.

TABLE 270

CEMENT DELIVERIES

(in 1,000 metric tons)

	1926—1928 (average)	1929	1931	1932	1933	[a]1934
Total deliveries . .	3,550	4,150	3,618	3,791	4,749	4,713
Home market . .	3,181	3,666	3,076	3,322	3,981	3,887
Foreign markets . .	336	447	520	443	721	766

TABLE 271

HOME REQUIREMENTS CLASSIFIED BY USES

(in 1,000 metric tons)

	1932	%	1933	%	(a)1934	%
Railways	321·9	9·7	364·5	9·1	305·5	7·9
Electric power	115·3	3·5	159·0	4·0	226·6	5·8
Harbours	114·5	3·4	202·1	5·1	138·8	3·6
Roads and bridges	426·7	12·8	488·2	12·3	326·8	8·4
Public works	355·4	10·7	445·8	11·2	353·9	9·1
Buildings in general	685·8	20·7	927·2	23·3	954·7	24·6
Mining	30·3	0·9	47·2	1·2	59·5	1·5
Cement manufactures	78·3	2·4	100·6	2·5	125·3	3·2
Retails	1,173·2	35·3	1,226·6	30·8	1,379·5	35·5
Other purposes	20·0	0·6	20·2	0·5	16·4	0·4
Total	3,321·4	100·00	3,981·4	100·00	3,887·0	100·0

Taken from statistics prepared by the Cement Manufacturers' Association. (a) The figures for December, 1934, do not cover the production of the Onoda, Oita and other companies which withdrew from the Association.

Trade Situation—Exports. Formely, the demand was mainly for home requirements, only about 10% of the total output being exported. In later years, however, due to the expansion of manufacturing capacity, cement has been shipped to foreign countries in larger volume, and now occupies an important position in the list of export articles.

Exports reached the highest level in 1919 and 1920, but gradually dwindled during subsequent years, recovering, however, in 1925. As output curtailment does not affect the production intended for export, manufacturers naturally endeavour to push overseas shipments, with the result that new markets have been developed in the Netherlands East Indies, Hong Kong, Straits Settlements, British India, etc. The reimposition of the gold embargo in 1931 and the consequent depreciation of Japanese currency favoured the export trade appreciably but obstacles were later encountered in the shape of high tariffs and other measures aimed at checking Japanese goods. Under such circumstances the field for exportation has been narrowed considerably, and the volume of exports has decreased. Above all, the restrictions imposed on Japanese goods by the Netherlands East Indies in June, 1933, dealt a severe blow to the Japanese cement industry, as that country was a great consumer of the Japanese product. However, the sharp increase of shipments to Manchoukuo, and to Soviet Russia, more than compensated the loss in other foreign markets.

TABLE 272

EXPORTS OF CEMENT

(in metric tons)

	1930	1931	1932	1933	1934	1935
Kwantung L. T. and Manchoukuo	8,990	5,343	27,026	109,088	230,105	112,651
China	40,372	22,054	16,722	25,720	22,653	22,358
British India and Ceylon	37,309	52,787	70,274	65,733	63,448	...
Hong Kong	97,853	126,446	108,359	88,515	62,235	70,003
Straits Settlements	73,691	87,064	39,806	40,481	65,240	84,595
Netherlands East Indies	157,655	106,298	136,325	87,647	52,564	44,532
Philippines	45,017	15,893	13,322	3,851	2,023	1,018
Africa	4,042	10,514	12,660	21,271	9,998	...
Other countries	23,845	19,289	21,074	31,940	31,639	...
Total	488,774	445,688	445,568	474,246	539,905	655,084
Total value (in 1,000 yen)	*10,066*	*9,089*	*8,545*	*7,395*	*8,038*	*8,082*

As stated previously, activity of the cement industry since the latter part of 1932 has been due to public works, the industrial expansion of the past few years and the sharp increase of exports in connection with new construction in Manchoukuo. Of these factors, the emergency relief works have already been completed, and owing to the annual expansion of national defence expenditure, there is little hope for further extension. It also appears unlikely that industrial activity will stimulate the demand for cement in the near future. Shipments to Manchoukuo are bound to decline in the future because of the gradual development of the cement industry in Manchoukuo, where several enterprises have already been started, and this outlet for the Japanese product is likely to be closed before long. Although the newly promoted cement enterprises in Manchoukuo are mostly controlled by Japanese capital, they nevertheless form a menace to the industry in Japan proper. Apart from Manchoukuo, a contract has been concluded recently for the shipment of 205,000 tons of cement to Soviet Russia, which considerably enlivened the industry, but in all other directions there is little hope of increasing exports. At present, the industry is fairly prosperous, but it is doubtful whether this state will continue for long.

Cost of Production. The principal raw materials are clay and limestone, subsidiary materials being silica, iron sediment and gypsum, all these accounting for the greater part of the cost of production,

followed by fuel, mainly coal. There are two methods of manufacture, namely, the dry system and the wet system, most cement factories in Japan following the former method. In both cases, materials, burning, finishing and packing require large-scale mechanical equipment, manual labour being of less account and required only in the operation of machinery, management, etc.; consequently, wages do not absorb a large percentage of the cost. According to official statistics the ratio of raw materials, fuel and wages to the value of production is as follows:—

TABLE 273

FACTORS IN PRODUCTION COSTS OF THE CEMENT INDUSTRY

	Value of producion (1,000 yen)	Chief cost factors (1,000 yen)			Ratio to total value of production (%)		
		Raw materials	Fuel	Wages	Raw materials	Fuel	Wages
1929	97,185	43,403	5,598	7,476	44·7	5·8	7·7
1930	55,572	15,839	6,205	5,084	28·5	11·2	9·1
1931	61,246	13,778	4,058	4,760	22·5	6·6	7·8
1932	67,845	11,263	3,692	4,260	16·6	5·4	6·3
1933	82,019	18,023	7,549	4,652	22·0	9·2	5·7

Based on *Factory Statistics*.

Efforts to reduce the cost of production naturally brought about the modernization of factory equipment which accelerated the rationalisation of the industry. The progress of rationalisation led to a sudden expansion of production capacity and a gradual decrease in the number of workers, with a resultant yearly increase of per capita output, the average production per worker having risen from ¥7,020 per annum in 1930 to ¥11,516 in 1933.

Because of its extensive scale, cement manufacture requires a large amount of fixed capital. Investigations of the leading cement companies reveal the fact that the ratio of fixed to total assets approximates 70%, and due to the frequency of improvements and the adoption of new machinery, depreciation charges are an important factor in the cost of production. Due to the bulky nature of cement, both raw materials and the finished product involve large transportation costs; consequently the location of factories has a great bearing upon the cost of production and competitive capacity.

Centralized Control. There exist two associations for the control of the cement industry, the Cement Manufacturers' Association and the Japan Cement Export Association, the former functioning as the main

controlling organ for production and sale, and the latter controlling exports. Until a few influential cement companies, notably the Onoda and Oita companies withdrew, in November, 1934, the Cement Manufacturers' Association was the only powerful organ exercising control as to production and sale in Japan proper and dependencies. Even at present, the control of production and sale is being carried out under a uniform system throughout the country, mainly by the Association, since the manufacturers who are not members of the Association are subject to the stipulations of the cartel agreement by the application of the Major Industries Control Law.

Various ways and means for limiting production have been resorted to continuously since October, 1924, such as quantitative restrictions, reduction of working hours, etc., but since December, 1929, the system of limiting working hours has been in force. From September, 1931 to January, 1932, curtailment of production was enforced to the extent of 57%; during the three months from September, 1932, 57·5%, and 57% from June, 1934 to June, 1935. After the latter date, curtailment was reduced to 55%, and to 53% from September to November, 1935. As curtailment does not apply to cement for export or to that used by manufacturers themselves, the actual rate of curtailment in force works out lower than that agreed upon. The following table shows the average convention rate of production curtailment as compared with the average actual curtailment rate in recent years:—

TABLE 274

RATE OF PRODUCTION CURTAILMENT (%)

	1929	1930	1931	1932	1933	1934	1935
Conventional rate (average) .	32·6	48·6	54·9	55·1	48·8	54·9	55·5
Actual rate (average) . .	13·1	35·4	43·2	44·7	39·0	49·9	...

The Cement Manufacturers' Association, at its inception, in addition to limiting the volume of market supplies, also enforced a minimum price convention, but later abandoned the latter as futile, with the result that sales were left practically uncontrolled. Excessive competition led the associated companies in November, 1930 to divide the home market into seven districts, to which was added Manchoukuo in December, 1932. In each of these districts a cement sales office was established to control sales on the basis of a ratio to be determined according to the production capacity and deliveries in the past, with an agreement as to standard price. In June, 1931,

a central organ was established to supervise these sales control offices and to maintain *liaison* among them. By this means the evils arising from competition were eliminated, and the market price restored to a fair basis. On the formation of the new Cement Manufacturers' Association in December, 1934, the sales control offices were transferred to the Association, which thus assumed control over both production and sales.

With regard to exports, the Cement Export Association to the Netherlands East Indies was organized in 1933 in connection with the enforcement of import quotas by that colony. Moreover, in December of the same year, the Japan Cement Export Association was formed by the member companies of the Cement Manufacturers' Association to control exportation to different parts of the world. This association still exists as a separate organization even after the formation of the new Cement Manufacturers' Association.

3. The Pottery Industry

General Characteristics. (1) Small-scale Enterprises. One of the distinct features of the pottery industry in Japan is that the greater number of manufacturers are doing business in a very small way. This is most obvious from the returns compiled by the Ministry of Commerce and Industry. The total value of china and earthenware produced in Japan in 1933 is given at 85 million yen, while that produced in factories which employ more than five workers is returned at 33 million yen, or 39% of the total value of output. The number of factories is 6,586, while factories employing more than five hands were only 1,082, or 16·4% of the total number. Moreover, of the factories employing more than five workers, those employing only from 5 to 10 workers are the largest in number, those employing from 5 to 30 hands reaching 86% of the total. In both production and number, small factories predominate in the Japanese pottery industry.

The returns made by the Ministry of Commerce and Industry covering the pottery industry in the three prefectures Aichi, Gifu, and Miye, Japan's chief pottery producing centres, show that half the number of factories were small enterprises with a capital of less than ¥ 3,000, and that the average amount of capital per factory was ¥ 9,579.

The vast majority of manufacturers, therefore, find it impossible to adopt a highly efficient system of division of labour within the narrow scope of their factories, with the consequent result that the following two tendencies have become evident.

. First, division and specification of the manufacturing processes. The manufacture of pottery comprises the four major processes of (i) digging the clay, (ii) preparing the clay, (iii) baking, and (iv) painting and glazing. Large-scale factories are able to combine the last three processes in their own establishments, but small producers are compelled to confine themselves to only one of these processes. The Japanese pottery industry as carried on by petty manufacturers is now divided into five distinct sections, digging the clay, preparing the clay, baking, painting and glazing, and wholesale distribution.

Second, specification of manufactured articles. With the exception of factories producing for local demand, manufacturers, from producing articles of every description and quality in small quantities, have gradually turned to specialize their production to meet the mass demand for uniform goods. The production of coffee sets affords a good example of this tendency, for cups, saucers, coffee pots, sugar basins, milk jugs, etc., are now manufactured not in one and the same factory, but in different factories.

(2) Intervention of capital from wholesale dealers. The specialization of output is also partly the result of the frequent introduction of capital from the wholesale trade. It is difficult to give accurate figures as to the amount of capital invested in factories by the wholesale trade, but it is estimated to amount to a very considerable sum. For instance, the relation between the different factories which manufacture cups, saucers, tea or coffee pots, and other accessories, and the wholesale dealer who collects and assorts them into sets for sale, is not a simple business matter based on orders placed by the latter, but is of a very intimate and complicated financial nature. The most ordinary practice in this connection is advance payment by the wholesale dealer, which is very frequently carried to such an extent that small manufacturers in the Arita district, for example, are said to find themselves still in debt even after delivery of the goods. Such a condition of affairs indicates a tendency towards the transformation of the financial resources of the wholesale dealer into industrial capital. Some of the wholesale dealers having large capital at their disposal are inclined to undertake part of the process of manufacture, an example of which may be found in the recent growing tendency among wholesale dealers to purchase biscuits to be painted on their own account. In this case, the wholesale dealer, to all outward appearances, assumes the rôle of a large manufacturer producing goods on a big scale, having successfully secured a standardization in quality and make of the goods produced. Most of the manufacturing wholesale dealers are at the same time exporters.

(3) Limited Extent of Mechanization. The expansion of the foreign demand during and after the World War brought about the installation of machinery and increased efficiency in the pottery industry generally. The hand-worked potter's wheels were replaced by machine-driven wheels; charcoal-furnaces were changed into coal-furnaces; the standardization of gauges was achieved through the use of moulds; copper plates, rubber stamps, improved copying arts replaced painting by hand. These innovations served to completely transform the manufacturing processes, resulting in a high state of efficiency. The employment of motive power has also been widely extended, even into small factories. But all these modern improvements can only be employed to their fullest extent in large factories, and, in petty workshops, it would be safe to state that manual processes still predominate. Although some machinery, such as motive power, has been introduced in medium and small factories, there has been no real advance in the manufacturing processes, many of which still retain their former character of handicrafts.

(4) Peculiarity of Labour Structure. The small scale of enterprise and the insufficiency of mechanization are reflected in labour conditions. The most salient feature is the existence of family labour. It is difficult to give figures as to family labour in the industry throughout Japan, but according to official investigations into the pottery industry in the three prefectures of Aichi, Gifu, and Mie, the number of establishments dependent solely upon family labour is given as 180, or 8·0% of the total number of factories investigated. But even in factories where hired labour is employed, it is estimated that the workers consist mainly of the proprietor himself and members of his family, assisted merely by unskilled workers. The significance of the employment of family labour lies in the fact that this form of labour has a great power of resistance to the adverse influences affecting the price of manufactured goods, which places the manufacturers in a much more favourable position than those who have to depend solely upon hired labour.

From the viewpoint of manufacturing processes, skilled labour is chiefly in demand for moulding, baking and painting, the most important processes in the industry. The proportion of female labour is very high, while as regards age, the percentage of juvenile workers is more than 30%. The fact that 70% of the workers are men, however, shows that the industry is still in the stage of handicraft. With the extension of the scope of management, the proportion of female labour tends to increase, and indications are that in large factories of over 500 workers, male and female labour will soon be

about equally distributed, affording an interesting proof of the gradual decline of skilled labour with the extension of mechanical power.

Production. The history of the pottery industry dates back to olden times, but a great stimulus was given to production by the rapid increase in exports of china and earthenware during and after the World War. During the years 1914–1925, the number of factories increased from 5,540 to 7,496, furnaces from 6,006 to 8,429, and the value of production from ¥ 15,700,000 to ¥ 78,200,000. An examination into its later development shows that although there has been a decrease in the number of factories, there has recently been an augmentation in furnaces, and, therefore, an extension of factory efficiency. There was some shrinkage in production due to the world depression, but the output again began to increase in 1932, and reached a value of ¥ 92,400,000 in 1934. In the smaller factories

TABLE 275

PRODUCTION STATISTICS

	Number of factories	Total number of furnaces	Number of operatives	Production of china and earthenware (in 1,000 yen)				
				For table use	For ornaments and furniture	For industrial use	Insulators	Total (incl. other articles)
1925	7,496	8,429	43,771	50,151	13,960	3,456	5,062	78,178
1928	6,862	8,308	47,108	43,994	14,448	3,242	8,029	76,726
1929	6,685	8,133	44,366	41,867	13,690	3,134	7,210	74,767
1930	6,435	8,142	41,226	34,737	11,880	2,235	6,006	62,420
1931	6,328	8,479	40,320	31,926	9,388	2,305	4,155	54,198
1932	6,474	9,265	43,948	35,733	11,593	2,935	4,743	65,263
1933	6,586	9,071	53,292	46,205	14,910	6,131	5,886	85,247
1934	6,473	9,331	57,172	54,002	15,573	5,877	6,166	92,364

Based on *Statistical Year Book of the Ministry of Commerce and Industry.*

employing less than 50 workers, there was a decline of 29% in production during the years 1929–31, while the output of factories employing more than 50 workers showed a sharper decline of 50%. Later there has been a marked improvement, the rate of recovery for the smaller factories being 61·8%, while the improvement for large factories reached 74·9%. Large factories are more susceptible to market depressions with a consequent sharper dwindling of output, while recovery is faster on a favourable turn in the market.

Because of their early development as daily necessities, china and earthenware are produced throughout the country, although there are certain tendencies towards localization. The most important

centres for pottery production are Aichi, Gifu, Kyoto, Mie, Osaka, and Saga prefectures. Amongst these, the position of Aichi, Gifu, and Mie is conspicuous, with a share in 1934 of 53·1%, 68·4% and 73·4%, respectively, in the number of factories, workers, and value of production.

As the pottery industry in this country comprises every variety of business forms from joint-stock companies to domestic handicrafts, it is almost impossible to make a general survey of business conditions. The only data available are the investigations conducted by the Ministry of Commerce and Industry, analyzing the business conditions of the pottery industry in the three prefectures of Aichi, Gifu, and Mie covering the period from November, 1931 to October, 1932. The biggest item in production costs, are raw materials, which combined with wages and salaries, the next important item, accounts for about 80% of the total cost of production. The proportion of these two items is greater in personal establishments than in company factories. But this does not affect the final business results of the former which are better than those of companies, this being accounted for by the fact that in personal concerns the burden of indirect expenditure is smaller. Having regard to the kind of labour employed, establishments which depend upon family labour realize the highest net profit.

TABLE 276

ANALYSIS OF PRODUCTION COSTS AND PROFITS

	Gross expenditure (%)							Net profit (%)
	Raw material cost	Wages and salaries	Depreciation fund	Taxes	Interest	Other items	Total	
Personal establishments .	56·9	26·3	2·4	0·9	0.9	5·4	92·8	7·2
Companies .	53·5	23·8	1·9	0.4	0·8	16·7	97·1	2·9

Based on investigations of the Ministry of Commerce and Industry.

Central Control Organization. As has been observed, the pottery industry in Japan consists for the most part of small enterprises. These had long been suffering from keen competition and difficulties caused by overproduction and the consequent inevitable practice of reckless selling, until finally they were forced to correct the situation, first by the formation of an association of manufacturers in the Seto district in 1926. This soon led to imitation elsewhere, and by

1930, the tendency towards the formation of local associations was very conspicuous. These disconnected associations were, however, unable to control the situation, and in February, 1931, the manufacturers in the three prefectures of Aichi, Gifu, and Mie applied to the Government for permission to form a union of all associations in their prefectures, and requested consideration of concrete plans for the control of the industry. A committee for the improvement of the pottery industry was consequently appointed, and measures of control affecting both production and sale were adopted and put into force on August 1st, 1931 with the formation of the Japan Federation of Pottery Manufacturers' Associations. At first, the controlling power of the Federation was confined to the above-mentioned three prefectures, but in October, 1933, it was extended to include all manufacturers throughout the country.

Export Trade. Pottery forms one of the staple articles of Japanese exports, the total value in 1934 43 million yen, accounting for about 2·0% of the total export trade. The fact that exports reach about half

TABLE 277

PRODUCTION AND EXPORTS OF POTTERY

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934	1935
Production .	74,767	62,420	54,198	65,263	85,247	92,364	...
Exports . .	36,962	27,171	19,307	22,937	35,634	41,877	42,735
Ratio of exports to production (%) .	*49·4*	*43·5*	*35·6*	*35·1*	*41·8*	*45·3*	...

TABLE 278

POTTERY EXPORTS CLASSIFIED BY ARTICLES

(in 1,000 yen)

	1934	1935
Tableware	36,355	33,864
Other articles for household use . .	1,509	4,167
Tiles for building	1,822	2,411
Other articles for building	555	341
Insulators for electrical use . . .	769	971
Other articles for electrical use . . .	210	384
Miscellaneous articles	657	597
Total	41,877	42,735

the production will suffice to show to what extent the Japanese pottery industry depends upon foreign markets.

Classified by articles, tableware tops all others, followed by other articles for household uses and tiles for building purposes. Shipments of tableware represented 79·2% of the total pottery export in 1935.

The United States is the principal customer for Japanese pottery, taking more than one-third of the total export. Other important markets are British India, Manchoukuo (incl. Kwantung L. T.), Australia, the Netherlands East Indies and China. There has recently been a big increase in exports to Manchoukuo.(1)

(1) For export statistics by destinations, refer to Chapter XXX, Table 399.

CHAPTER XXII

FOODSTUFFS AND PROVISIONS MANUFACTURING INDUSTRIES

1. The Sugar Industry

Japan's progress in the manufacture of sugar during the last thirty years since the annexation of Taiwan in 1896 has been phenomenal, and she has now grown to be one of the chief sugar exporting countries. The importance of her position in foreign markets, more especially in the markets of East Asia, has been rapidly increasing, chiefly in competition with Java sugar. In the home market, the industry has been able to supply the entire domestic demand since the year 1928–29, thus establishing a record for production never previously attained in her history. So far as domestic consumption is concerned, Japan is now independent of imports, and surplus stocks have even accumulated to such an alarming extent that control of production and the exportation of surplus sugar have now become of paramount importance.

Japan was not a party to the Chadbourne Limitation Agreement, and her production, totalling 1,148,000 tons, marked an unprecedented increase in 1931–32, at a time when a noteworthy decrease was registered in the world's total production as a result of the restrictions. Japan's share in the world sugar production, however, was only 4·4%, declining even to the neighbourhood of 3% in 1932–33, when a policy of restricting production was adopted with a view to regulating the balance of the home supply and demand. Japan has now developed from a sugar-importing country into a sugar-exporting country. The Netherlands East Indies, which once found a good market in Japan, are now threatened by the penetration of Japanese refined sugar which is considerably aided by the low exchange value of the yen.

Production. It was only after the year 1913 that the sugar industry attained an important position among the major industries

of Japan. From a total production in 1909–10 of only 4·5 million piculs, the output has steadily advanced to an annual average of about 15 million piculs. The year 1931–32 showed a peak at 19,300,000 piculs, an increase of 24% over the previous year. This huge crop led to fears of overproduction which were aggravated by a heavy decline in general consumption owing to the economic depression. In consequence, the following years of 1932–33 and 1933–34 witnessed a restriction of output which was, however, unavailable, as production in 1934–35 again reached 19,536,000 piculs. The output for the current year 1935–36 is even expected to attain the unprecedented total of 20 million piculs.

The development of the sugar industry may be attributed to the protection and assistance afforded by the Government, but in recent years such factors as the increased cost of imported sugar, due to the low exchange rate of the yen, and the increase in home consumption, have greatly stimulated the advance of the industry.

The principal centre of sugar production is Taiwan, the output in Okinawa, Hokkaido and the South Sea Mandated Islands being negligible. Production in Taiwan constitutes from 80% to 90% of the

TABLE 279

SUGAR OUTPUT

(in 1,000 piculs)

	Taiwan	Japan proper	Mandated Islands	Hokkaido	Chosen	Total
1909–10	3,404	1,093	—	—	—	4,497
1912–13	1,191	1,094	—	—	—	2,286
1916–17	7,635	2,138	—	—	—	9,773
1921–22	5,878	1,260	4	73	15	7,229
1926–27	6,852	1,336	202	287	5	8,682
1927–28	9,669	1,588	173	364	10	11,783
1928–29	13,155	1,522	161	344	11	15,193
1929–30	13,508	1,228	345	424	11	15,517
1930–31	13,288	1,275	643	361	15	15,582
1931–32	16,484	1,651	696	406	25	19,261
1932–33	10,561	1,722	730	403	—	13,416
1933–34	10,884	1,530	750	383	—	13,548
1934–35	16,104	1,709	1,135	587	—	19,536
1935–36 (Estimate)	16,749	1,900	1,200	550	—	20,399

Taken from *Sugar Year Book* (Sato Nen-kan) except for the years after 1932-33, which are based on investigations made by the Togyo Shimpo Sha.

For Taiwan and the South Sea Mandated Islands, the year begins on Nov. 1st and ends on Oct. 31st of the succeeding year; for Chosen, the year begins on Apr. 1st, and ends on March 31st; for Japan proper, the year begins on Oct. 1st and ends on Sept. 30th.

total production, and the rise and fall in Taiwan output not only determines the general trend of sugar prices, but also exerts a far-reaching influence over business at large, because of the close connection with the Government policy of regulating the rice crop in Taiwan. The progress of sugar planting in Japan proper has been negligible as a whole since the Meiji era, the yearly average production being 1,500,000 piculs, most of which is produced in the district of Okinawa. The South Sea Mandated Islands have during the past several years contributed annually 800,000–900,000 piculs, the total crop being shipped to Japan proper. The clearance duty imposed on all exports and shipments from the Mandated Islands forms an important source of revenue to the Government of the Islands.

With the exception of Hokkaido, which produces beet sugar, the above-mentioned sugar centres produce only cane sugar. The total output of the Hokkaido beet sugar industry for the year 1921–22 was only 73,000 piculs, which increased more than 7·5 times in recent years.

The sugar industry in Taiwan has made surprising progress, both in the methods of cultivation and in manufacturing processes, owing to Government protection and assistance, as well as to years of strenuous efforts on the part of the producers. The cane crop increased from 1,531 million *kin* in the year 1912–13 to 13,415 million *kin* in the year 1931–32, and the yield per *ko* rose to 122,503 *kin*.

TABLE 280

GENERAL CONDITIONS OF THE TAIWAN SUGAR INDUSTRY

	Area of cultivation (*ko*)	Total cane crop (million *kin*)	Yield per *ko* (*kin*)	Raw material used (million *kin*)	Sugar produced (million *kin*)	Percentage of extraction	Sugar produced per *ko* (*kin*)
1909–10	63,411	3,601	56,796	3,363	340	10·12	5,368
1912–13	67,358	1,531	22,722	1,283	119	9·29	1,769
1927–28	108,318	9,698	89,529	8,714	967	11·10	8,926
1928–29	120,046	12,292	102,394	11,241	1,316	11·70	10,959
1929–30	109,397	11,618	106,204	10,621	1,351	12·72	12,348
1930–31	99,094	10,945	110,447	9,811	1,329	13·54	13,409
1931–32	109,511	13,415	122,503	12,606	1,648	13·08	15,053
1932–33	84,330	8,811	104,485	7,879	1,056	13·40	12,525
1933–34	91,163	8,884	97,449	7,650	1,078	14·10	11,829

Based on *Statistics of the Sugar Industry in Taiwan*. 1 *ko*=2·3968 acres.

In the yield of cane in a given area, Taiwan stands far above Cuba, but is not equal to Java, probably on account of the difference in

climate and geographical conditions. On the other hand, the technical part of the manufacture of sugar has been further developed in the percentage of extraction, surpassing both Cuba and Java, and this technical superiority is becoming more and more marked every year.

TABLE 281

INTERNATIONAL CANE SUGAR COMPARISON

	Yield of cane per *ko*			Percentage of extraction		
	Taiwan (*kin*)	Java (*kin*)	Cuba (*kin*)	Taiwan	Java	Cuba
1928	89,529	213,200	*	11·10	11·09	11·72
1929	102,394	201,300	*	11·70	11·45	12·41
1930	106,204	209,500	52,700	12·72	11·82	12·21
1931	110,447	214,600	64,500	13·54	11·36	12·38
1932	122,503	216,300	82,600	13·08	10·46	11·17
1933	104,935	211,900	61,500	13·40	11·16	11·56
1934	97,400	...	...	14·10	12·64	...

Ibid. * Unavailable.

Exports and Imports. Raw sugar for refining was formerly mostly imported from abroad, but since 1929 there has been a noticeable decline in imports. Taiwan sugar has taken the place of foreign sugar, and in recent years foreign sugar has been imported only to be refined for re-exportation. More recently, there has been a ten-

TABLE 282

RAW MATERIAL USED IN JAPAN PROPER AND TOTAL OF MANUFACTURED SUGAR

(in piculs)

	Raw material used				Total of manufactured sugar
	Home sugar	Taiwan sugar	Foreign sugar	Total	
1927	—	2,038,110	6,491,270	8,529,380	8,136,050
1928	14,700	4,026,830	5,083,760	9,125,290	8,666,420
1929	120	4,790,610	3,552,120	8,342,970	7,925,770
1930	23,130	4,133,741	3,763,440	7,920,500	7,525,160
1931	70,438	4,396,351	2,365,476	6,832,265	6,490,582
1932	134,702	4,531,538	656,917	5,323,157	5,206,684
1933	74,861	4,011,137	2,120,670	6,206,668	6,228,797

Ibid.

dency towards an excess in exports of sugar generally, owing to the necessity of disposing surplus stocks.

The chief customers for Japanese refined sugar are China and Manchoukuo, exports to Asiatic Russia, Hong Kong, and British India being negligible. On account of the depressed economic conditions and the anti-Japanese boycott in China, exports of refined sugar to that country are now greatly handicapped. Shipments to China in 1930 totalled 3 million piculs, or about 83% of the total exports of refined sugar. In consequence of the unfavourable turn in Sino-Japanese relations, exports declined to 470,000 piculs and 900,000 piculs in the years 1932 and 1933, respectively. On the contrary, exports to Manchoukuo and the Kwantung Leased Territory registered a sharp increase since the foundation of the new State, reaching 860,000 and 1,110,000 piculs in the years 1932 and 1933, respectively, Manchoukuo thus replacing China as the chief market for Japanese refined sugar. China, however, still remains one of the important customers, in view of her geographical position, and more especially because of the fact that she remains the only free market, when markets are partitioned in most parts of the world. Relations, both political and economic, with China have gradually improved since 1934, and slight signs of an increase in sugar shipments have been perceptible, but owing to the competition of Java sugar in Chinese markets, the immediate outlook for the sugar export trade cannot be said to be very hopeful.

TABLE 283

EXPORTS OF SUGAR ACCORDING TO DESTINATION

(in 1,000 piculs)

	China	Manchoukuo	Kwantung L. T.	Asiatic Russia	Hong Kong	British India	Total (incl. other destinations)	Value (1,000 yen)
~~1912~~	825·5	*	80·0	0·03	0·9	—	907·6	8,477
1921	592·8	*	162·4	22·3	—	11·0	793·1	15,799
1928	3,117·0	*	374·2	221·9	77·6	4·5	3,800·0	38,415
1929	2,379·6	*	547·5	93·4	168·1	31·3	3,220·9	26,975
1930	3,007·5	114·8	326·5	31·8	154·1	1·0	3,637·3	26,735
1931	1,895·7	88·9	370·8	57·4	209·0	0·4	2,622·2	14,863
1932	466·9	54·8	799·8	15·6	10·5	37·4	1,389·5	7,797
1933	901·5	96·7	1,015·9	81·3	15·5	41·3	2,172·3	14,909
1934	1,041·5	162·3	715·1	40·9	**	30·2	2,019·9	13,532
1935	1,481·9	227·4	792·6	8·1	**	63·7	2,669·2	17,577

* Included in the figures for China. ** Included in total.

Business Conditions. Six chief sugar companies in Taiwan are the Taiwan, Meiji, Dai Nippon, Ensuiko, Teikoku and Niitaka sugar manufacturing companies, which produce nearly 80% of the whole output.

A survey of the business position of these companies shows that net profits have steadily increased since 1932, rising from 7·3% in the second half of 1931 to 13·6% in the second half of 1932. This improvement has continued at an undiminished rate in later years, the average for the first and second half of 1934 being 15·6% and 18·3% respectively. Dividends have also shown a tendency to rise but not to the same extent as profits, the major portion of the accumulated profits being placed to reserves to strengthen the financial standing of the companies.

TABLE 284

STATISTICS SHOWING BUSINESS ACTIVITIES OF THE SIX CHIEF SUGAR MANUFACTURING COMPANIES

(in 1,000 yen)

	Paid-up capital	Net profit	Rate of profit (%)	Rate of dividend (%)	Profit left in business
1928	166,774	- 3,865	- 2·3	8·6	- 19,411
1929	166,774	10,771	6·5	7·9	- 3,562
1930	154,294	14,244	9·2	8·2	550
1931	159,710	12,268	7·7	7·7	1,027
1932	160,159	19,406	12·1	7·8	5,965
1933	168,726	23,869	14·1	7·7	9,916
1934	175,897	29,938	17·0	8·9	13,140
1935	172,251	33,958	19·7	9·7	15,835

Compiled by the Mitsubishi Economic Research Bureau.

2. THE FLOUR MILLING INDUSTRY

The employment of mechanical means in the preparation of flour is a comparatively recent innovation in Japan, originating with the establishment of the Japan Milling Company in 1897. For some time, however, the production capacity of modern automatic mills remained inferior to that of water mills, the traditional form of milling in Japan, and the bulk of the supply of flour was obtained from abroad, especially from the United States. With the later economic development, and due to the steady increase in population, the demand for flour began to show a marked advance, thus stimu-

lating the industry. The expansion witnessed after the World War is especially noteworthy, for the demand sharply increased, prices soared and mills were erected in large number. As a consequence, the year 1921 saw an advance of production capacity from 9,000 bags in the years immediately preceding the World War to 20,000 bags. In a period of reaction, however, a large number of small factories failed, and most of the remaining small concerns were absorbed by large companies. The industry did not escape the consequences of the world depression of 1930 and 1931, but the effect was less serious than on other industries, owing to the high tariff rates imposed at the time and also on account of the strict control enforced by the manufacturers themselves. As the embargo on the export of gold was later reimposed, and domestic consumption began to augment, a remarkable recovery was realized by the industry. The Government put into effect in 1932 a scheme for increasing the production of wheat, as a result of which a crop nearly sufficient to satisfy the home demand was secured in 1934. With the exception of certain kinds of wheat, Japan is now independent of foreign supplies, and is able to export large quantities of flour to Manchoukuo and China.

Production. As has been mentioned, the World War proved beneficial for the development of the Japanese flour milling industry both as to methods and production capacity, and in spite of some setbacks, it has maintained a steady advance since then, registering a big increase in annual output, and keeping pace with the expanding domestic consumption and export trade. The total flour produced rose from 26 million bags in 1921 to 42·5 million bags in 1928, and even in the subsequent years of depression, a level of 40 million bags has been well maintained, the figures for 1933 and 1934 being 47 million and 46 million bags, respectively.

TABLE 285

ANNUAL OUTPUT OF FLOUR

(in 1,000 bags)

1914	1921	1928	1929	1930	1931	1932	1933	1934
16,429	25,742	42,479	43,160	40,962	42,088	41,989	47,706	46,084

Taken from investigations conducted by the Nisshin Milling Co.

The principal centres of flour production were formerly Aichi, Hyogo, Fukuoka and Kanagawa, but the last named prefecture now

occupies the foremost position, accounting in 1933 for 25% of the total output of the country. This advance of Kanagawa prefecture is due solely to the Yokohama Factory of the Japan Milling Co. and the Tsurumi Factory of the Nisshin Milling Co., both of which have a daily production capacity of more than 4,000 barrels. As the capacity of the latter factory has been greatly extended since the fire which occurred there in 1931, and will be further enlarged for an output of 10,000 bags, it is estimated that Kanagawa prefecture will remain the most important centre of the flour milling industry.

TABLE 286

OUTPUT OF FLOUR ACCORDING TO LOCALITY

(in metric tons)

	1929	1930	1931	1932	1933
Kanagawa . .	62,077	186,754	166,524	132,283	218,392
Hyogo . . .	97,613	94,068	135,290	107,207	97,430
Aichi . . .	105,424	102,386	81,633	98,118	113,866
Gunma . . .	48,960	43,411	64,131	73,960	68,215
Fukuoka . . .	69,557	70,123	65,238	81,725	96,369
Tokyo . . .	57,909	31,150	53,700	58,080	54,235
Total (incl. other prefectures)	646,983	690,236	773,611	780,159	884,847

Taken from *Factory Statistics.*

Note:—

Most of the principal flour milling centres are in districts which possess good harbour facilities, for up to comparatively recent years a large supply of wheat was obtained from abroad, and this influenced manufacturers in selecting convenient localities for their plants. Factories situated in the principal distributing centres for home-grown wheat are popularly called "inland factories", while those that derive their raw material principally from foreign sources are known as "coastal factories". The latter are far superior in respect of equipment, possessing every kind of modern appliance. The following is a list of the principal "coastal factories."

Locality	Name of Company	Name of Factory	Daily production capacity (1931)
Kanagawa	Nisshin Milling Co.	Tsurumi Factory	4,000 barrels
	Japan Milling Co.	Yokohama Factory	4,000 "
Aichi	Japan Milling Co.	Nagoya Factory	2,000 "
	Nitto Milling Co.	Nagoya Factory	1,000 "
	Nisshin Milling Co.	Nagoya Factory	2,100 "
Hyogo	Japan Milling Co.	Kobe Factory	1,200 "
	Nisshin Milling Co.	Kobe Factory	2,000 "
	Masuda Milling Co.	Kobe Factory	2,600 "
Fukuoka	Japan Milling Co.	Moji Factory	2,500 "

Exports and Imports of Flour. During the Meiji era, when the Japanese flour milling industry was still in its infancy, a large supply of flour was procured from abroad, but imports declined to 300,000 bags with the opening of the present Showa era (with the exception of 1927 and 1930 when the level of 800,000 bags was registered) and dropped still further to 40,000 bags after 1933, which can be ascribed to the fact that Japan has gradually become self-sufficient in the supply of flour, and to the high import tariff imposed in 1932, which, in conjunction with the low rate of exchange prevailing since the reimposition of the gold embargo, has greatly contributed to the ousting of foreign flour.

Due to the war-time demand from Europe, exports of flour advanced abnormally during the World War to between 2 million and 4 million bags. In order to keep pace with the growing demand, manufacturers were compelled to maintain capacity production, and even to extend their plants. The depression which followed the close of hostilities forced the manufacturers to dispose of surplus stocks in foreign markets and thus led to an expansion of exports. The export volume reached 10 million bags in 1932, and advanced to a new high level of 14 million bags in 1933.

At present, exports of flour amount to half the home consumption, showing to what extent the industry depends on overseas trade. Causes that have directly or indirectly contributed to the recent big advance in exports are:—the low yen exchange prevailing since the reimposition of the gold embargo, the sharp increase in the demand from Manchoukuo, a system of duty exemption on imported wheat on a fixed percentage basis (later, revised to an actual basis) inaugurated in 1927, etc.

Tariff rebates on wheat were put into effect in 1914 as a measure for encouraging flour exports, but were replaced by the exemption system in 1927. The ratio of wheat exempted from duty to the total imported wheat was 34·1% in 1930 and 25·4% in 1931, but rose to 80·5% in 1934.

TABLE 287

WHEAT IMPORTED, DUTY PAID AND EXEMPTED

(Unit: piculs)

	Duty paid	Ratio to total (%)	Duty exempted	Ratio to total (%)	Total
1930	5,312,898	65·89	2,750,180	34·11	8,063,078
1931	8,988,079	74·65	3,051,452	25·35	12,039,531
1934	1,004,584	19·54	6,855,886	80·46	8,155,061

The principal overseas markets are China, Manchoukuo and the Kwantung Leased Territory. However, in 1931, there was a sharp fall in shipments to China proper, and the situation was further aggravated when China, on the expiration of the Sino-Japanese Tariff Agreement on May 15, 1933, imposed an import duty of 0·25 Gold Unit per 100 *kin* of flour. This impost was trebled in the middle of December of the same year. Under these circumstances, exports to China were almost suspended, only 46,000 bags being shipped in 1934, as against 3,700,000 bags in 1931.

On the contrary, exports to Kwantung and Manchoukuo have recently made a great advance, rising from 1,500,000 bags in the years up to 1931 to 7 million bags in 1932, and further to approximately 12 million bags in 1933 and 1934. In November, 1934, the Manchoukuo Government introduced an import tariff of 1 yen per picul on imported flour in order to protect the milling industry in North Manchuria, which measure may affect imports from Japan. In 1934 there was a decrease of about 10% as compared with 1933 in the total quantity of flour exported to Kwantung and Manchoukuo, due to low-priced imports from Australia.

TABLE 288

EXPORTS OF FLOUR ACCORDING TO DESTINATION

(in 1,000 bags)

	China	Manchoukuo	Kwantung L. T.	Netherlands East Indies	Other destinations	Total	
							(Value in 1,000 yen)
1926	2,450	*	1,766	131	223	4,570	19,750
1927	2,544	*	542	82	224	3,392	14,260
1928	4,763	*	1,448	66	128	6,405	24,718
1929	4,825	*	2,940	45	461	8,271	26,816
1930	3,068	543	1,021	58	707	5,397	14,480
1931	3,706	847	1,323	38	170	6,080	9,517
1932	2,833	2,317	4,736	16	74	9,976	20,539
1933	1,303	3,853	8,960	28	177	14,321	34,955
1934	46	3,785	7,830	24	269	11,954	28,452
1935	79	5,528	6,436	28	2,038	14,109	33,700

* Included in China.

Sources of Wheat. The production of wheat in Japan was formerly insufficient to meet the growing demand of flour mills, and a large quantity was annually imported. The situation was further aggravated as flour exports increased. In order to cope with the situation,

the Government, besides revising tariff rates in 1932, adopted measures for increasing the domestic production of wheat, with the result that imports are gradually decreasing.

TABLE 289

DEMAND AND SUPPLY OF WHEAT (INCL. FLOUR IN TERMS OF WHEAT)

(in 1,000 *koku*)

	Domestic production	Imports		Exports		Consumption (estimated)	Consumption per capita (*koku*)
		Foreign countries	Colonies	Foreign countries	Colonies		
1926	5,897·2	3,650·7	20·3	779·7	492·5	8,296·1	0·136
1927	6,056·6	4,350·3	5·1	943·8	619·4	8,848·8	0·143
1928	6,389·1	5,627·3	0·8	2,108·1	605·5	9,303·6	0·148
1929	6,323·5	3,817·7	46·7	1,057·8	591·7	8,538·4	0·134
1930	6,124·8	5,054·5	5·5	1,557·1	540·5	9,087·2	0·141
1931	6,405·7	5,980·9	6·7	1,486·3	543·2	10,363·9	0·159
1932	6,497·4	3,758·2	129·8	2,954·9	530·6	6,899·9	0·105
1933	8,013·0	3,305·4	149·6	2,505·2	540·3	8,422·6	0·126

The year indicated for production is a calendar year; that for other headings begins from July and ends in June of the following year.

Business Conditions. The greater part of the wheat used in flour milling had to be obtained from abroad until recently, hence this industry was highly susceptible to fluctuations in foreign markets, and suffered severely by the sharp price decline during the years of depression. Conditions were rendered more serious by overproduction due to a shrinkage in demand.

In order to remedy this situation, the two largest flour-milling concerns, in co-operation with the Mitsui Trading Company, organized a Flour Joint-Sales Association in 1930. Another syndicate, the Kwanto Flour Joint-Sales Association was established in the following year, which also included the Nitto Milling Company. These syndicates, representing about 80% of the total production capacity of the country, were for a time instrumental in stabilizing the flour market.

As a result of the increased home production of wheat, domestic flour mills are now less dependent on foreign markets, and have thus attained a considerable degree of stability. However, the easy access to raw material brought into the field a large number of small enterprises which complicated competitive conditions to such an extent as to cause the collapse of the syndicates.

A table showing the business results of the principal flour manufacturers compiled by the Mitsubishi Economic Research Bureau, is given on the following page:—

TABLE 290

BUSINESS RESULTS OF FLOUR MILLING COMPANIES

	Number of companies	Paid-up capital (1,000 yen)	Net profit (1,000 yen)	Net profit rate (%)	Dividend rate (%)
1928	6	21,951	1,851	8·4	7·9
1929	7	18,320	2,449	13·4	9·4
1931	5	16,015	1,725	10·8	8·0
1932	5	17,564	2,821	16·1	9·2
1933	5	18,930	3,283	17·3	8·0
1934	5	21,608	3,114	14·4	8·4
1935	4	22,216	3,929	17·7	10·4

3. THE BREWING INDUSTRY

The main articles of consumption are *sake* and beer, other liquors being of comparative insignificance.

Sake. *Sake* has been the alcoholic beverage of Japan from prehistoric times, and production is of great importance from the viewpoint of national economy and finance. A tax of ¥40 per *koku* (1 *koku*=180 litres) is imposed on production, and the revenue accruing to the State in 1933 totalled 152 million yen, a large contribution to the Treasury.

Sake brewing has a close relation to the food problem of the country, as rice is the necessary raw material used in large volume.

The yearly output of *sake* varies, being influenced by the general business situation, and in recent years has declined sharply. Production which was 5,880,000 *koku* in 1920 decreased to 3,810,000 *koku* in 1933.

TABLE 291

OUTPUT OF SAKE

(in 1,000 *koku*)

1920	1927	1928	1929	1930	1931	1932	1933
5,877	4,804	4,521	4,669	4,238	3,582	3,285	3,808

Taken from *Statistical Annual of the Bureau of Taxation*, Ministry of Finance.

Sake breweries exceeded 10,000 in number at the end of September, 1920. Though the number declined later, there were still about 8,200 in existence at the end of September, 1933, accordingly, the out-

put per brewery amounts to not more than 513 *koku* (925 hectolitres) annually.

Although there are a few large breweries, it is evident that the industry is carried on as a small-scale enterprise which has grown out of the traditional conditions of the feudal age.

Rice required by the industry is grown in Japan proper. At one time the utilization of rice for *sake* brewing threatened the food supply of the country, but with increased supplies from Chosen and Taiwan an ample supply of rice appears to be assured, and earlier misgivings as to the uneconomic nature of *sake* brewing have been allayed. Rice employed in the brewing of *sake* in 1933 corresponded to nearly six per cent. of the total rice crop in Japan proper.

Beer. (1) History. The origin of this industry may be traced back to 1853, when beer was brewed for the first time, mainly for the consumption of foreign residents. Subsequently, the Hokkaido Exploitation Office established a beer brewery at Sapporo in 1876, as part of its purpose of developing that island, the climate of which was found to be suitable for the cultivation of barley and hops. At the time of the Sino-Japanese War (1894–1895), beer breweries already numbered 20. Excessive competition among the breweries, coupled with fresh taxation in 1901, lent impetus to a movement for the adjustment of the industry. This tendency was further strengthened by legislation prohibiting the erection of breweries producing less than 1,000 *koku* per year, and eventually, at the end of 1912, only four big companies remained, the Dai Nippon Beer Co., the Kirin Beer Co., the Kabuto Beer Co. and the Teikoku Beer Co.

The development after 1912 was remarkable, the production capacity increasing from 550,000 *koku* in 1912 to 1,750,000 *koku* in 1934. During the boom years of the World War, two more companies, the Anglo-Japanese Beer Co., and the Fuji Beer Co., were established, the latter subsequently amalgamating with the Kirin Beer Co. At present beer brewing is monopolized by four large companies, the Dai Nippon Beer Co., the Kirin Beer Co., the Sakura Beer Co., and the Tokyo Beer Co.

(2) Production and Consumption. Production, on which a tax was levied for the first time in 1901, was then not more than 120,000 *koku*, but rose to about 800,000 *koku* in 1926. Since then the output has again advanced, exceeding 1 million *koku* in 1933. The figure for 1934 was 970,000 *koku*, showing a slight reduction, but production again increased in 1935, registering a total of 1,050,000 *koku*, the highest total on record.

There are numerous brands of Japanese beer, most of them differing very little in nature, all brewed by the bottom fermentation method.

Beer brewing companies are now utilizing surplus yeast for the manufacture of tonics, the output of which is increasing.

The consumption of beer is affected by business conditions, and accordingly varies from year to year. Consumption was very low during the depression period, but has since revived, advancing to 894,000 *koku* in 1935. Although increasing, consumption per capita is much less than in the other principal beer-producing countries.

TABLE 292

DOMESTIC CONSUMPTION OF BEER

(in *koku*)

	1929	1931	1932	1933	1934	1935
Home production	905,012	762,933	766,647	1,004,692	970,519	1,049,855
Exports	39,156	36,637	68,812	182,373	118,009	135,157
Balance	865,856	726,296	697,835	872,319	852,510	914,698
Shipments to colonies	57,055	46,823	48,613	54,867	46,278	20,713
Domestic consumption	808,801	679,473	649,222	817,452	806,232	893,985

(3) Scale of Operation and Business Results. The number of beer brewery companies in Japan proper is now, as a result of amalgamations, only four with a total paid-up capital of 72 million yen and a production capacity of 1,750,000 *koku* per year.

TABLE 293

BEER BREWING COMPANIES

	Authorized capital (1,000 yen)	Paid-up capital (1,000 yen)	Capacity per year (1,000 *koku*)	Number of breweries
Dai Nippon Beer Co.	94,000	59,800	1,180	9
Kirin Beer Co.	10,800	8,300	400	3
Sakura Beer Co.	4,000	2,647	120	1
Tokyo Beer Co.	1,500	1,500	50	1
Total.	110,300	72,247	1,750	14

Business results are highly satisfactory, although the economic depression up to 1932 occasioned a great decline in income. However, even in 1931, when the depression was keenest, the Dai Nippon Beer Co. and the Kirin Beer Co. were able to distribute a dividend of 12% and of 10% per annum respectively. The later recovery did not

increase dividends, but the financial foundations of the companies were greatly strengthened by the accumulation of reserve funds.

TABLE 294

BUSINESS RESULTS OF BEER BREWING COMPANIES

	1931	1932		1933		1934	
	2nd half	1st half	2nd half	1st half	2nd half	1st half	2nd half
Rate of profit (%) .	11·2	14·1	11·9	16·4	14·1	16·8	17·1
Rate of dividend (%).	9·1	9·9	10·0	10·7	11·4	11·3	11·3

Compiled by the Mitsubishi Economic Research Bureau.

(4) Exports. The first export of beer was made in 1892 to Shanghai, after which shipments gradually increased. The largest shipments so far recorded were made in 1933 of a total of 132,000 *koku*. The most important overseas markets are Manchoukuo, British India and China, exports to Manchoukuo in particular having advanced in recent years. Some appreciable shipments have also been made to Africa and South America.

TABLE 295

EXPORTS OF BEER BY DESTINATIONS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Manchoukuo (incl. Kwantung L. T.) .	1,207	736	1,892	3,206	3,182	3,208
China	851	628	1,171	758	587	545
Hong Kong	215	177	121	94	103	117
British India and Ceylon . .	712	650	694	901	684	(a)639
Netherlands East Indies . .	489	234	535	1,639	225	189
Siam	29	332	216	241	327	253
Philippines	120	76	62	99	120	...
Total (incl. other destinations) .	3,755	3,035	4,835	7,684	5,535	5,871

(a) Not includig Ceylon.

(5) Raw Materials. The barley previously grown in Japan was not quite suitable for the brewing of beer, and hence this raw material had to be imported, but good varieties are now cultivated in Japan to an extent almost sufficient to meet the home demand. Deficiencies are supplemented by imports chiefly from Australia.

The production of hops in Japan is as yet very small, the greater

part required by the industry being imported from Germany, Czechoslovakia and the United States.

Apart from barley and hops, malt was imported to the extent of 108,655 piculs of a value of ¥1,757,000 in 1924, but imports ceased in 1934.

(6) Organized Control. A sales agreement existed among beer companies up to 1929, but in January, 1930, the Nippon Beer Kosen Company withdrew, which resulted in keen competition and an unfavourable situation for the whole industry. In August, 1933, a joint-sales syndicate was established by the Dai Nippon Beer Company and the Kirin Beer Company, the two largest companies, to which the Sakura Beer Company adhered in the following year; accordingly, a powerful and comprehensive sales control has now been established.

An export control organ, the Japan Beer Brewers' and Exporters' Association was formed by brewers and exporters in September, 1933, with the object of promoting exports and controlling prices. In May, 1934, the Major Industries Control Law was applied to this industry which is now subject to complete centralized control.

4. Canned Foods

The importance of the industry in Japanese national economy is due to the large output volume and to the great advance of overseas shipments in recent years. Due to technical progress and the increasing necessity to preserve foods, the products of the industry now include more than two hundred varieties, about 70% of which are canned fishery products. With the modernization of agriculture there has recently been an advance in the output of canned agricultural products. This tendency has led to a decline in the ratio of canned fishery products to the total output of canned foods from 81% in 1929 to 72% in 1934.

Production. The principal products of the industry are canned salmon and crab. The great development in canned tuna in oil and canned Taiwan pineapple is also worthy of notice.

Canned foods now include almost every variety of sea food, ranging from salmon, crab, sardine, and tuna down to abalone, top-shell, clam, oyster and laver. The most important are salmon and crab, caught in northern waters, hence the significance of the northern sea resources to the Japanese canning industry will be apparent. In view of signs of a decline in the catch from the Okhotsk

TABLE 296

OUTPUT OF CANNED FOODS

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934
Salmon, *sake* Japan proper	95	57	123	722	3,646	6,158
Salmon, *sake* Soviet territory	17,251	13,416	13,120	14,432	9,815	18,383
„ , *masu* Japan proper	5,697	2,602	2,417	1,215	4,828	2,860
„ , *masu* Soviet territory	1,005	5,035	1,267	5,469	3,604	8,077
Crab Japan proper	1,157	1,021	1,066	1,346	4,687	6,676
Crab Floating canneries	14,481	13,148	7,303	5,468	7,476	7,733
Crab Soviet territory	4,231	2,396	1,906	1,671	1,169	1,399
Sardines	804	655	665	1,593	2,591	3,870
Mackerel	1,462	1,208	829	880	1,280	1,341
Bonito	227	207	187	296	1,617	670
Whale	725	516	139	196	440	645
Abalones	578	1,096	540	369	365	504
Top-shell	968	939	645	558	683	343
Kamaboko	113	109	59	98	167	234
Total of fishery products	48,800	42,405	30,266	34,313	42,368	51,160
Meats	2,660	2,470	2,275	2,248	2,217	2,470
Fruits	1,073	690	824	972	2,448	3,787
Vegetables	3,976	3,640	2,738	3,126	3,031	4,179
Grand total (incl. other foods)	60,080	52,161	38,999	46,084	62,373	70,651

According to *Statistical Year Book of the Ministry of Agriculture and Forestry.*

and Bering Seas, the Government has adopted a license system for the companies engaged in the floating cannery business, in order to prevent excessive haul and also to end the keen competition which existed.

More than half the output of crab is by floating canneries, Japanese concerns up to 1927 almost monopolizing this sphere of activity. Due to the intensification of the depression after 1930 and to competition by Soviet products, an amalgamation of the four large Japanese concerns was effected which merged in the Japan Amalgamated Floating Canneries Co., doubling the capital to 14 million yen in April, 1934. This company now practically monopolizes the crab fisheries on the western and eastern coasts of Kamchatka.

The production of canned fruits and vegetables is at present not of very great significance, although there has been a healthy development in recent years particularly in fruits and bamboo shoots.

The most important item is pineapple grown in Taiwan. In 1934,

the value of the output of canned pineapple was returned at 6 million yen, the bulk being marketed in Japan proper. Much encouragement is being given by the Government-General of Taiwan, which sponsored the establishment of the United Pineapple Canning Co. with a capital of five million yen, in order to merge the majority of manufacturers in the island.

TABLE 297

CANNED TAIWAN PINEAPPLE

	Output		Shipments to Japan proper		Exports	
	Value (1,000 yen)	Quantity (1,000 cans)	Value (1,000 yen)	Quantity (1,000 dz.)	Value (1,000 yen)	Quantity (1,000 dz.)
1929	4,425	20,385	4,408	1,340	49	4
1930	3,291	18,004	3,481	1,238	61	9
1931	4,526	29,991	4,158	2,002	43	6
1932	4,631	32,235	5,151	2,598	240	89
1933	6,172	40,082	4,791	2,354	358	152
1934	6,250	37,111	4,537	2,122	533	210
1935	—	—	7,307	3,204	771	323

Figures taken from returns of the Government General of Taiwan.

The production of canned oranges is a new industry, the technical success of which was first achieved in 1928. Due to the growing overseas demand, the industry has made rapid development. According to investigations conducted by the Canned Foods Association of Japan, exports of canned oranges in 1934 totalled 280,000 cases, of which Great Britain took 220,000 cases. In that year, overproduction caused a decline in market prices and losses to the industry, which induced producers to establish an organ for the control of output and prices.

A feature of the industry is the great division of enterprise. Of the total workers employed in these canneries, 70% are females. In 1933, there were 926 canneries in Japan proper, of which only 360 employed more than five workers, and they accounted for about 89% of the total production.

On the other hand, the fisheries in Soviet waters and the floating canneries in northern waters are carried on by large enterprises, the number of workers in these branches being returned at 24,000 in 1933.

The main items of production cost are tin-plate, cases, labour, etc. The largest outlay is for tin-plate, which, when combined with

expenses for materials, accounts for approximately 70% of the total cost of production. The supply of tin-plate is still obtained mostly from abroad. At present, due to the depreciation of Japanese currency, the cost of this item is very large. As to canning machines, they are now produced in Japan at a reasonable cost.

As to labour cost, wages per worker in factories with more than five workers averaged, in 1931, 278 yen, and in 1933, 211 yen, the decline being due to a reduction in working hours. During the same period the output per worker rose from 2,770 yen to 3,984 yen, thus reducing labour cost from 10% to 5·3% of the total value of output.

TABLE 298

LABOUR CONDITIONS

	1929	1930	1931	1932	1933
Total number of workers . .	6,011	5,506	5,052	5,779	8,954
Number of female workers . .	*3,671*	*3,578*	*1,231*	*4,160*	*6,497*
Total working hours per worker(a)	1,768	1,722	2,895	2,247	2,104
Total wages per worker (yen)(a) .	200	195	278	196	211
Output per worker (yen)(a) . .	3,331	2,736	2,770	3,114	3,984

According to *Factory Statistics*. (a) Per annum.

Exports. From 50% to 60% of the total production of canned foods is exported. These figures, however, do not include direct exports from Soviet waters. Tinned fishery products by Japanese undertakings in these waters reached 20 million yen in 1934. If these are included, exports of canned and bottled foods total more than 70 million yen.

Great Britain is the largest customer of Japanese canned salmon and trout, followed by France, Italy, the Netherlands and the Union of South Africa. The principal destinations of canned crab are Great Britain, the United States and France.

The United States is practically the only overseas market for canned tuna in oil, though the advance in import duty from 30% *ad valorem* to 45% has adversely affected exports to that destination. Efforts are being made to exercise control over exports to the United States, in order to avoid friction with the American producers, and to exploit new markets in Europe, Africa and Australia. Exports of tomato sardines are confined to the Netherlands East Indies, the Straits Settlements, the Philippines, British India, Siam and other Far Eastern countries, the Japanese product having gained almost a monopoly in those markets.

The United States and Great Britain combined annually take more than 60% of the total Japanese export of canned and bottled foods. The future prospects for shipments to Manchoukuo appear to be promising and there is an increase in demand from Australia.(1)

TABLE 299

EXPORTS OF PRINCIPAL CANNED AND BOTTLED FOODS

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934	1935
Meat	104	71	77	121	150	121	155
Crab	16,712	14,478	12,159	10,750	18,619	15,421	19,661
Salmon	4,387	3,983	3,697	5,039	11,230	18,861	16,192
Tuna	—	—	—	—	—	3,848	4,992
Sardines	—	—	—	—	—	3,612	5,569
Other fish	579	540	784	3,711	12,114	786	1,175
Abalone	478	359	186	145	220	332	446
Other shellfish	1,079	627	460	506	616	697	776
Bamboo shoots	407	223	159	257	296	333	475
Other vegetables	426	311	231	284	340	407	611
Flavouring matter	1,069	768	696	421	573	1,733	2,055
Fruit	—	—	—	—	—	2,822	3,334
Total (incl. other foods)	25,681	21,763	18,948	22,774	46,984	50,304	57,130
Quantity (1,000 piculs)	*415*	*427*	*434*	*569*	*987*	*1,105*	*1,436*
Exports of canned fishery products direct from Soviet waters	14,627	12,948	11,734	15,922	12,813	21,605	...

5. THE TEA INDUSTRY

During the latter part of the Tokugawa Shogunate and the early part of the Meiji era, tea was the most important export article. After Japan opened her ports to overseas commerce, foreign merchants undertook the preparation and exportation of tea, exports in those days being exclusively in the hands of foreign firms. In the fifth year of Meiji (1872), Mr. Kahei Otani, the most famous tea merchant in Japan, established a tea company with Government

(1) Cf. Chapter XXX, Table 400.

assistance, for the purpose of improving the quality of the Japanese product and undertaking direct exportation to foreign markets. However, this attempt at direct exportation failed, due to lack of experience in foreign trade, and foreign merchants continued their exclusive activities.

The cultivation of tea in Taiwan is also of ancient history, the plants having been brought from China. Already in 1850–60, Taiwan tea was exported to certain parts of China, and in 1869 was introduced to New York where it became very popular. Oolong and Pouchong teas are well-known brands of Taiwan tea.

Since the Meiji Restoration, efforts have been exerted to the cultivation of black tea, and as a result of experiment and research, the Chinese method originally adopted in Japan was replaced by the Indian method. It is only in recent years, however, that success in the production of black tea has been realized both in Japan and Taiwan.

Production. Japan produces about 6% of the total world output of tea, coming next to British India, Ceylon and the Netherlands East Indies. Shizuoka prefecture ranks first as a producing centre for Japanese green tea, more than half of the product being exported. High-grade green tea for domestic consumption is largely grown in Kyoto prefecture, especially in the Uji district. Black tea grown in Japan proper is exclusively from Shizuoka prefecture. The value of production has greatly declined in recent years, not because of a reduction in output, but due to the fall in market price. In 1925, the value of production in Japan proper and Taiwan amounted to 48 million yen, but declined to less than half in 1932. A slight increase in value was recorded in 1934, when the figure reached 34 million yen. The production of black tea has advanced both in quantity and value.

Exports. A large part of the tea grown in Japan is exported to the United States, other principal customers being Soviet Russia and Canada. Japan and China have long been competitors in the American market, the advantage being formerly with China. From about 1907, however, Japanese tea took the lead in that market, and during the World War exports averaged about 396,000 piculs as against 149,000 piculs of China tea.

The markets for Japanese tea have been extended in recent years, and since 1929–30 Soviet Russia has become one of the principal buyers. In order to meet the taste of this new market, producers in Shizuoka prefecture introduced a new brand named "Guri", which

has met with much success. Tea exports to Soviet Russia have continued to increase, and totalled 58,000 piculs in 1934, replacing China tea which formerly monopolized that market. Another new market of recent development is Morocco.

As will be seen, exports have gradually improved since 1931, but were only 281,000 piculs, of a value of ¥11,419,000 in 1935, compared with 300,000 piculs, value at 13 million yen, before the World War. The ratio of exports to total production also declined from about 50% to 30% (in 1934) during the same period.

TABLE 300

TEA PRODUCTION IN JAPAN PROPER AND TAIWAN

(in 1,000 yen)

	1914	1925	1929	1932	1933	1934
Japan proper						
Green tea . . .	14,647	35,685	27,757	18,199	20,804	21,690
Black tea . . .	18	7	10	20	45	715
Total (incl. other tea)	24,903	36,438	30,472	18,506	21,209	22,859
Quantity (1,000 kwan)	*8.669*	*10.219*	*10.505*	*10.776*	*11.597*	*11.788*
Taiwan						
Oolong tea . . .	4,298	4,766	3,745	1,798	2,055	3,562
Pouchong tea . .	2,474	6,000	6,485	2,072	1,809	3,075
Black tea . . .	49	176	117	477	773	4,250
Green tea . . .	8	32	5	6	6	7
Total . . .	6,828	11,773	10,351	4,352	4,644	10,894
Quantity (1,000 kwan)	*2.983*	*2.712*	*2.336*	*1.921*	*2.696*	*2.719*
Grand total . .	31,731	48,211	40,823	22,858	25,853	33,753

Based on *Statistical Return of Tea Industry* compiled by the Ministry of Agriculture and Forestry and *Statistical Annual of the Taiwan Government-General.*

TABLE 301

TEA EXPORTS FROM JAPAN PROPER

(Value in 1,000 yen)

	1914	1929	1931	1932	1933	1934	1935
Green tea . .	11,903	11,909	8,047	7,987	8,251	8,497	9,180
Black tea . .	478	119	185	186	199	1,060	2,002
Other tea . .	329						236
Total . .	12,710	12,028	8,233	8,173	8,450	9,557	11,419
Quantity (1,000 piculs)	*296.1*	*178.9*	*192.1*	*223.3*	*222.9*	*240.2*	*281.3*

Imports remain small, totalling about 50,000–60,000 piculs, of a value less than 1 million yen, the larger part being Ceylon tea. Chinese and Indian teas are also imported in small quantities.

Exports from Taiwan followed a similar trend to those from Japan, declining after the World War, and showing a revival after 1929. Exports overseas and shipments to Japanese territories in 1934 totalled 166,407 piculs, of which 153,718 piculs were to overseas destinations. Exports in that year, including those to Japan proper, amounted to 90·4% of the total output.

TABLE 302

TEA SHIPMENTS FROM TAIWAN

	1914	1929	1930	1931	1932	1933	1934	1935
Value (in 1,000 yen)								
To foreign countries .	6,359	9,371	8,692	7,363	4,870	5,446	8,918	8,318
To Japanese territories	442	147	177	233	519	943	1,129	1,049
Total . . .	6,800	9,518	8,870	7,596	5,390	6,389	10,047	9,367
Quantity (in 1,000 piculs)								
To foreign countries .	173·4	138·0	137·3	135·4	106·3	122·1	153·7	144·4
To Japanese territories	15·1	1·8	2·9	3·8	9·2	16·5	12·7	14·3
Total . . .	188·5	139·8	140·1	139·2	115·5	138·7	166·4	158·6

CHAPTER XXIII

OTHER INDUSTRIES

1. The Paper Industry

The total investment in the paper industry in Japan at the end of 1933 was estimated at 212 million yen, comprising paid-up capital and reserve funds, while company debentures aggregated 107 million yen. The value of the output in Japan proper in 1933 reached 176 million yen, to which should be added the production in Karafuto of 55 million yen, and Chosen 4·9 million yen, making a total of about 246 million yen, representing more than 2·7% of the entire value of Japanese industrial production.

Production of Paper and Paper Board. A gradual increase in the output of paper and paper board in Japan was witnessed after the Sino-Japanese War. Especially, the decrease of paper production in Europe, consequent upon the outbreak of the World War, and the sudden decrease of supplies to Asiatic markets through the scarcity of shipping facilities combined to stimulate a development of the industry. As a result of the establishment of several new mills and the extension of old ones, the production of paper and paper board was considerably increased, from 375 million lbs. in 1913 to 1,735 million lbs. in 1929 and to 2,050 million lbs. in 1934.

TABLE 303

Production of Paper and Paper Board

(in million lbs.)

	1929	1930	1931	1932	1933	1934
Paper . . .	1,452	1,402	1,375	1,359	1,511	1,658
Paper board .	284	295	302	323	349	392
Total . .	1,735	1,696	1,677	1,682	1,860	2,050
Japanese-style paper . .	*	*	219	172	176	187

Based on investigations of the Oji Paper Manufacturing Co. * Unavailable.

The manufacture of Japanese-style paper is mostly carried on as a household industry on a small scale, or as a side line by farmers. Owing to the wide sphere of manufacture and the complicated nature of production, no official statistics as to annual output are available after 1926. It may be said, however, that the output has gradually decreased, the annual production in recent years being estimated at from 150 million to 200 million lbs.

Ninety-six percent of the country's total production of paper is supplied by the member companies of the Japan Paper Manufacturers' Association. Production consists chiefly of printing paper, writing paper, drawing paper and simili paper. According to investigations by the Association, there were 76 paper machines in operation at the end of 1935 with a monthly capacity of 63,483,370 lbs. Actual production during 1935 was, however, only about 56% of capacity, or 509,259,008 lbs., due to production curtailment. The output of newsprint and low-grade printing paper advanced to 736,245,067 lbs. in 1935, an expansion of 28·9% over the 1929 output, and representing 42·8% of the total production. The increase was principally due to the greater diffusion of newspapers and magazines

TABLE 304

OUTPUT OF PAPER BY MEMBER COMPANIES OF THE JAPAN PAPER MANUFACTURERS' ASSOCIATION

(in million lbs.)

	1929	1932	1933	1934	1935
Printing paper (superior)	174	133	136	143	154
Printing paper (ordinary)	151	117	136	156	171
Writing and drawing paper	29	34	46	51	59
Simili paper	138	100	92	99	126
Total	493	383	410	449	509
Art and flint glazed paper	20	12	17	23	34
Newsprint (incl. low-grade printing paper)	571	544	609	688	736
Roll paper	65	59	41	41	46
Coloured paper	22	17	17	14	13
Wrapping paper	98	158	200	226	213
Japanese-style paper	18	17	27	25	29
Paper board (except straw board)	71	78	77	76	80
Miscellaneous paper	61	44	48	49	59
Grand total	1,418	1,311	1,444	1,591	1,720

Based on investigations of the Japan Paper Manufacturers' Association.

throughout the Empire. Production of wrapping paper, which was largely imported in the past, has greatly advanced, the ratio to total paper production increasing from 6·9% in 1929 to 12·4% in 1935.

Foreign Trade. Imports of paper reached the highest record of 170,255,467 lbs. in 1924, but due to the technical progress attained by the Japanese paper industry and the remarkable increase in production capacity, the inflow of foreign products decreased gradually to 75,164,876 lbs. in 1929. The removal of the gold embargo in 1930, however, opened the way for imports, particularly of newsprint from Scandinavian countries and Canada.

TABLE 305

CLASSIFIED IMPORTS OF PAPER

(in 1,000 lbs.)

	1929	1931	1932	1933	1934	1935
Newsprint	8,119	81,009	71,844	66,023	97,755	131,395
Printing paper	14,458	8,536	6,325	3,033	3,850	3,261
Art paper	3,473	1,644	515	43	19	56
Writing and drawing paper	5,544	3,404	2,720	2,015	1,968	1,900
Wrapping and match paper	30,636	34,068	21,628	18,809	24,798	14,294
Imitation parchment	9,243	10,980	9,117	10,040	7,244	11,313
Other paper	3,692	4,545	2,573	2,767	1,752	3,943
Total	75,164	144,186	114,722	102,730	137,386	166,162
Paper boards	4,219	1,833	1,752	1,600	1,170	1,319
Grand total	79,384	146,018	116,475	104,330	138,556	167,492

Based on investigations of the Japan Paper Manufacturers' Association.

The World War, which almost completely cut off supplies of European paper, stimulated the export of Japanese products. The termination of the War checked a further increase, owing to the reappearance of European products on international markets, but after 1926, Japanese exports to Asiatic markets again increased, the upward tendency remaining unchanged in spite of the removal of the gold embargo. Due to the export bounty system, the volume of exports increased to 226,984,667 lbs. in 1930, an advance of more than eight times over that of the pre-war period (1913). The largest part, or 88·1% of the total, was shipped to Eastern Asia including Hong Kong and Manchoukuo.

Japanese exports of paper to China increased considerably after

the World War, accounting for 48·5% of Chinese imports in 1930. However, this situation did not last long, because of the Chinese boycott of Japanese merchandise subsequent to the Manchurian incident, and the pressure of Scandinavian and Canadian paper, and Japanese paper exports to China in 1932 decreased to one-third of those recorded in 1930. This conspicuous decline was responsible for a decrease of 41·6% in total Japanese exports of paper in the same year, despite an increase in shipments to other Asiatic countries. Since the establishment of Manchoukuo in March, 1932, shipments of paper to that country have gradually increased concurrently with other articles, and with the recovery in exports to Hong Kong since 1933, the general situation of the paper export trade has improved steadily, shipments in 1935 reaching 199,974,933 lbs., an increase of 50·8% over the figure of 1932, though a decrease of 11·9% as compared with 1930.

TABLE 306

CLASSIFIED EXPORTS OF PAPER

(in 1,000 lbs)

	1929	1930	1931	1932	1933	1934	1935
Printing paper.	115,344	146,217	124,629	70,035	82,759	77,218	82,515
Cigarette paper	5,751	6,586	6,096	2,395	3,555	6,756	6,696
Simili paper .	6,306	10,330	6,750	11,447	14,582	11,520	16,480
Renshi paper .	3,086	1,754	719	223	76	678	1,751
Wrapping paper	6,391	5,106	3,003	3,863	4,229	5,352	5,457
Other paper .	9,718	9,145	7,373	7,166	11,865	25,133	23,669
Total . .	146,595	179,138	148,571	95,130	117,066	126,655	136,569
Japanese-style paper . .	4,331	4,699	3,650	5,645	11,881	13,059	13,756
Paper boards .	36,582	43,148	36,303	31,830	25,078	32,592	49,650
Grand total .	187,508	226,985	188,524	132,604	154,025	172,307	199,975
Manchoukuo and Kwantung L. T.	30,296	27,154	18,748	35,269	61,585	69,406	81,107
China . .	115,947	158,258	125,128	51,798	48,940	53,318	54,262
Hong Kong .	16,500	14,579	15,579	5,707	7,241	13,424	17,486
British India .	13,552	17,561	19,983	21,770	15,751	16,672	23,979

Sources of Raw Materials. The raw materials employed by the leading paper manufacturing companies, organized in the Japan Paper Manufacturers' Association, are wood pulp (94·7%), waste paper (2.7%), rice straw (1·1%) and rags (1·4%). The principal raw material for the manufacture of paper board is straw, and for Japanese style

paper, *kozo*, *mitsumata* and similar plants. The annual consumption of wood pulp increased concurrently with the development of the paper industry, and in 1935, amounted to about 832,481 tons, domestic production being scarcely sufficient to cover 75·4% of the total requirements.

The demand for pulp is increasing steadily in various directions, particularly in rayon manufacture, and the shortage of supply has had to be supplemented by importation. The volume of pulp imports consequently have increased greatly in recent years, the figure for 1935 rising to 269,923 tons, or more than three times the volume of 1929. The sharp advance in imports was, however, largely due to the rapid development of the rayon industry and the consequent increase in pulp consumption for that purpose.

TABLE 307

DEMAND AND SUPPLY OF PULP

(in long tons)

	Supply				Consumption in paper mills		
	Production	Imports	Exports	Total	Member companies	Others	Total
1929	618,602	80,410	—	699,012	620,056	64,549	684,605
1930	625,537	79,107	—	704,644	614,864	67,707	684,571
1931	566,709	100,636	124	667,221	580,814	57,740	638,554
1932	551,120	101,168	—	652,288	584,640	28,855	613,495
1933	620,039	159,974	31	779,982	653,127	73,435	726,562
1934	691,836	225,319	—	917,155	697,945	134,536	832,481
1935	...	269,923	—	...	743,942	...	...

Based on investigations by the Japan Paper Manufacturers' Association.

Classified by countries of origin, pulp imports from the United States and Sweden have shown a marked increase since 1934, the former accounting for 40·4% and latter for 18·7% of the total in 1935, followed by Norway with 18·0%. Imports from Canada, which formerly headed the list, amounted to 12·7%. The imports from these four countries represented 89·8% of the total.(1)

Pulp wood consumed in 1934 amounted to 7,915,800 *koku* which, compared with the figure for 1929, the highest on record, indicates a decrease of 7·7%, despite an advance of 11·8% in pulp production. This can be ascribed to the technical progress accomplished in pulp extraction. Karafuto and Hokkaido are the main sources of supply of pulp wood, and in 1934 furnished 77% and 19% respectively of

(1) Cf. Chapter XXX, Table 415.

domestic requirements. The producing capacity of Karafuto is a matter of great importance to the future of the paper industry of Japan, particularly as regards the manufacture of low-grade paper such as newsprint.

The forest resources of Karafuto represent 522 million *koku* of coniferous trees. The average annual fell is about 11 million *koku*, of which about 9,300,000 *koku* are available as raw material for the manufacture of pulp for the paper and rayon industries. In addition, four or five million *koku* of timber in private ownership will, it is estimated, be felled annually up to about 1940. In view of the smallness of total resources, present supplies can hardly be expected to continue long, and other resources are now receiving serious consideration.

Little is known about the forest resources in Manchoukuo. Manchurian forests are generally a mixture of coniferous and broad-leaf trees, but are located in very remote districts devoid of communication facilities, and it is doubted whether exploitation at the present time can be economically successful.

Scale of Enterprise and Technical Progress. Large enterprises combine pulp production and paper manufacture under one management, and are best adapted to the technical rationalization of the industry. This is especially true of the manufacture of newsprint which necessitates low prices, mass production and uniformity of quality. Most typical of such enterprises in Japan is the Oji Paper Manufacturing Co. which was established in the early part of the Meiji era (1868), and has steadily risen to the present position, practically monopolizing the entire field of paper manufacture, having absorbed two rival concerns, the Fuji Paper Mill and the Karafuto Kogyo Co. (in May 1933), as well as more than thirty smaller establishments directly or indirectly. The company controls about 64·8% of the total paid-up capital and reserves of all paper concerns, and its output of paper represents 81·2% of the total production. Particularly in the output of newsprint and the manufacture of pulp, this company almost enjoys a monopoly, contributing 95·5% and 95·1%, respectively, to the total national production. The export trade, too, is entirely controlled by this company.

One section of the paper industry, the manufacture of paper board, which is chiefly made from straw, is mostly conducted by small concerns, as the process of manufacture is rather simple and involves small outlay. The manufacture of Japanese-style paper is generally carried on as a side-line in households or in small establishments.

This form of enterprise appears to be dwindling gradually.

The technical progress attained by the Japanese paper industry in the past few years is noteworthy. This progress has been accelerated by the marked price decline which was brought about by the general depression after 1929, and compelled manufacturers to concentrate on technical improvement to reduce the cost of production. Production costs in 1932 were about 29% lower than in 1928. The average manufacturing capacity per minute at present is about 400 feet of printing paper and 1,000 to 1,200 feet of newsprint. Notable is the development in the manufacture of special-quality paper, as shown in the perfection of technical arrangements for turning out insulated paper, wall paper, sulphate paper, baryta paper, etc.

Costs and Profit. Of the various elements which enter into the cost of pulp, the most important is wood which represents about one-half of the cost, coal, wages, sulphur, etc. coming next in order. Nearly the whole of the wood for pulp-making is purchased from the Government. The price is little affected by the timber market situation, but is controlled by quotations of imported pulp. On account of the reimposition of the gold embargo, the margin of profit, which was previously extremely low, has gradually increased chiefly due to the price advance in the imported article occasioned by depreciation in the value of the yen. On the other hand, the advance in chemicals for pulp manufacture and in wages was rather limited.

The major portion of production costs of paper is that of raw material, especially pulp, motive power and wages. Owing to the large variety of paper produced, the composition of the cost varies with the raw materials used. The principal raw material employed in the manufacture of newsprint is ground wood pulp, while simili paper is made from sulphite pulp alone. On the whole, pulp accounts for the greatest percentage (40% to 60%) of production costs of the finished article, which are, therefore, invariably influenced by the price of pulp. The decline of paper prices since 1929 was rather less pronounced than the fall in pulp quotations, but paper manufacturers generally were unfavourably affected by the decreased production and the increase of fixed assets and interest thereon, which considerably diminished the margin of profit. The reimposition of the gold embargo, which occasioned a sharp rise in paper prices, resulted in better profits despite a marked advance in pulp, as manufacturers had large stocks of raw materials previously purchased at low prices. Later on, the advance of raw material prices, combined with the gradual price decline in the finished

article, again led to a lower margin of profits. The largest establishment, the Oji Paper Manufacturing Co. which engages concurrently in the manufacture of pulp, still enjoys a good margin of profit, mainly through incidental business which is comparatively remunerative. Small manufacturers, however, are already badly affected, and, are agitating for a price increase of the finished article because of the higher prices of raw materials.

Control. Centralized control in the paper industry was the first attempted in any branch of industry in Japan. As early as December, 1880, the Paper Mills Association was formed with a view to fixing the market price of products, being renamed the Japan Paper Manufacturers' Association in 1913. The member companies of the Association are listed below:

TABLE 308

MEMBER COMPANIES OF THE JAPAN PAPER MANUFACTURERS' ASSOCIATION

(at the end of 1935)

Companies	Paid-up capital (in 1,000 yen)	No. of factories	Machines		No. of workers			Output of paper in 1935 (in 1,000 lbs.)	Output of pulp in 1934 (in 1,000 lbs.)
			Number	Inches	Male	Female	Total		
Oji Seishi .	130,953	32	127	12,772	10,993	1,884	12,877	1,432,064	1,509,962
Mitsubishi „ .	8,000	2	12	1,026	1,150	172	1,322	83,317	—
Hokuetsu „ .	4,800	3	7	607	502	70	572	69,817	54,396
Nippon Shigyo	9,496	2	8	770	671	188	859	41,706	—
Nippon Seishi .	2,000	1	3	272	157	38	195	24,770	—
Inui „ .	1,600	1	5	432	148	133	281	30,972	—
Nishino „ .	850	1	4	192	143	25	168	7,575	—
Showa „ .	340	1	2	160	94	60	154	10,285	—
Asahi „ .	300	1	2	114	71	17	88	7,689	—
Taisho Kogyo	675	1	1	108	75	34	109	5,905	—
Tomoegawa Seishi . .	1,500	1	1	88	120	31	151	5,536	—
Total . .	160,514	46	172	16,541	14,124	2,652	16,776	1,719,637	1,564,358

The member companies account for about 74% of the total paid-up capital invested in the industry, with an aggregate production of paper and pulp of more than 96% and 98·5%, respectively, of the total domestic output. Thus, quantitatively the Japan Paper Manufacturers' Association controls the paper market. The principal function of the Association at present is the control of the paper supply by means of production curtailment and price agreements.

2. Rubber Industry

The development of this industry during the past few years has been very rapid, and the relative position of Japanese rubber articles in world markets has become very important. A glance at the consumption volume of crude rubber will show the extent of the growth of this industry. Consumption of crude rubber in Japan was 33,000 long tons in 1930, or 4·8% of the entire world consumption. Japan then ranked fifth on the list of the world's chief rubber manufacturing countries, but in 1934, consumption totalling 74,000 long tons, or 8·0% of world consumption, Japan ranked third, being only surpassed by the United States and Great Britain.

The Japanese rubber industry has in recent years reached an annual production value of over 100 million yen, and has securely established itself as one of the major industries of the country. This rapid advance has resulted in an increase of exports which has contributed largely towards assisting the balance of trade, as there is a considerable excess in exports over imports. The import value of rubber manufactures in 1935 was only ¥889,000 whilst exports in the same year totalled ¥40,193,000, or 1·6% of the whole Japanese export trade.

Production. Rubber manufacture developed from an annual production of about 50 million yen in 1924 to about 77 million yen in 1929, after which a decline set in owing to the economic depression, the figures for 1931 being only 56 million yen. The economic recovery which manifested itself in 1932 had a very favourable effect on this industry, and a gradual increase in production carried the total value in 1933 to 87 million yen.

Japan now manufactures almost every variety of rubber goods to meet the home demand, but the most important are tyres and rubber footwear, which, in 1933, totalled 32 million yen and 22 million yen (not including 17 million yen of rubber-soled *tabi*), respectively. Belting, toys and tubes come next in importance.

Production of rubber shoes and other footwear, at one time the most important item in rubber manufactures, has met with a setback, as revealed in the decline in percentage from 38% in 1929 to 25% in 1933. The progress of rubber shoes has been slow, whilst the manufacture of rubber-soled canvas shoes is gradually developing. As against the comparative standstill of rubber shoes and other footwear, the production of tyres has progressed in recent years, particularly pneumatic tyres for motor cars, aeroplanes and motorcycles, the value rising from ¥8,800,000 in 1929 to ¥15,300,000 in 1933.

TABLE 309

PRODUCTION OF RUBBER MANUFACTURES

(in 1,000 yen)

	1929	1930	1931	1932	1933
Soft rubber goods					
Tyres and accessories	25,753	19,285	19,454	24,080	31,826
Articles for machinery use	2,126	1,421	636	1,173	1,001
Shoes and other footwear[a]	28,797	20,443	15,930	17,353	21,879
Toys	2,318	2,314	3,320	5,028	5,563
Tubes	1,319	1,973	1,747	2,192	2,989
Belting	4,698	4,577	4,005	4,469	5,662
Other goods	9,860	9,552	9,899	10,564	16,061
Total	74,872	39,564	54,992	64,828	84,981
Hard rubber goods					
Battery cases	212	233	264	209	276
Other goods	1,515	970	849	846	1,447
Total	1,727	1,203	1,113	1,055	1,724
Grand total	76,599	60,767	56,105	65,883	86,705
Rubber-soled *tabi*	24,507	10,932	11,218	13,250	16,553
Rubber cloth	3,555	3,133	1,578	2,409	2,876

Based on *Factory Statistics*. (a) Figures for rubber-soled *tabi* are not included.

The most important rubber manufacturing centres are Hyogo and Osaka prefectures, with a combined production of 48% of the total output in Japan in 1933. The Keihin district (Tokyo and Yokohama) comes next in importance with a production of about 30%, followed by Hokkaido and Hiroshima.

Although the progress made by the Japanese rubber industry has been rapid and notable, the general scale of factory production is yet small. The number of workers in the 748 factories at the end of 1933 was 34,817, or 47 per factory. Large factories are mostly engaged in the manufacture of tyres, and if these few factories are excluded, the number of workers per factory would be even smaller. In particular factories manufacturing toys and rubber shoes are on a very small scale. The factories which employ only 5–50 workers numbered 584, or 80% of the total number at the end of 1933.

Sources of Raw Material. An attempt was once made to introduce rubber trees in the Bonin Islands and in Taiwan, but owing to the unfavourable climate and the lack of suitable land, it proved a failure. At present Japan derives the whole of her supply of crude

rubber from abroad, the most important sources being the Straits Settlements, imports from which, in 1935, reached 46% of the total volume imported, and the Netherlands East Indies with 22%.(1)

Imports of crude rubber in 1935 totalled 995,000 piculs, a decline in volume compared with 1933, although, due to higher prices, the value rose from ¥ 29,700,000 to ¥ 57,300,000.

Japanese investments in rubber plantations were valued at ¥ 84,000,000 in 1933. The rubber plantations controlled by Japanese interests are chiefly located in the Malay Peninsula, Sumatra and Borneo. The yield of Japanese rubber plantations was only 20,000 long tons in 1934 against a home consumption of 74,000 long tons.

Among other materials used in the manufacture of rubber goods are vulcanizing chemicals, vulcanization accelerators, colouring materials, and compounds. The domestic demand for these is largely met by home production.

TABLE 310

ACREAGE AND YIELD OF JAPANESE PLANTATIONS

	Leased area (in acres)	Planted acres	Annual yield (in long tons)
Malay Peninsula	96,272	63,999	10,056
Sumatra	290,738	22,411	2,705
Netherlands Borneo	45,390	12,633	1,816
Java	42,946	4,602	757
Sarawak	7,184	4,973	644
British Borneo	31,925	13,222	2,067
Philippines	50	50	13
Total	514,505	121,890	18,058

Figures compiled by the Nanyo Saibai Kyokai.

Labour Conditions. The number of workers employed at the end of 1933 was 34,800, of which 48% were females. In factories where rubber shoes, rubber-soled canvas shoes, thin rubber goods, and rubber toys are manufactured, the number of female workers is considerably greater than that of male workers, especially in large factories. In the large proportion of female labour, the rubber industry resembles the cotton and silk spinning industries with the distinguishing feature that rubber factories, being situated in the factory districts of large cities where the supply of labour is abundant, are in a position to procure female labour from the working

(1) For detailed statistics refer to Chapter XXX, Table 413.

population of towns, whilst the cotton and silk spinning industries chiefly employ girls from the rural districts.

As wage rates differ according to sex, class of work and degree of skill, it is impossible to give figures of general interest, but *Factory Statistics* show that the average wage per hour in rubber factories was 13 sen in 1933, a decline from the rate of 16 sen ruling in 1929.

Despite the rapid progress of the industry, management and business conditions in factories, both under personal and company management, are not very satisfactory. This may be accounted for by the fact that owing to its nature the industry not only admits of easy promotion with small capital, but cheap goods can be manufactured without affecting much the outward appearance of the article, by some slight modification in the manufacturing processes, such as the mixture of crude rubber, mixing materials and methods of manufacturing. The result is that even a slight improvement in business conditions gives rise to an immediate increase in the number of manufacturers, bringing about keen competition in the industry. According to investigations made by the Ministry of Commerce and Industry, the number of manufacturers of rubber

TABLE 311

RATE OF PROFIT OF MANUFACTURERS OF RUBBER SHOES AND RUBBER-SOLED CANVAS SHOES

(1932)

	Number of enterprises	Net profit (1,000 yen)	Invested capital (1,000 yen)	Rate of net profit (%)
Personal Enterprises				
Enterprises entirely devoted to the manufacture of rubber goods	150	535	2,937	18·2
Enterprises having other subsidiary interests	48	166	1,163	14·3
Enterprises with main business other than the manufacture of rubber goods	47	37	265	14·0
Companies				
Enterprises entirely devoted to the manufacture of rubber goods	47	318	2,322	13·7
Enterprises having other subsidiary interests	24	410	3,148	13·0
Enterprises with main business other than the manufacture of rubber goods	17	2,509	8,472	30·0

Based on investigations conducted by the Ministry of Commerce and Industry.

shoes and rubber-soled canvas shoes in 1932 totalled 333, of which personal enterprises numbered 245 and companies 88. The prominence of personal enterprises, mostly on a small scale, is explained by the fact that the work performed by members of the family and by low-wage labour renders this form of enterprise at once more profitable and susceptible to moderate capital investment.

Control. With a view to mitigating ruinous competition and maintaining the standard of export goods, a national control organization, the Japan Federation of Rubber Manufacturers' Associations (Nippon Gomu Kogyo Kumiai Rengokai) was formed in October, 1931. The chief functions of the Federation at present are: (1) examination of goods (rubber shoes, tyres, tubes, belting, toys and sports goods); (2) regulation of production (rubber shoes for export, tyres and tubes for bicycles); (3) fixing of prices (rubber shoes for export and belting). However, the nature of the industry renders it difficult to exercise perfect control, and cases of secret violation of agreed prices appear to be frequent.

Overseas Trade. The development of the rubber industry in Japan has led to an advance in exports of manufactured goods, while, on the other hand, there has been a sharp decline in imports. The excess of exports over imports in recent years totalled about 40 million yen annually.

TABLE 312

EXPORTS AND IMPORTS OF RUBBER MANUFACTURES

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Exports	23,725	23,137	28,800	45,600	39,394	40,193
Imports	4,798	3,198	1,469	870	990	889
Excess of exports . .	18,927	19,939	27,331	44,730	38,404	39,303

Rubber-soled canvas shoes constitute the most important article in the export trade, shipments in 1935 amounting to about ¥ 15,500,000, or approximately 40% of the total value of all exports of rubber goods. Tyres are the next important articles, of a value of ¥ 9,946,000 in 1935, almost twice the figure of 1930. Exports of bicycle and motor car tyres have been steadily increasing in recent years, though there has been a noticeable decline in the demand for rickshaw tyres. Exports of rubber toys have also considerably increased, reaching ¥ 8,600,000 in 1933 compared with about 2 million yen in 1930, though

recently, there has been a decrease, the figure for 1935 being ¥4,200,000. Rubber shoes were formerly the most important export article, the figure for 1933 reaching ¥8,200,000, but in 1935 the total dropped again sharply to ¥2,700,000, as a result of the protective measures adopted in foreign markets against Japanese goods.

TABLE 313

EXPORTS OF RUBBER MANUFACTURES

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Rubber-soled *tabi*	*	*	*	*	1,146	1,270
Rubber shoes	6,593	4,394	4,890	8,213	3,333	2,699
Rubber-soled canvas shoes(a)	8,529	10,641	12,500	16,600	13,298	15,514
Rickshaw tyres		858	652	819	620	654
Bicycle tyres	5,274	1,901	2,248	4,308	5,669	5,240
Motor car and other tyres		1,099	1,477	3,713	3,676	4,052
Rubber toys	2,049	2,199	5,507	8,633	6,406	4,195
Other rubber goods	1,280	1,045	1,479	3,327	5,216	6,568
Total	23,725	23,137	28,800	45,600	39,394	40,193

(a) Estimated figures. * Unavailable.

There has been a progressive decline in the import of rubber manufactures, motor car tyres in particular, which in former years constituted the largest item, decreasing from ¥3,800,000 in 1930 to only ¥10,000 in 1935.

TABLE 314

IMPORTS OF RUBBER MANUFACTURES

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Motor car tyres	3,832	2,084	423	8	9	10
Other rubber and gutta percha goods	966	1,114	1,046	862	981	879
Total	4,798	3,198	1,469	870	990	889

The most important sources were the United States which supplied motor car tyres, soft rubber manufactures, and unvulcanized rubber goods, with Great Britain ranking next.

Although the rapid advance of the Japanese rubber industry was

without doubt due in a big measure to the low exchange rate of the yen, yet the suitability of the country to this industry must also be considered. The comparative proximity of Japan to rubber-producing centres as well as the easy recruitment of skilled labour essential in this industry, have undoubtedly contributed to the progress achieved.

The keen competition between numerous manufacturers working on a small scale has, however, often affected business conditions, and has hindered the sound development of the industry. The various measures to cope with the situation, such as the examination of manufactured goods, the regulation of production, the fixing of prices, and the control of exports, which have been put into practice, have not produced wholly satisfactory results. The depreciation of the yen has greatly increased the import value of crude rubber, a fact which may eventually reduce the earning capacity of the industry.

3. The Tobacco Industry

Introduction. Tobacco was first introduced into Japan during the Tensho era at the close of the sixteenth century. Seeds were brought in 1605 by a Portuguese ship and later by a Spanish vessel from the Philippine Islands. The demand for tobacco products increased with the advance of Japanese civilization, and as elsewhere, tobacco was soon treated as a luxury and an object for taxation. The search for new sources of revenue in order to defray military expenses after

TABLE 315

Revenue and Expenditure of Monopolies

(in million yen)

Fiscal year	1914	1926	1929	1930	1931	1932	1933
Total monopoly revenue .	112·8	323·0	333·0	335·8	328·7	311·8	326·1
Tobacco revenue . . .	84·3	268·8	282·4	288·0	283·0	265·6	272·5
Total monopoly expenditure .	45·7	160·6	158·1	149·0	137·3	130·4	147·8
Tobacco expenditure . .	3·0	13·0	14·8	12·7	10·8	10·9	13·1
Expenditure for purchasing tobacco leaf . .	15·1	58·6	55·5	55·0	44·6	41·4	46·2
Expenditure for purchasing finished tobacco products	0·2	3·8	3·6	3·4	1·7	1·4	0·7

Based on *Annual Report of the Monopoly Bureau*, Ministry of Finance.

the Sino-Japanese War (1894–95), led to the enactment of the Tobacco Monopoly Law in 1896. The Law at first applied to leaf tobacco only, but was later extended to include all manufactured products.

The Government tobacco monopolization was given the finishing touch in July, 1931, when the tobacco wholesale system was abolished, transferring the only civil participation in the tobacco industry to the Government. Under the Government Tobacco Monopoly, domestic consumption of tobacco products continued to advance, the total annual sales of the Monopoly Bureau increasing from 47 million in 1905 to 228 million yen in 1921, and to about 300 million yen in the national budget for 1935–36. Net profits from tobacco sales have correspondingly increased every year, and are now much higher than those of other Government monopolies such as camphor and salt.

Production of Leaf Tobacco. Tobacco cultivation in Japan is possible from Taiwan in the south to Hokkaido in the north. However, because the tropical and sub-tropical zones are the most suitable for tobacco growing, the Monopoly Bureau of Japan now limits the cultivating regions.

Cultivation has failed to keep pace with the growing consumption, and there has even been a decline in the planted area since 1928. Production, however, has continued to increase due to the efforts of the Monopoly Bureau experts in improving cultivation and drying processes.

TABLE 316

AREA UNDER TOBACCO CULTIVATION AND TOTAL PRODUCTION

	1912	1928	1929	1930	1931	1932	1933
Cultivated area (Hectares)	29,136	37,295	35,745	36,031	36,532	33,810	33,855
Leaf tobacco production . (Metric tons)	43,588	64,368	62,091	68,342	68,940	61,031	67,134

Ibid.

With the tobacco monopoly system in operation, the Japanese Government confines the activities of private tobacco growers to the drying of tobacco leaves. The dried product is purchased by the Monopoly Bureau at officially fixed prices, the latter varying from year to year. During 1933, Government purchase prices were divided into eleven classes for domestic leaf and eight classes for

American leaf, ranging from ¥ 0·22 to ¥ 2·50 and from ¥ 0·14 to ¥ 2·30 per kilogram, respectively.

Exports and Imports of Leaf Tobacco. Imports were mostly from the United States with minor quantities from Manila, China, British India and other sources. Imports of American tobacco appear to be on the decline relatively, while shipments from India, Manila and China show an increasing tendency. Imported tobacco represents only 10% of the total domestic production of Japan.

Exports of leaf tobacco, with the exception of the unusually active year of 1926, usually remain at 1,000 metric tons or about 15% of Japan's total production, Egypt and China being the principal customers. Low prices are believed to be the principal factor in the increasing demand for Japanese leaf tobacco in Egypt and elsewhere.

TABLE 317

EXPORTS AND IMPORTS OF LEAF TOBACCO

(in metric tons)

	1912	1926	1929	1930	1931	1932	1933
Exports							
Egypt	—	5	113	1,419	1,168	647	906
China	242	4,437	82	81	106	629	87
Total	245	4,442	195	1,500	1,290	1,284	1,105
Chosen	793	5,484	1,215	364	139	135	75
Grand total (incl. other destinations)	1,038	9,926	1,410	1,864	1,429	1,419	1,180
Value (1,000 yen)	*365*	*3,068*	*890*	*1,843*	*1,248*	*798*	*850*
Imports							
U. S. A.	659	568	2,960	3,444	1,306	1,549	2,388
China	—	510	937	1,067	1,060	1,139	826
Manila	—	382	606	718	867	987	982
India	—	427	620	965	869	969	1,438
Chosen	—	561	699	375	58	803	375
Turkey	12	0·7	4	14	17	10	6
Total (incl. other sources)	726	5,450	5,967	6,585	4,696	5,459	6,025
Value (1,000 yen)	*698*	*7,872*	*7,972*	*7,747*	*4,190*	*7,425*	*7,030*

Ibid.

Tobacco Manufacturing Industry. In 1904, when the tobacco manufacture was taken over by the Monopoly Bureau, the annual production of cigarettes with mouthpiece was much larger than of those

without mouthpiece. Production has since increased impressively in both varieties, but the popular taste has veered away from cigarettes with mouthpiece. The consumption of cigars, which are comparatively expensive, has not developed at all.

Consumption of leaf tobacco amounted to 40,471 metric tons in 1905, and increased to a record volume of 96,670 metric tons in 1931. Since that year, consumption has moved around 50,000 metric tons, the latest figure being 58,000 tons for 1933. Consumption comprises 48·5% for cut tobacco and cigars, and 51·5% for cigarettes.

The number of machines employed in tobacco manufacturing exceeded 16,000 in 1923, but has since declined to 10,700 of greater efficiency. There has been a great increase in machinery driven by electric power. In view of the growing mechanization of the industry, the number of operatives, which at the time of the introduction of the monopoly totalled 73,000, has steadily declined to 22,000 in 1933. The decline has been especially noteworthy in female operatives. During the Meiji period, female operatives represented 75% of all workers, but the ratio has since declined to 68%. It should be noted, however, that increased production since 1933 has caused a corresponding advance in the number of workers.

TABLE 318

DOMESTIC PRODUCTION OF MANUFACTURED TOBACCO

(in million pieces)

Fiscal year	1912	1929	1930	1931	1932	1933
Cigarettes with mouthpiece	4,659	19,324	17,241	14,251	11,244	10,889
Cigarettes without mouthpiece . . .	1,600	13,209	15,106	17,340	19,901	22,250
Cigars	1·0	1·6	1·6	1·0	0·7	2·1
Cut tobacco (metric tons) .	24,984	23,183	24,073	24,091	23,963	23,888
Total value (1,000 yen) .	*unavailable*	*90,109*	*81,589*	*83,062*	*84,133*	*90,714*

Ibid.

Foreign trade in tobacco products is carried on by the Monopoly Bureau and is of modest proportions. Exports, totalling about 3 million yen annually, are practically confined to East Asia, notably to regions such as Manchoukuo, which have a large number of Japanese residents.

In view of the extremely high import tariff[1], the importation of

(1) Import Tariff: Cigars, cigarettes and cut tobacco, 355% *ad val.*; Chewing tobacco, ¥ 2·23 per *kin*; Snuff tobacco, ¥ 5·17 per *kin*; Other tobacco, 355% *ad val.*

foreign tobacco products into Japan has been very small, not exceeding 4 million yen. The decline in recent years may have been due to the depreciation of Japanese currency.

Manchoukuo and China used to be the principal sources, but the remarkable advance of German cigarettes in 1933 greatly reduced their share. Other foreign cigarettes imported into Japan are British, American, and Belgian. Manila cigars dominate among imported cigars, while Taiwan and Havana cigars are also imported to a small extent. Imported cut tobacco is exclusively British.

TABLE 319

EXPORTS AND IMPORTS OF TOBACCO MANUFACTURES

(in 1,000 yen)

	1926	1929	1930	1931	1932	1933
Exports of tobacco mfs.						
Karafuto	8	19	18	21	30	27
Kwantung L. T.	29	129	41	30	54	164
Taiwan	1,950	3,093	2,718	1,883	2,346	2,280
Mandated Islands	120	167	167	186	188	216
Total (incl. other destinations)	2,213	3,483	3,039	2,199	2,825	2,839
Imports						
Cigarettes						
Manchoukuo and China	3,154	2,977	2,669	1,459	954	245
Great Britain	274	197	240	53	118	65
Germany	60	118	121	75	142	181
U. S. A.	100	44	81	56	54	42
Belgium	2	11	19	14	23	16
Total (incl. other sources)	3,684	3,447	3,239	1,679	1,309	599
Cigars	75	74	57	18	13	65
Cut tobacco	83	25	58	13	33	39

Ibid.

PART FIVE

BANKING, INSURANCE, WAREHOUSING AND TRANSPORTATION

CHAPTER XXIV

BANKING

1. Development and Present Situation

The development of a banking system in other countries has been in most cases a consequence of the growth of industries, but in Japan an opposite course has apparently been taken. At the very beginning of the economic reforms of the Meiji Restoration, the financial interests were given the initiative in the modernization of the whole structure of economy and industry. Since then the banks have maintained their position, assisting and promoting the healthy development of the country's economy and industry.

At present the monetary organs of the country embrace banking, insurance, trust companies and the Deposit Bureau of the Ministry of Finance. The banking section was the first to attain a certain measure of development in the modern sense.

The reasons for this are manifold. For a country such as Japan, which adopted the modern system of economy much later than Europe and America, it was necessary to afford financial assistance and facilities to the newly-arising industries. There was, at the same time, a pressing need for the establishment of a banking system in order to secure a well-regulated currency and facilitate the disposal of public bonds of the newly-transformed State. Already by the year 1892 the banking system had been solidly established. There were ordinary banks as domestic financial agents; the Yokohama Specie Bank as a financial intermediary in foreign trade; and savings banks and a postal savings system for the promotion of thrift among the nation. The Bank of Japan as the central bank of the country was already exercising its functions of controlling the financial activities of the nation through its privilege of issuing currency notes. Thus it was mainly the section for commercial finance that had been organized before the outbreak of the Sino-Japanese War, the branches for the financing of industrial and other enterprises

being combined and undertaken by the Yokohama Specie Bank and the ordinary banks. It was, however, not long before this system, by which the banks combined these various activities, was abandoned, for in 1896 the Hypothec Bank of Japan was established, followed by local agricultural and industrial banks. The relation between the Hypothec Bank of Japan and the local agricultural and industrial banks was somewhat similar to that between the Bank of Japan and the ordinary banks. The rise of industry following the Sino-Japanese War further stimulated the development of the financial system, necessitating the formation of a powerful organ for financial accommodation on the security of movable property. To meet this purpose, the Industrial Bank of Japan was established in 1902. The Bank of Taiwan and the Hokkaido Colonial Bank were also successively established in 1899 and 1900, to function as monetary organs in the colonies. Thus it may safely be said that already before the Russo-Japanese War, the financial system of the country was firmly established with a clear-cut division of spheres for the various banks.

Banks, no doubt, constitute the prime force of the financial system in any country, but with the growth of industry, it was only natural that the necessity of other organs arose. In Japan, such subsidiary organs are bill-brokers and spot-brokers acting in subordinate relation to the banks; insurance and trust companies as institutions auxiliary to and co-ordinate with the banks; and mutual aid financial associations and co-operative credit societies as financial mediums for small manufacturers, merchants and farmers. The development of insurance and trust companies as well as of co-operative societies is of comparatively recent date.

Reviewing the history of the banking system in Japan, we find an extraordinary advance during the period of about fifteen years from the Russo-Japanese War to the outbreak of the European War, and this progress was, no doubt, due to the great expansion of industry. But it must, at the same time, be emphasized that industry owes its rapid development in a great measure to the foreign capital placed at its disposal through the free movement of international credit.

The World War gave a fresh impetus to the development of the banking system, and especially the larger among the ordinary banks succeeded in launching out in the foreign exchange business. However, as the expansion during the War had been too rapid and sudden, there ensued a collapse in the post-war period which was characterized by the failure of a number of medium and small

banks. Later on, just at the time when there appeared some signs of recovery, the Kwanto earthquake disaster occurred, inflicting a heavy blow to the economic and banking system, and necessitating the proclamation of a moratorium as an emergency measure. The effects of the earthquake disaster were so far-reaching that the status of various banks, especially of medium and small banks, was threatened. Among special banks, the Bank of Taiwan and the Bank of Chosen were compelled to reorganize by reducing their capital; indeed, the former bank was later forced to tide over similar difficulties a second time.

While the Earthquake Settlement Bill was under debate at the session of the Diet in 1927, the internal condition of the Watanabe Bank was disclosed, and the closure of this bank and the Akaji Bank finally led to a rapid succession of business suspension of medium and small banks both in Tokyo and in the provinces, the number of banks which closed totalling 36 in Japan proper, with total deposits of 793 million yen. Various emergency measures were adopted, and finally in May the situation was brought under control. On January 1st, 1928, the new Banking Law was promulgated, contributing greatly to the improvement of banking conditions.

The distrust of the public in regard to medium and small banks after the financial crisis caused a change in the position of banks, affording opportunity for the development of trust companies, which had come into existence under the new Trust Law of 1923, and causing an expansion of funds at the Deposit Bureau of the Ministry of Finance, through the transfer of bank deposits to postal savings, while, at the same time, the Central Bank of Co-operative Societies made remarkable development. The progress of mutual aid financial associations, which possess great influence with medium and small manufacturers and merchants, is also worthy of special note, while, on the other hand, insurance companies succeeded in gaining a firm footing in the financial world.

Financial institutions at present may be systematized as follows:—

1. Financial institutions for commercial enterprises:—
   The Bank of Japan; ordinary banks; savings banks.
2. Institutions for financing foreign trade:—
   The Bank of Japan; The Yokohama Specie Bank; The Bank of Chosen; The Bank of Taiwan; large ordinary banks.
3. Financial institutions for industrial enterprises:—
   The Industrial Bankof Japan; ordinary banks; The Hypothec Bank of Japan; agricultural and industrial banks; trust companies; insurance companies.

4. Financial institutions for immovables and agriculture:—
   The Hypothec Bank of Japan; agricultural and industrial banks; The Industrial Bank of Japan; The Hokkaido Colonial Bank; The Chosen Industrial Bank; ordinary banks; trust companies; co-operative societies; The Deposit Bureau of the Ministry of Finance.
5. Financial institutions for the colonies:—
   The Bank of Chosen; The Bank of Taiwan; The Industrial Bank of Chosen; The Hokkaido Colonial Bank.
6. Financial institutions for medium and small manufacturers and merchants:—
   Ordinary banks; savings banks; The Industrial Bank of Japan; co-operative credit societies; Post Office Life Insurance; mutual aid financial associations.

The financing of special undertakings such as mining and transportation is combined by the various organs mentioned above.

The field of operations of banks and other financial institutions on the money market is as follows:—

1. Short-term money market (call and discount market):—
   The Bank of Japan; The Yokohama Specie Bank; ordinary banks; savings banks; bill-brokers; dealers in securities.
2. Long-term money market (loan floatation and securities):—
   The Industrial Bank of Japan; The Hypothec Bank of Japan; agricultural and industrial banks; The Deposit Bureau of the Ministry of Finance; insurance companies; trust companies; savings banks; ordinary banks.

The above classification is only arbitrary; the various fields of operation may at times overlap as occasion arises.

Tokyo as the political centre is generally considered the central money market, but in some respects and for certain operations, Osaka may claim the foremost position in the money market of the country. Standing between the two centres, Nagoya is also a powerful market. There are, besides, bank clearing houses in different localities. The following table is of interest as showing the position

TABLE 320

BILLS TRANSACTED

(in million yen)

		%			%
Tokyo . .	25,512	40·0	Nagoya . .	2,893	4·5
Osaka . .	22,668	35·5	Yokohama .	1,445	2·3
Kobe . .	6,010	9·4	Others . .	3,843	6·0
Kyoto . .	1,430	2·2	Total . .	63,801	100·0

of the money market with special reference to the amount of bills transacted at the 36 bank clearing houses throughout the country during 1935.

Statistics for 1934 show that the banks occupy by far the most important position in financing, being followed by the Deposit Bureau of the Treasury. The postal savings offices are the most conspicuous in absorbing funds from the public. The increase in postal savings is due mainly to the transfer of deposits from medium and small banks after the financial crisis of 1927, and the high rate of interest allowed. The reflationary policy of the Government has tended to increase the funds of all financial institutions.

TABLE 321

FUNDS OF VARIOUS INSTITUTIONS[a]

(in million yen)

	1926	1930	1931	1932	1933	1934
Banks	17,038	17,673	17,296	17,927	18,460	19,079
Deposit Bureau of the Treasury	1,776	3,122	3,447	3,633	3,862	4,068
Trust companies	497	1,281	1,336	1,333	1,489	1,682
Insurance companies	1,176	1,692	1,814	1,954	2,136	...
Mutual aid financial associations	16	25	26	27	28	29
Central bank of co-operative societies	42	117	116	172	204	217
Co-operative credit societies in urban districts	138	213	216	212	228	253

Based on *Financial and Economic Annual* compiled by the Ministry of Finance. (a) Funds include shareholders' accounts, fiduciary note issues, debentures, deposits and reserves.

2. DEVELOPMENT OF BANK FUSIONS

The great number of banks established after the Sino-Japanese War led to excessive competition, so the Government and banking circles found it advisable to encourage the amalgamation of small banks.

Since the year 1917 there has been a growing tendency among the larger banks to absorb smaller banks. The Government, in 1918, raised the minimum capital for new banks, while, at the same time, encouraging amalgamations through a revision of banking regulations.

The tendency towards amalgamation was given a fresh impetus at

the beginning of the present Showa era, causing a sharp reduction in the number of banks. The new Banking Law, which was put in force on January 1st, 1928, provided that all ordinary banks must have a capital of more than one million yen. Banks in Tokyo and Osaka were required to increase capital to more than two million yen, while banks in towns and villages with a population of less than 10,000 were allowed a minimum capital of half a million yen. The increase was to be effected within a period of five years from the date of the promulgation of the Law. This Law, combined with the policy adopted by the Ministry of Finance of not permitting individual increases of capital, accelerated the tendency towards amalgamation. Along with the increase in bank fusions, a large number of banks dissolved or introduced a change in their business; thus at the end of 1932, when the term of five years expired, the number of ordinary banks was greatly reduced.

There has been a similar tendency among the agricultural and industrial banks scattered over the country. The local agricultural and industrial banks contributed to the financing of provincial enterprise in accordance with the objects of the law governing them, and in co-ordinate relation to the Hypothec Bank, but the progress in communications and in the economic structure of the country had greatly diminished their significance, and the co-ordinate position to the Hypothec Bank even proved to be an obstacle to the development of the banks whose financial conditions had been growing worse year by year. The Government, therefore, passed a law in April, 1921, which permitted the agricultural and industrial banks to be merged into the Hypothec Bank. At the end of 1934, the number of agricultural and industrial banks totalled only 17, showing that the greater part of the 46 banks previously established had been merged into the Hypothec Bank. The amalgamation policy was not entirely without disadvantages, however, the most outstanding being the difficulty of financial accommodation to small manufacturers and merchants, and the consequent evil effect this occasioned to local industries. The larger banks and their branches were reluctant to transact small loans such as were required by local entrepreneurs. This problem has claimed the serious attention of Japanese banking circles since 1927. Stimulated into action by this state of affairs, the Government endeavoured to correct this unfortunate effect of bank fusions by providing facilities for loans at a low rate of interest through the special banks and co-operative credit societies, and also by changing the practice of amalgamation.

TABLE 322

NUMBER AND CAPITALIZATION OF BANKS

(in million yen)

	Special banks		Ordinary banks		Savings banks		Total	
	No.	Paid-up capital	No.	Paid-up capital	No.	Paid-up capital	No.	Paid-up capital
1927	33	414	1,283	1,482	113	41	1,429	1,938
1930	27	422	782	1,296	90	41	899	1,760
1931	27	430	683	1,249	88	43	798	1,722
1932	27	430	538	1,217	87	43	652	1,691
1933	27	431	516	1,186	85	47	628	1,665
1934	25	430	484	1,162	79	47	588	1,639

Based on *Annual Report of the Bureau of Banking* of the Ministry of Finance.

3. FUNCTION OF THE BANK OF JAPAN AND FINANCIAL CONTROL

The Bank of Japan was established by virtue of the Bank of Japan Law promulgated in June, 1882, charged with the duty to establish a conversion system by readjusting the disorder caused by the excessive issue of Government paper and National Bank notes, and also to secure the smooth circulation of funds throughout the country by regulating the rate of interest.

The Bank is the sole organ for the issue of notes and the withdrawal of legal tender. It accepts reserve funds for payment and other surplus funds from banks in general, settles the balance in the clearing of bills, and advances loans through the re-discounting of bills. The Bank acts as a depository for Government funds, furnishes loans to the Government as occasion calls for, and conducts operations relative to the issue of public bonds.

In addition to these functions, the Bank of Japan is charged with the important duty of acting as an organ for the enforcement of the Government's financial policies, and thus is under obligation to exercise strict control over the money market, and regulates the balance between the demand and supply of funds. The control measures of the Bank after the reimposition of the gold embargo in 1932 have enabled the Government to float large bond issues to cover the budget deficits since 1932, without resorting to dangerous inflation.

There have been four successive reductions in the discount rate since March, 1932, and the rate of 1 sen (3·65% p.a.) for discounting commercial bills as carried into effect in July, 1933 marked the

lowest record that has ever been registered in the annals of the Bank of Japan.(1)

The Bank has succeeded to spread low rates of interest throughout the country, and this kept up the market price of bonds, the Bank disposing of its bond holdings in a judicious manner with an eye on the money market. The absorption of funds assisted to check the progress of malignant inflation which would probably have ensued from the enormous State expenditure.

TABLE 323

NATIONAL BOND HOLDINGS OF THE BANK OF JAPAN

(in 1,000 yen)

	1931	1932	1933	1934	1935
Bond issues taken up	—	200,000	1,115,000	701,357	740,600
Total national bond holdings (at year end)(a)	259,639	565,254	682,418	647,297	729,268
(Bonds issued after 1931)(b)	(—)	*(176,740)*	*(488,740)*	*(264,949)*	*(319,414)*

(a) Including Treasury bills and Government Rice Purchase notes. (b) Including 4% and 4·5% national bonds only.

As will be seen from the above table, an enormous amount of national bonds, totalling 2,757 million yen, was issued and taken up by the Bank of Japan during the four years up to the end of 1935, with practically no increase in the accounts for national bonds of the Bank. This shows that the bonds were entirely absorbed by city banks and other financial institutions, and there was, consequently, no necessity to resort to an exceptional increase in the note circulation.

4. EMPLOYMENT OF BANKING FUNDS

One of the most notable characteristics of the Japanese banking system is the division of function. The function of note issue is monopolized by the Bank of Japan. Banking in the colonies is carried on by special banks, each of which has been established in order to meet the special requirements of the individual territories. Accommodation on immovables is made by special banks which are enabled to collect long-term funds through the issue of debentures. Foreign exchange operations are largely undertaken by a special

(1) Cf. Chapter II, Table 13.

bank whose branches are scattered all over the world. Ordinary banks are not permitted to engage in trust business or deal in securities. The division of spheres in Japanese banking is therefore more highly stressed than in other countries where banks usually combine various branches of business. Banking in Japan has acquired this peculiar characteristic through long years of experience.

The main sources of banking funds are net worth, reserves, debentures, convertible notes, bank notes and deposits. In 1934, deposits accounted for 68% of the total funds available, reserves for 14%, and convertible notes, bank notes and debentures for 18%.

In the years preceding the Sino-Japanese War, the bulk of banking funds was appropriated for Government use and for investment in public bonds. Japanese banks appeared to be mere organs of finance in the service of the Government. With the close of the war, however, this condition changed, and the banks began to play an active part in financing private enterprises. In December, 1933, loans

TABLE 324

EMPLOYMENT OF BANKING FUNDS

(in million yen)

	1930	1931	1932	1933	1934
Resources					
Paid-up capital and reserves	2,767	2,699	2,685	2,662	2,686
Deposits	12,013	11,472	11,835	12,421	13,111
Convertible notes	1,570	1,487	1,609	1,746	1,886
Bank debentures	2,082	2,154	2,290	2,128	1,974
Total	18,434	17,813	18,421	18,959	19,659
Employment of funds					
General advances	10,064	10,016	9,994	9,624	9,346
Bills discounted	1,859	1,969	1,789	1,867	1,945
Total	11,924	11,986	11,783	11,491	11,291
National bonds	2,355	2,352	2,844	3,507	4,065
Local bonds	402	390	386	385	387
Foreign bonds	192	166	254	360	277
Debentures	1,569	1,605	1,605	1,529	1,591
Shares	453	439	437	491	546
Total	4,973	4,954	5,528	6,275	6,868
Grand total	16,898	16,940	17,312	17,766	18,160

Compiled mainly from *Annual Report of the Bureau of Banking* of the Ministry of Finance.

made to the Government and municipalities amounted to 82 million yen, and investments in public bonds to 3,892 million yen, showing a total of 3,974 million yen or 22% of the total working capital. The remainder of 78% was absorbed by private loans.

Of private loans, advances made for general purposes are the most important, accounting for about 52% of the total working capital, while investment in securities (national and local bonds excluded) represented 14%. Private loans are largely long-term industrial advances, while bills discounted form only 11% of the working capital. Japanese banks keep securities as a reserve fund against deposits, such securities consisting mainly of public bonds. Debentures and shares follow next, showing that a considerable amount is appropriated for the supply of long-term loans to industrial and commercial enterprises.

Ordinary Banks. Ordinary Japanese banks are modelled after the English form of deposit banks, and derive the bulk of their working capital from demand and short-term deposits. On this account they generally avoid making long-term loans, and are mainly commercial banks engaged in discounting bills, negotiating short-term loans, and advances on current accounts. However, their business is not necessarily confined to commercial credits, and more especially in recent years they have taken up long-term loans for industrial enterprises.

The funds of ordinary banks consist of paid-up capital and reserves, which constitute their own capital, and of deposits of various descriptions. During the five years from 1930 to 1934, there has been a decline in capital and a marked increase in deposits. Fixed deposits were by far the most important, being followed by deposits on special current account, deposits on current account, and other deposits. Fixed deposits accounted for 57% of the total deposits, and this has stimulated investment of banking funds in industrial enterprises. The preponderance of long-term deposits is explained by the still rudimentary state of investment psychology among the masses of the people whose savings are, moreover, on a small scale.

Deposits at ordinary banks declined from 1929 up to the autumn of 1932, when they suddenly took an upward turn. A reduction in the rate of interest on postal savings on October 1st, 1932 switched the public interest to a greater degree towards bank deposits. Other contributory factors were the promulgation of the Exchange Control Law, which made it impossible to invest abroad, and the general recovery of industry which augmented the savings of the nation. There is no doubt that the policy of the Government to obtain funds

through the issue of public bonds also contributed greatly to bring about an increase in deposits at ordinary banks.

TABLE 325

BANKING RESOURCES AND BANKING INVESTMENTS (ORDINARY BANKS)

(in million yen)

	1930	1931	1932	1933	1934
Resources					
Paid-up capital	1,289·1	1,241·7	1,217·4	1,186·4	1,162·2
Reserves	589·4	535·2	530·9	515·0	540·5
Total	1,878·5	1,776·9	1,748·4	1,701·5	1,702·8
Deposits					
Fixed deposits	5,003·7	4,847·3	4,728·6	4,965·1	5,465·2
Deposits on current account	1,112·4	975·7	1,043·0	1,128·2	1,249·2
Deposits on special current account	1,819·4	1,666·4	1,730·4	1,773·0	1,826·6
Other deposits	802·6	779·4	816·9	860·9	894·8
Total	8,738·2	8,269·0	8,319·1	8,727·3	9,438·2
Grand total	10,616·8	10,046·0	10,067·5	10,528·8	11,141·1
Employment of Funds					
Advances					
Loans on bills	4,153·5	4,101·7	3,833·1	3,631·8	3,592·7
Loans on securities	1,137·3	1,058·0	967·7	943·2	831·8
Overdrafts	847·5	846·5	800·0	778·2	725·9
Other advances	51·1	24·5	17·7	6·9	8·6
Call loans	203·2	154·9	319·8	420·3	369·2
Total	6,392·8	6,185·8	5,938·6	5,780·6	5,528·4
Bills discounted					
Bank bills for acceptance	2·5	0·6	5·3	2·0	—
Commercial bills	588·7	521·1	596·7	660·1	723·2
Documentary bills	37·0	41·5	61·2	63·4	52·5
Total	628·4	563·3	663·2	725·5	775·7
Securities					
National bonds	1,313·3	1,145·5	1,210·1	1,318·3	2,017·3
Municipal bonds	310·8	302·4	281·7	204·0	308·7
Foreign bonds	34·4	37·0	22·2	17·8	39·0
Debentures	1,137·6	1,140·1	1,125·0	913·2	1,147·3
Shares	330·8	303·7	302·2	243·4	382·6
Total	3,127·1	2,928·8	2,941·4	2,697·0	3,895·1
Grand total	10,148·4	9,677·9	9,543·3	9,023·2	10,199·4

Ibid.

As regards the employment of funds, the prominent position of securities may be explained by the fact that the use of call money is limited, which makes it convenient for bankers to invest in public bonds, since they can be used as security with the Bank of Japan when assistance is required.

Of the total amount advanced by ordinary banks at the end of June, 1933, funds for commercial purposes accounted for 42%, advances to industry for 22·5%, to agriculture for 5·8%, others for 29·7%. These percentages cannot be absolutely relied upon, but they serve to illustrate the general scope of business of ordinary banks in Japan. Investments in securities, mostly national bonds, reached 38·2% at the end of 1934, and fund appropriations for discounting bills 7·6%.

From the viewpoint of collateral, securities predominate, followed by advances on credit, land and buildings, and guaranteed advances. Share collateral accounted for 25·1%, while building and land mortgages represented 17% of the total advances on collateral. The tendency to advance loans on the security of immovables is very marked in local banking, and often leads to the freezing of funds in times of depression.

In spite of the economic recovery, the channels for profitable employment of banking funds have actually narrowed. There has been a pronounced decline in advances since the financial crisis of 1927, particularly in loans, with the exception of bills discounted. Since 1931, this last item has shown a moderate expansion owing to an increase in business transactions, but other advances have registered a decline, due to the repayment of old loans and active conversion into debentures at a lower rate of interest. Investments in securities have shown an upward tendency since 1931, reaching 3,895 million yen at the end of 1934. Advances and investments in securities were in the proportion of 72 to 28 in 1933, and 62 to 38 in 1934, the last year clearly reflecting the increased acquisition of national bonds as a means to maintain earnings.

Savings Banks. Savings banks in Japan are essentially popular institutions for the encouragement of thrift among the lower classes. The establishment of these banks was, therefore, looked upon as an educational measure, and their function as one of public utility rather than commercial enterprise. However, as they are now constituted, savings banks compete freely in the investment of funds in securities, their purpose of making small loans having been gradually neglected. Their proper sphere of acting as a guardian of the petty savings of the poorer classes is not at present much in evidence.

Funds of savings banks are composed of paid-up capital and reserve funds, and external capital brought in as savings. There are three forms of deposits, namely, ordinary, deferred and fixed deposits. The last two are the most important and typical. The fluctuating tendency of deposits is governed by the same conditions as with ordinary banks. Recent movements show some decline in fixed deposits. Fixed deposits may be used as security to the full amount for loans, and this arrangement was once welcomed by small merchants and manufacturers. As the latter have been impoverished by the long depression, it became difficult to collect payments of interest, and savings banks are, therefore, lukewarm in extending this class of deposits, hence the declining tendency. In 1934, however, there was a very pronounced advance in deferred and fixed deposits due to the business recovery of the past few years. Savings banks are under strict legal restrictions as regards the employment of funds, and are required to deposit an amount equivalent to one-third of total deposits in the shape of securities at the Ministry of Finance, or in funds at the Deposit Bureau of the Ministry. The remaining working fund can only be employed under rigid inspection of the Government.

The larger portion is increasingly invested in securities, while there has been a marked decline in loans. The decline in loans on the security of fixed deposits is particularly noteworthy, since this form of advances is typical, and an essential part of savings banks.

TABLE 326

BANKING RESOURCES AND BANKING INVESTMENTS (SAVINGS BANKS)

(in million yen)

	1930	1931	1932	1933	1934
Resources					
Paid-up capital and reserves	75·5	79·8	87·5	90·4	94·7
Deposits	1,539·2	1,635·6	1,687·7	1,821·0	1,879·9
Employment of funds					
Advances					
Loans on securities	59·8	57·1	56·9	52·7	46·2
Loans on immovables	30·2	27·2	26·0	26·1	25·9
Loans to depositors	383·1	381·6	320·2	268·1	262·0
Total (incl. other advances)	477·6	467·2	405·8	349·0	335·1
Securities	948·6	1,013·7	1,155·6	1,317·7	1,390·8
Securities deposited	518·2	549·3	581·3	612·2	630·4

Ibid.

Special Banks. There are various banking institutions in Japan which are commonly called "special banks", because they are established by virtue of special laws, and have a circumscribed sphere of action. Savings banks, established by virtue of the Savings Bank Law, and the Industrial Bank of Chosen, established according to the Chosen Industrial Bank Law, are not usually included among the special banks, but the last named will here be considered as such in view of the fact that its sphere is limited to agricultural and industrial financing in Chosen. Special banks are divided into three groups according to their functions, namely, banks of issue, exchange banks, and banks specializing in the issue of debentures and in advances on immovables. To the first group belong the Bank of Japan, the Bank of Taiwan, the Bank of Chosen, and the Yokohama Specie Bank; to the second, the Yokohama Specie Bank, the Bank of Taiwan, and the Bank of Chosen; and to the third, the Industrial Bank of Japan, the Hypothec Bank of Japan, agricultural and industrial banks, the Hokkaido Colonial Bank, and the Industrial Bank of Chosen. These special banks were originally established for the discharge of special duties of their own, but at present their business has branched out and is frequently overlapping that of ordinary banks; so much so, as to give rise to discussion as to the advisability of amalgamating and reconstructing various banking institutions. The position of special banks in the Japanese banking world is very important.

Working funds are not generally taken from deposits, but are raised through the issue of debentures and through borrowings from the Deposit Bureau of the Treasury. The recent trend has been for debentures to decrease on account of a shrinkage in advances on the security of immovables, and because of the repletion of reserve funds at these banks.

The convertible note issue showed a slight decline during the year 1930–31, but has since moved upward. The issue of the Bank of Japan totalled ¥1,766,555,000 at the end of 1935, representing an increase of ¥139,206,000 compared with the end of the preceding year. The increase reflects the mild inflation consequent upon the reintroduction of the gold embargo.

There was a gradual decline in total advances by special banks from 1931 up to the end of 1933, but at the end of 1934 there were signs of an upward tendency. The decline in 1933 may be accounted for by a general disposition to look for financial accommodation to ordinary banks, due to the business revival and easy money market conditions. The increase after 1933 may be due partly to the ex-

pansion in advances by the Bank of Japan to the Yokohama Specie Bank and other city banks, and partly to the active demand for funds in the colonies.

The sharp increase in securities held by special banks after 1931 is primarily due to the larger volume of public bonds held by the Bank of Japan, because of its special position in market operations.

TABLE 327

BANKING RESOURCES AND BANKING INVESTMENTS (SPECIAL BANKS)

(in million yen)

	1930	1931	1932	1933	1934
Resources					
Paid-up capital and reserves	806·2	835·3	854·8	870·8	889·2
Fiduciary issue and debentures	2,762·8	3,081·4	3,370·4	3,322·8	3,135·6
Deposits	1,737·5	1,567·5	1,828·1	1,784·5	1,793·4
Total	5,306·5	5,484·3	6,053·4	5,978·2	5,818·3
Employment of funds					
Advances					
Advances to Government and municipalities	25·0	25·1	47·7	40·7	79·8
General loans	4,375·4	4,707·5	4,630·3	4,509·8	4,470·7
Call loans	17·3	28·4	71·1	63·7	67·8
Total	4,417·9	4,761·1	4,749·3	4,614·3	4,618·3
Securities	898·1	1,011·8	1,431·4	1,632·1	1,582·8
Debentures issued					
Hypothec Bank of Japan	934·7	977·0	995·1	931·5	875·4
Agricultural and industrial banks	469·7	483·5	506·1	496·6	449·3
Industrial Bank of Japan	333·3	343·3	404·0	323·8	290·3
Hokkaido Colonial Bank	102·7	102·7	124·2	122·9	114·4
Industrial Bank of Chosen	242·1	247·5	260·9	253·4	244·9
Total	2,082·7	2,154·1	2,290·5	2,128·4	1,974·6

Ibid.

5. EMPLOYMENT OF FUNDS OF OTHER FINANCIAL INSTITUTIONS

Trust Companies. The legal use of the term "trust" in Japanese banking originated in the Japan Industrial Bank Law of 1900, but the first operation of trust business dates from the establishment of the Tokyo Trust Company in 1904.

In December, 1934, trust companies, subject to the Trust Business Law, numbered 33, with an aggregate total paid-up capital of

¥78,336,000, and property in trust amounting to ¥1,826,570,000. Trust companies occupy a very strong position in banking as organs of finance almost equal in importance to insurance companies.

The trust business in Japan owes its present prosperity mainly to the financial crisis of 1927, which gave rise to a general distrust of ordinary banks, and lent a fresh impetus to the development of this new branch of banking that was then in its infancy. The rise of trust companies for the main purpose of receiving cash deposits is worthy of special mention in that they have no parallel in any other country. This is largely an outcome of the crisis which deflected cash deposits to trust companies, particularly companies affiliated with the Mitsubishi and Mitsui interests.

Of the total working funds of trust companies, the most important are cash deposits, which account for no less than 90%. The bulk of these consist of deposits, the employment of which is not especially designated. In fact, trust companies in Japan have paid more attention to attract cash deposits rather than to the performance of

TABLE 328

FUNDS AND INVESTMENTS OF TRUST COMPANIES

(in 1,000 yen)

	1930	1931	1932	1933	1934
Number of companies	37	37	37	36	33
Authorized capital	293,500	288,500	288,500	287,000	282,000
Assets					
Own account	342,741	337,416	336,797	341,678	343,945
Trust account	1,577,648	1,642,312	1,460,811	1,616,059	1,826,570
Principal working funds					
Paid-up capital	82,700	81,450	81,450	82,076	78,336
Reserves	19,654	23,202	25,849	29,416	34,020
Cash deposits	1,178,749	1,231,851	1,226,005	1,378,436	1,570,191
Total	1,281,103	1,336,503	1,333,304	1,489,928	1,682,547
Employment of funds					
Securities	524,008	561,600	524,863	637,054	871,406
Advances	915,737	908,413	909,738	955,122	931,980
Deposits	51,354	59,504	64,746	62,689	68,996
Total	1,491,099	1,529,517	1,499,347	1,654,865	1,872,382
Own account	*101,246*	*99,894*	*103,444*	*110,213*	*117,906*
Trust account	*1,389,853*	*1,429,623*	*1,395,903*	*1,544,652*	*1,754,476*

Based on *Financial and Economic Annual* compiled by the Ministry of Finance. Years represent business-years ending in November.

their proper functions. There are numerous reasons for this development, the most important being that securities, one of the best objects in trust business, form a comparatively small portion of the property of the nation, and that the family system makes this form of business transactions far less necessary than elsewhere. Trust companies now rival banks and insurance companies as regards investment in public bonds and debentures and in the amount of general advances.

The complicated structure of the funds of trust companies, apart from net worth, makes it impossible to use the whole of outside funds in financial operations. Ordinary cash accounts, and to some extent the capital funds of trust accounts, find their way into the money market. But there are, besides, special cash trust deposits and other cash deposits which cannot be employed as financial capital. Cash trust deposits constitute the main source of funds held in charge of trust companies, mostly for lengthy periods, and advances by these companies are, therefore, equally for long terms.

The financial capital of trust companies is free to operate, with only very lenient restrictions. The employment of funds consists mostly in advances, securities and deposits. Advances account for more than half the total working funds, although there has been a gradual decline in ratio, as against an increase in securities.

Insurance Companies. Insurance companies were not originally financial organs. It is only from the necessity of profitable employment of legal and other reserve funds that they have, in the exercise of their proper function, branched out into the banking

TABLE 329

FUNDS AND INVESTMENTS OF INSURANCE COMPANIES

(in 1,000 yen)

	1930	1931	1932	1933
Number of companies . . .	92	91	89	84
Resources				
Paid-up capital	123,070	122,170	122,570	150,925
Legal and insurance reserves .	1,569,012	1,692,215	1,831,610	1,985,872
Employment of funds				
Bank deposits	274,512	261,370	271,129	335,077
Loans	454,239	548,067	628,572	590,950
Securities	958,318	998,604	1,071,575	1,262,669
Total	1,687,071	1,808,042	1,971,277	2,188,697

Ibid.

business, where they now occupy a very important position in view of the huge funds at their disposal.

Insurance companies in Japan may be divided into two main groups, namely, life insurance companies (including conscription insurance), and non-life insurance companies. The importance of both groups prior to the World War was not very great, but after the earthquake disaster in 1923 their development was extremely rapid. Insurance companies are less exposed than ordinary banks to the vicissitudes of business. The reserve funds in their hands are quite safe from runs, and are long-term in nature. This naturally prompted the insurance companies to invest by preference in long-term advances. Life insurance companies are the most active, their reserve funds accounting for about 80% of the total reserves of all insurance companies.

The working funds of insurance companies are to a very large extent legal reserve funds, the employment of which is subject to strict regulations by law.

Deposit Bureau of the Ministry of Finance. It was only when a sweeping reform was made in its structure in 1925 that the Deposit Bureau of the Ministry of Finance appeared in the Japanese financial fabric as a Government organization charged with the important rôle that it performs at present. Up to that time it had been a mere clerical office in the Ministry of Finance.

The main object of the utilization of the Bureau as a part of the National Funds Department of the Ministry of Finance was to supply the deficiency in national funds from postal savings, and thus to secure for national finance a certain degree of stability. The employment of these funds was, therefore, confined to the purchase of national bonds and advances to Special Account. The funds of the Bureau increased immensely in recent years, and at present play a highly important rôle in Japanese finance.

The funds of the Bureau consist of postal and transfer savings, the deposits from Special Accounts, etc. The most important items are postal and transfer savings which expanded greatly after the World War. The collapse of many banks during the financial crisis of 1927, and the consequent distrust of banks among the people, accentuated the tendency to transfer deposits from the banks to the post offices. By the end of 1935, postal and transfer savings had reached the enormous total of 3,202 million yen. The present inflationary trend of Government policy and the successive lowering of bank rates continue to favour postal savings.

The larger part of the funds in the Bureau are derived from petty postal savings of the humbler classes. According to statistics for Japan proper compiled by the Savings Bureau of the Ministry of Communications in 1933, cities accounted for 39·26% of the total depositors, and towns, villages, etc. for 60·74%. In point of value, cities contributed 41·95%, and towns, villages, etc. 58·05%.

Employment of funds in the Bureau is under strict surveillance since 1925, and is subject to the approval of a Commission specially appointed for the purpose. In principle, advances can only be extended to General and Special Accounts, but since 1931 short-term loans of not more than three years duration have been allowed to special banks.

At the end of 1935, securities accounted for over 80% of the total

TABLE 330

FUNDS AND INVESTMENTS AT THE DEPOSIT BUREAU OF THE MINISTRY OF FINANCE

(at the end of each year, in million yen)

	1930	1931	1932	1933	1934	1935
Resources						
Postal and transfer savings	2,416·9	2,676·3	2,781·1	2,881·1	3,034·0	3,202·1
Deposits from special accounts, etc.	255·0	294·9	312·7	415·0	418·4	348·5
Reserves	265·6	284·5	279·2	348·6	392·8	460·8
Deposits of proceeds from sale of savings certificates	79·6	78·8	78·0	77·2	76·4	75·6
Receipts	105·6	112·6	182·2	140·1	146·7	158·4
Total	3,112·9	3,447·2	3,633·3	3,862·1	4,068·4	4,246·3
Employment of funds						
National bonds	917·5	1,087·0	1,093·3	1,348·3	1,614·3	1,740·1
Local bonds	465·6	620·9	734·6	823·9	892·4	960·7
Hypothec Bank debentures	394·3	409·0	422·3	397·7	383·4	327·6
Other debentures	372·8	371·6	452·9	480·8	508·4	515·8
Advances	651·8	709·2	668·2	530·5	470·9	505·3
Deposits (at home and abroad)	168·3	102·1	112·0	139·6	76·0	71·7
Expenditure	112·8	111·4	119·2	106·7	95·2	99·5
Total (incl. miscellaneous)	3,122·9	3,447·2	3,633·3	3,862·1	4,068·4	4,246·3

Ibid.

funds employed, and this is the only investment in which an increase has been shown. With the exception of national bonds, an increase is noticed in "Other debentures", which include loans made through the Central Bank of Co-operative Societies. Securities other than national bonds and foreign bonds consist of loans for public relief.

6. Trade Financing

Industrial Finance. Industrial financing reveals a sharp cleavage according to whether the objects are large or small-scale industries. Financing of petty industries is hereafter dealt with under one heading with loans to medium and small merchants in view of the duplication involved.

As regards financial accommodation for working funds, there is no substantial difference from the routine followed for commercial loans. Financing is done by ordinary banks with the partial support of other financial institutions. The most outstanding feature is the supply of funds for the extension of industrial undertakings. Terms of repayment for loans of this description extend over a long period. Funds are either raised through loans or through debentures.

In long-term industrial finance, the Factory Mortgage Law, which was put into effect in 1905, plays an important rôle. As has been stated elsewhere, the Industrial Bank of Japan was founded in 1902 expressly for the purpose of promoting industrial finance. Long-term loans made by the Bank, that is, fixed-term loans on the security of the enterprise as a whole, amounted to ¥63,979,000 at the end of 1934, and advances on the security of factory sites and buildings to ¥22,401,000, the total accounting for 40% of this class of financing.

In view of the recent disposition among industrialists to convert their enterprises into joint-stock companies and the general trend towards greater concentration in industry, the raising of long-term funds through debentures has shown a marked expansion. The relative Japanese legislation of 1905 was modelled on English law, but remained largely in abeyance until after the close of the World War, when debentures were issued for the first time. A revision of the Law was effected in 1933, which has greatly increased its convenience, in that it allows an instalment system for the total issue of debentures.

The great decrease in the number of small, and especially local banks, after the financial crisis in 1927, caused considerable inconvenience to small merchants and manufacturers in the provinces.

The problem of how to relieve this situation developed into a social and finally a political problem.

According to statistics compiled by the Ministry of Finance, advances made by ordinary banks to merchants and manufacturers at the end of June, 1933, were as follows:

TABLE 331

ADVANCES TO MERCHANTS AND MANUFACTURERS BY ORDINARY BANKS

(at the end of June, 1933)

	Advances under ¥ 10,000		Advances over ¥ 10,000		Total	
	Number of loans (1,000)	Amount (¥ 1,000)	Number of loans (1,000)	Amount (¥ 1,000)	Number of loans (1,000)	Amount (¥ 1,000)
Merchants . .	576	695,977	33	1,879,226	609	2,575,203
Manufacturers .	121	169,238	13	1,205,736	134	1,374,974

The financing of petty advances in cities is carried out by co-operative credit societies whose business is confined to municipalities and towns designated as corporate. The members are mostly merchants and manufacturers. Deposits from people other than members are accepted, and bills are discounted. The law governing these societies was first put in force in 1917 when the Co-operative Society Law was revised. Since then there has been a very rapid development, the number of co-operative credit societies reaching 271 at the end of 1934, while advances totalled over 160 million yen.

In addition to the above mentioned, there are savings banks, mutual credit associations, and other financial institutions, but owing to the increased risk, advances from these sources are not frequent and command a high rate of interest.

The Government showed its interest in behalf of small manufacturers and merchants by advancing, through the Industrial Bank of Japan and the Hypothec Bank of Japan, funds of the Deposit Bureau of the Treasury to the extent of 35 million yen. Such advances were first made in 1923, after the earthquake disaster. Since 1928, similar Government advances at low interest through special banks or through provincial public bodies have been repeatedly made, the total amount advanced reaching 145 million yen. However, due to the complicated procedure and very exacting conditions, the results so far obtained are not very satisfactory. Besides these Government arrangements, assistance is also provided by a loss compensation system instituted by prefectures. The system was first put in practice in 1932 with the encouragement of the Government; the

prefecture is held responsible for losses incurred through loans made by banks, various co-operative societies, and other financial institutions who furnish funds to manufacturers and merchants according to the regulations laid down by the Government. The maximum compensation is, in principle, 20% of the loan and 90% of the total loss incurred. Advances are made either from the funds of the financial institutions themselves or from the Deposit Bureau. For the latter purpose, the Government appropriated 50 million yen at low interest. The system is in force in 24 prefectures and 4 municipalities. Potential advances are estimated at 50 million yen. At the end of March, 1934, total advances amounted to 14 million yen.

Agricultural Finance. In view of the prolonged agrarian depression and a series of natural disasters that occurred in 1933 and 1934, agricultural indebtedness is estimated to be nearly 6,000 million yen at present. According to statistics for 1932, secured loans accounted for 53%, and unsecured loans for 47% of the total; about 48% of these loans may be considered unproductive.

Financial institutions especially designed to meet the requirements of the agricultural communities are the Hypothec Bank, prefectural agricultural and industrial banks, and the Hokkaido Colonial Bank. Since agricultural funds involve long-term annual repayment, it is difficult to supply such funds from deposits. These special banks are, therefore, privileged to issue debentures to within fifteen times their paid-up capital.

TABLE 332

LONG-TERM LOANS BY SPECIAL BANKS

(in 1,000 yen) (at the end of 1933)

	Hypothec Bank	Agricultural and Industrial Banks	Hokkaido Colonial Bank	Total
Long-term loans . .	438,385	272,805	82,487	793,677
Loans on security of land	312,312	201,855	48,766	562,933

The number of farmers making use of co-operative credit societies has greatly increased in recent years, reaching 2,897,000, or 70% of the total membership of the societies at the end of 1933. Figures in respect to advances made by co-operative credit societies to agricultural communities are not available, but the total was estimated at 712 million yen in 1933.

Co-operative credit societies which are subject to the Co-operative Society Law, promulgated in 1900, numbered over 12,000 at the end

of 1934. Local societies are under the control of the Federation of Co-operative Credit Societies established in each prefecture, which are in turn supervised by the Central Bank of Co-operative Societies established as a corporate juridical institution in 1923. The Central Bank is financed by the Government, co-operative societies and federations of co-operative credit societies, and is authorized to issue debentures to the amount of ten times its paid-up capital.

Advances made by the Central Bank totalled about ¥142,973,000 at the end of March, 1934. Of this total, ¥11,166,000 were advanced on a special annual instalment plan. This form of advances conforms with the Special Loans and Loss Compensation Law of 1932, whose object is to furnish funds up to 100 million yen, or one-third of the then frozen loans made by co-operative societies. The Government assumes a guarantee for losses up to 30 million yen. The term of the Law was to expire in September, 1935, but has been extended for another three years.

Of the total advances made by private banks to agricultural communities, ordinary banks accounted for 353 million yen at the end of June, 1933, and savings banks for 10 million yen. Most loans advanced by ordinary banks, and particularly by local banks, are on the security of immovables. Owing to the impoverished state of agricultural communities, these loans tended to be frozen with resultant increasing monetary stringency in the provinces. In view of these conditions, the Government instituted the Immovables Mortgage Loans and Loss Compensation Law in 1932, according to which the Hypothec Bank, agricultural and industrial banks, and the Hokkaido Colonial Bank were required to advance funds on immovables at the request of private banks, any losses to be compensated by the Government to the extent of 100 million yen. The Law was to expire in September, 1935, but has been extended for another period of three years.

Banking and the Export Trade. Banking policy in support of the export trade is concerned with arrangements for export bills and financial privileges granted to exporters and manufacturers engaged in export industries.

The Government have provided facilities for the supply of long-term funds, at low interest and without security, from the Deposit Bureau of the Ministry of Finance in favour of exporters' associations and industrial associations established in accordance with the Exporters' Association Law and the Industrial Association Law. The supply of funds is to be conducted through the Hypothec Bank,

the Industrial Bank, and the prefectural agricultural and industrial banks. Owing, however, to the complicated and strict terms, advances through this source are not very popular.

An export compensation system was first instituted in 1930 as a measure to promote the opening of new overseas markets. The Government, according to the Export Compensation Law, will compensate the exchange banks in respect of losses incurred on the purchase of export bills drawn in favour of certain markets specified by the competent Minister. The extent of Government compensation is limited to the amount approved by the Diet every year. Compensation is granted generally to the extent of 70% of the losses incurred.

The Export Compensation Law has developed great importance in view of the marked advance of trade with new markets in recent years. The purchase of export bills subject to compensation totalled about 37 million yen in 1934.

CHAPTER XXV

INSURANCE

1. Life Insurance

Development. The modern system of life insurance in Japan dates back to 1880, with the founding of the Meiji Life Insurance Co. Ltd., on July 9th of that year. Life insurance business was exclusively in the hands of that company up to 1887, when the Teikoku Life Insurance Company was organized, followed by the Nippon Life Insurance Company in the following year.

The period up to the time of the Sino-Japanese War was one of reckless enterprise, as too many companies came into existence, and uniform control was only achieved with the promulgation of the Commercial Code in June, 1899, and the Insurance Law which was enacted in March, 1900.

Life insurance companies established subsequent to the Sino-Japanese War up to 1900 numbered 62, of which, however, only nine have survived. The majority of companies which disappeared had no mathematical basis in regard to life insurance; they were hastily organized in what seemed sheer imitation of their predecessors, lacking business experience and indulging in suicidal competition. The enactment of the aforementioned Insurance Law and its enforcement restored order in the life insurance world, and companies of doubtful standing were soon eliminated, bringing enhanced credit to the good companies. Their foundation for development was thus stabilized.

The First Mutual Life Insurance Company, the foremost of the kind in Japan at that time, came into being in September, 1902, and subsequently the Chiyoda Life Insurance Company was established on similar lines in March, 1904. It was at this time that the outbreak of the Russo-Japanese War brought about a general economic depression, except in the armament industry. Consequently, new contracts diminished and invalidated contracts increased in number, while

payments to the insured by companies on account of the war amounted to about one million yen. The collection of special premiums was not enough to set matters right, and life insurance companies found themselves in difficulties. Fortunately, however, the war situation developed favourably, and with the restoration of peace, the economic situation turned for the better and revived the life insurance business to a marked extent.

When the Okuma Cabinet was organized in 1914, petty life insurance under State management became a topic of discussion. Notwithstanding vigorous opposition by life insurance concerns, the draft of the bill for Post Office Life Insurance was approved by the Diet in February, 1916, with an amendment providing that petty life insurance should not exceed ¥250. The draft bill became law and operative as from October of 1916. The World War occasioned a very favourable influence on the foreign trade of Japan, inducing exceptional prosperity, as the result of which State life insurance met with phenomenal success immediately after the commencement of business, due to the increased earnings of the working classes. Ordinary life insurance also attained a rapid development, the total amount of contracts in 1919 showing an unprecedented increase of 24% over the record of the preceding year.

Reference must be made here to the violent influenza epidemic which spread all over the world in 1918–20. The epidemic worked dreadful havoc in Japan during a period of eight months from September, 1918 to April, 1919, and for five months from January to May of 1920. The total amount of insurance payments due to the epidemic reached ¥12,325,931, but the effect on the insurance companies was comparatively slight, on account of the general business prosperity due to the rapidly increasing number of contracts.

It is also pertinent to mention here the great earthquake disaster which occurred in the Kwanto district on September 1st, 1923, with heavy losses of life and enormous damage to property. As the result of a conference convened by the life insurance companies concerned, they declined to take advantage of the moratorium proclaimed by the Government at the time, and announced the immediate payment of insurance money as well as an extension of the prescribed period for the postponement of premium payments. This attitude, of course, met with instant public approval. While some banks at that time had temporarily suspended payments, life insurance companies advanced loans on insurance policies, and thus prepared the way for the supply of funds, thereby providing a splendid opportunity to make the public realize the true merit of life insurance.

The total payments on insurance policies caused by the great earthquake and conflagration during one year from September, 1923 reached ¥7,061,300. Money returned on account of cancelled contracts amounted to ¥1,721,000, while loans advanced on insurance policies reached ¥6,011,000 approximately. The losses thus inflicted were not so considerable as those incurred as a result of the influenza epidemic, and the emergency steps taken by the life insurance eompanies proved adequate. The aforementioned two factors combined were responsible for enhancing the prestige of life insurance enterprises.

The rules governing post office life insurance were revised in June 1924, so as to include men crippled or disabled by accident and disease. In addition, the maximum amount of insurance was raised to ¥450 on May 1st, 1926. The post office life annuities system, which had long been under consideration, came into existence on October 1st of that year.

Life insurance enterprises continued to develop after the general depression following the seismic disaster, contracts increasing from 3,000 million yen at the end of 1921 to 5,000 million yen towards the close of 1925. It was at this time that life insurance enterprises began to feel the effect of the depression, which was later to become world-wide, and competition among the concerns gradually intensified.

The failure of several banks in 1927 inflicted losses upon all life insurance companies, which, coupled with the difficulty of obtaining new contracts and a rapid increase in the number of those cancelled, adversely affected the companies. The removal of the gold embargo in 1930 and the retrenchment policy adopted by the Government aggravated the situation. Life insurance companies had to bear considerable losses in regard to the appraisement of documentary securities in their possession, which drove some 32 life insurance companies to organize themselves into a life insurance policy company, with a capital of 50 million yen, for concerted investment. The rising influence of life insurance in banking came gradually to attract public attention.

The founding of the State of Manchoukuo in the latter half to 1932 and the formation of the Japan-Manchoukuo economic *bloc* instilled fresh vigour to the economic development, with a corresponding favourable influence upon new contracts. The total amount contracted, including post office life insurance, reached more than 10,000 million yen at the end of that year.

On the whole, it may be said that the business of life insurance has been governed by economic factors. Japan now ranks fourth in the world in life insurance, coming next to the United States, Canada and Great Britain, the total contracts at the end of 1934, inclusive of ordinary and post office life insurance and post office life annuities, numbering 30,431,564, of a value of ¥ 13,937,233,000.

Present Condition. Genuine private initiative is responsible for the development of the life insurance business in Japan, excepting post office life insurance and certain other denominations.

At the end of 1934, there were 33 life insurance companies, of which 29 were joint-stock concerns and 4 mutual life insurance companies. Eighteen companies issue policies against mortality (life, endowment, term and other kinds included), three engage in insurance of the last survivor (conscription insurance included), while twelve pursue the aforementioned two descriptions concurrently. State insurance comprises post office life insurance and post office life annuities. This completes the description of insurance enterprises in Japan proper.

In Chosen there are the Chosen Life Insurance Company and the Chosen Post Office Life Insurance. Three foreign companies operate in Japan in life insurance, but as this article deals with purely Japanese-owned concerns, their scope and activities are excluded.

TABLE 333

CONTRACTS IN FORCE AND NET INCREASE

	Contracts in force at year end		Net increase during the year	
	Number of contracts	Insurance value (in 1,000 yen)	Number of contracts	Insurance value (in 1,000 yen)
1881	1,439	705	1,439	705
1891	38,158	13,647	14,713	4,360
1901	795,689	197,685	- 9,045	1,113
1911	1,495,585	669,363	164,540	111,703
1916	2,132,108	1,175,817	42,036	59,822
1928	5,887,628	6,540,107	170,492	570,979
1929	6,136,120	7,199,771	248,492	659,664
1930	6,326,933	7,694,200	190,813	494,429
1931	6,516,444	8,255,729	189,511	561,529
1932	6,748,397	8,743,141	231,953	487,412
1933	7,259,128	9,613,182	510,731	870,041
1934	8,100,800	10,984,075	841,672	1,370,893

Based on *Statistical Year Book of the Japanese Empire.*

Contracts of private companies at the end of 1934 numbered 8,100,800 of a total value of ¥ 10,984,075, indicating a steady increase year by year both in number and value.

The number of contracts in Japan, which are continued till the time when death or other causes make them lapse, does not reach half of the total number of contracts. Invalidation of contracts through cancellation numbered 693,407 involving ¥ 941,836,000 in 1934. These figures are large enough, but, compared to the average of the past 20 years, they were the lowest. More than 30% of new contracts become void in the first year. Contracts losing their validity in such a way are more numerous than those invalidated by the expiration of the contract term.

The total amount paid out during 1934 was figured at ¥ 163,729,000 on 187,098 contracts which became void through death and expiration. Payment per contract averaged ¥ 875, indicating how small some of the contracts are.

The business expenses annually disbursed for the maintenance and management of life insurance may, perhaps, best be ascertained by comparing premium receipts with the total business expenditure.

TABLE 334

BUSINESS EXPENSES AND PREMIUM RECEIPTS

	1925	1929	1930	1931	1932	1933	1934
Business expenses .	63,052	77,065	74,881	78,894	85,893	95,554	110,519
Premium receipts .	212,697	318,658	317,883	331,579	346,761	376,315	450,290
Rate of expenses to receipts (%) .	29·64	24·18	23·56	23·79	24·77	25·39	24·54

Based on *Insurance Year Book* of the Ministry of Commerce and Industry.

It is apparently difficult to divide business expenditure into two descriptions, such as expenses involved in securing new contracts and up-keep expenditure, hence the rate of business expenses as apportioned to the total premium receipts tends generally to decrease. The business of life insurance is of such a character that it requires considerable disbursements in securing new contracts, and accordingly an augmentation in expenditure in this connection has no small bearing on general business expenditure.

The foregoing statement is but a general observation on the basis of summarised business records of all life insurance companies taken as a whole. Without delving into the records of each individual company, which is the only way to ascertain their business condi-

tions, they have been classified into six grades in accordance with the amount of year-end contracts held, and the following table shows a comparison of 1922 and 1932.

TABLE 335

BUSINESS CONDITIONS OF INSURANCE COMPANIES ACCORDING TO AMOUNTS OF CONTRACTS

(in 1,000 yen)

		Over 500 million yen	200 to 500 million yen	100 to 200 million yen	50 to 100 million yen	20 to 50 million yen	Less than 20 million yen	Total
No. of companies	1922	0	4	4	15	13	4	40
	1932	5	4	10	7	6	2	34
Average amount per company of								
Contracts in force at year end	1922	0	290,891	140,122	69,369	28,510	12,516	79,630
	1932	954,968	255,269	144,475	70,907	34,427	10,912	234,276
Net increase during the year	1922	0	37,003	17,442	6,638	5,028	631	9,631
	1932	74,207	15,633	2,093	− 2,875	− 3,313	− 1,749	12,088
New contracts entered	1922	0	55,554	29,792	15,091	8,770	3,644	17,409
	1932	167,680	44,424	25,474	14,127	4,963	1,091	41,226
Premium receipts	1922	0	11,527	5,837	3,248	1,357	580	3,453
	1932	36,385	10,215	6,112	3,039	1,440	420	9,255
Business expenses	1922	0	2,430	1,544	1,040	519	305	987
	1932	6,905	2,528	1,885	1,179	535	174	2,215

Extracts from *Treatise on Life Insurance*, by Dr. Toyojiro Kameda.

TABLE 336

CONTRACTS OF POST OFFICE LIFE INSURANCE AND POST OFFICE LIFE ANNUITIES

(in force at year end)

	Post office life insurance		Post office life annuities	
	Number	Amount (¥ 1,000)	Number	Amount (¥ 1,000)
1926	10,051,455	1,286,508	68,618	7,051
1928	13,305,661	1,737,832	177,458	12,888
1929	14,528,019	1,949,938	191,549	13,741
1930	15,626,700	2,101,366	211,605	15,586
1931	16,793,485	2,253,136	228,214	17,090
1932	18,183,187	2,412,803	248,197	18,901
1933	20,057,686	2,654,183	276,664	21,933
1934	22,022,539	2,927,661	308,225	25,497

It will be discernible from the foregoing table that the trend is for the bulk of the business to be absorbed by the large and powerful companies, hence the proposal emanating from the smaller corporations that the large and powerful concerns limit their new contracts or raise the minimum limit of insurance.

To turn to post office life insurance under State management, the foregoing table is a summary of the chief items taken from statistical returns.

Application of Assets. The major portion of the assets of life insurance companies is in legal reserve funds. Premiums may be divided into net premiums, constituting the source for the payment of insurance money, and additional or supplementary premiums affording the source of funds for the disbursement of expenditure. In the case of long-term insurance contracts, the surplus arises for the first period after contracts are made, because the disbursements on account of insurance money paid out are less than the net premium receipts. The surplus thus accruing is hoarded for increase at a certain fixed rate of interest in order to assign accumulations plus net premiums received subsequently from payments of prescribed insurance money. This kind of accumulation is termed legal reserve, the management and working of which form an important function of life insurance companies. Due to the rapid increase of contracts in recent years, total assets have considerably augmented, amounting to ¥ 2,270,453,771 at the end of 1934.

The method of employing the assets of life insurance companies and the fields of distribution of investments vary according to country. In Japan, for example, the utilization of assets is governed by Enforcement Regulations of the Insurance Law, and are restricted to :—

1) Savings and deposits,
2) Loans,
3) Documentary securities,
4) Immovable property,
5) Others (furniture, unpaid interest, premium unpaid, loans made through agencies, interim payments, etc.)

Forms of investment falling under (1) to (4) are active assets bearing interest or earning dividends; those under (5) are not active. The proportion of active assets influences the rate of profit.

Though not included in the following table, savings and deposits have been steadily decreasing since 1918, this tendency having been especially pronounced after the earthquake disaster of 1923, until in

TABLE 337

WORKING ASSETS OF LIFE INSURANCE COMPANIES

(in million yen)

	Total assets	Working assets	Rate of working assets (%)	Analysis of working assets			
				Savings and deposits	Loans	Securities	Immovable property
1925	923·7	856·8	95·9	184·7	210·1	416·3	45·7
1928	1,340·6	1,280·1	97·3	235·6	278·6	689·6	76·3
1929	1,479·8	1,412·9	97·7	223·6	335·8	768·7	85·4
1930	1,581·2	1,518·6	97·4	217·1	416·7	791·2	93·6
1931	1,723·0	1,654·4	97·4	208·5	512·9	634·3	98·7
1932	1,882·7	1,808·2	97·5	226·4	596.8	882·0	103·0
1933	2,056·0	1,993·2	97·9	271·1	564·1	1,044·3	113·7
1934	2,270·5	2,213·3	97·5	273·6 (*12·4%*)	545·9 (*24·7%*)	1,265·5 (*57·2%*)	128·3 (*5·8%*)

Based on *Insurance Year Book.*

1934 the total amount fell to the lowest level ever reached. Savings and deposits include postal savings and a certain amount of trust deposits (the latter in the period subsequent to 1926), but a major and increasing portion was bank deposits. However, bank deposits have since been replaced by securities as the objective of investment.

In the earlier stages of the insurance business, loans were advanced mostly on national bonds, but in recent years they have been superseded by company debentures, shares coming next. Loans on local public bonds are increasing, but the total is still far below that on shares. Investment in securities has in recent years turned from the principle of "safety first in national bonds" to that of "good returns" with shares and debentures as principal objects. Although net returns on investment in shares are good, their market price is subject to violent fluctuations occasionally. Therefore, company debentures are preferred by insurance companies as the best investment on account of their steady character and the good net return they bring.

The total assets from the outset up to the end of the Meiji era (1911) were less than 100 million yen, and accordingly the position of life insurance in the social and economic life of the nation was rather unimportant. However, the rapid rise in contracts during the World War enabled life insurance companies to acquire total assets amounting to nearly 300 million yen at a bound, with the result that this particular branch of insurance business has become a force in the financial structure. The following table shows actual conditions in the period since the beginning of the Taisho era (1912):—

TABLE 338

RATE OF NET RETURNS OF ASSETS HELD BY LIFE INSURANCE COMPANIES

Period	Rate of net returns of assets (%)		Rate of interest (%)		Remarks
	Maximum	Minimum	Maximum	Minimum	
1912–1915	5·70	4·84	7·3	5·8	Period of depression
1916–1920	6·04	5·64	8·0	5·1	Period of business boom
1921–1923	6·73	6·38	8·0	8·0	Period of depression
1924–1929	6·92	6·14	8·0	5·5	Period of slackness
1930–1931	5·98	5·86	5·5	5·1	Period of panic
1932	5·93		5·1		Period of easy money

As will be seen, net returns on life insurance assets have been influenced by the ups and downs of the rates of prevailing interest, though the influence is felt somewhat late, because the investment of funds is in most cases made for an intermediate or a relatively long term according to the character of the enterprise. During the World War, despite unusual prosperity in business circles, net returns remained unchanged at a rate of about 5·6%, this being attributable to the easy money market then prevailing and the consequent low rate of interest.

It is generally assumed that the financial structure in Japan is divided into three spheres, namely, life insurance companies, banks and trust companies, and that, while banks and trust companies conduct monetary business on the basis of short and intermediate terms, life insurance companies make it a rule to advance long-term loans. This view is too academic and cannot be accepted. Life insurance companies invest their money in debentures and shares and advance loans on immovable mortgages as well as on collateral securities for intermediate terms. They are not advancing loans on mortgaged immovable property for long terms as do life insurance companies in Germany and the United States.

The reason for this divergent policy of Japanese life insurance companies is that the circumstances in which the economic life of Japan has developed are different. In Europe and America, the industrial evolution proceeded by a gradual process, and as industry developed, the supply of funds by banks was steadily brought up to a satisfactory state. Consequently, industry and finance have come to be closely connected, and the supply of funds for business enterprises has been monopolized by bankers. In these circumstances, investment in that field by life insurance companies has been naturally limited to advances on immovable property. In Japan, on the

contrary, industrial development was made in a speedy manner, much later than in other countries. A considerable amount of funds required, therefore, could not be satisfactorily obtained through the medium of banks alone. Hence help from life insurance companies was called in.

For these reasons, limitation of investment to the sphere of industry has been more generous in Japan than western countries, and this policy has largely contributed to the development of productive enterprise. Briefly, it may be said that in Japan life insurance companies performed the function of supplying funds to business enterprises, at first through banks and later independently. The connection of banks with business enterprises is largely based on short-term bills and loans against documentary securities. However, as banks also have come to invest funds in debentures lately, banks, trust companies, and life insurance companies no longer act in three distinct spheres, and their position in industrial finance has become correlative.

2. Marine, Fire and Other Non-life Insurance

Legal Provisions. Referring by "non-life insurance" to marine, fire, and general accident insurance other than life insurance, a word may not be out of place here as to the provisions of the Japanese Insurance Law, under which the whole insurance business, as far as private enterprises are concerned, is divided into two broad categories, the life branch forming one and the remaining branches the other. Companies are forbidden to engage concurrently in both of these two categories, that is to say, there is a distinct line of demarcation between the life companies on the one hand and the non-life on the other, and while the former must confine their activities to life business exclusively, the latter can include in their charter, with requisite licence, all or any part of the branches belonging to the non-life category.

Further, it is provided by the law that the insurance business in this country, life and non-life alike, can only be transacted by joint-stock or mutual companies. Actually, however, it is only in life insurance that both joint-stock and mutual companies exist, the non-life business being invariably in the hands of joint-stock companies.

Development. Considering the striking progress attained to date and the great prosperity enjoyed at present by Japanese insurance business generally, its history is still comparatively short, extending over a period of less than sixty years, during which it has naturally

suffered stress and strain, and ups and downs. Broadly speaking, however, the development of the non-life business, for which marine insurance has acted throughout as the backbone, can be traced by stages marked by the general economic booms which occurred after the Sino-Japanese, the Russo-Japanese, and finally the World War.

Its history dates from December, 1878, when the first marine insurance company was established with a capital of ¥600,000. This is the Tokyo Marine Insurance Co. Ltd., and by starting transactions in August of the following year, it preceded the first life insurance company in Japan by two years.

This company, as the pioneer in the unexplored field of insurance, had to go through some twenty long years of trials and hardships, and in 1899 was obliged to halve its then capital of ¥3,000,000, of which a quarter was paid up; but since then it has been successfully stabilized and has attained remarkable prosperity, expanding its activities to fire, transit, and motor insurance in 1914, and further to glass, burglary, and personal accident in 1926. The present title of the Tokyo Marine and Fire Insurance Co. Ltd. was assumed in 1918, and now it is the head of a large insurance group of its own, with a capital of ¥75,000,000, of which ¥55,000,000 is paid up, occupying not only a predominant position in Japanese insurance circles but enjoying a high reputation as one of the first-class companies in the world.

Eight years after the establishment of the "Tokyo Marine", the present Tokyo Fire Insurance Co. Ltd. came into existence as the first company specializing in the fire business. This company also, before it became firmly established, suffered a crushing blow through conflagrations at Yokosuka and Tokyo, but it rallied remarkably by effecting a drastic adjustment of its organization, and has gradually made headway in consolidating itself and attaining its present standing.

Following the "Tokyo Fire", the year 1891 witnessed the birth of the "Meiji Fire", and 1892 the "Nippon Fire", and as continued easy money conditions stimulated various new enterprises in industrial circles, no less than five marine and five fire companies sprang up at random in 1893, although all of them, excepting two marine companies, which are at present known as the "Imperial Marine & Fire" and the "Osaka Marine & Fire", were of ephemeral existence.

The first boom in the insurance field was brought about by the Sino-Japanese War (1894–5), amidst which a marine company, now

the "Nippon Marine and Fire," was formed by several shipowners in Osaka, and on the side of fire business also some eight companies in turn made their appearance, though again most of them were eliminated under pressure of competition, the successful survivors to date being only the "Yokohama Fire and Marine", the "Fukoku Fire and Marine" and the "Nippon Dosan Fire".

It was about then that, in view of the advent of so many ephemeral concerns, the imminent need of some form of State control began to make itself felt, and as a result, the Insurance Business Law and its enforcement regulations were promulgated in 1899 and 1900 respectively, with the setting up of a Bureau of Insurance in the Ministry of Agriculture and Commerce (at present in the Ministry of Commerce and Industry) for the supervision and direction of insurance business generally.

The second boom ensued after the Russo-Japanese War (1904–5), to make the following additions to the list of companies; "Kyodo Fire" in 1906, "Kobe Marine & Fire", and "Tomei Fire & Marine" in 1907, which were followed by the present "Toyo Marine & Fire" in 1908. Further between 1910 and 1913 the companies at present known as "Nippon Kyoritsu Fire", "Fukuju Fire", "Okura Fire & Marine", "Toho Fire", "Hokoku Fire", "Imperial Fire" and "Chiyoda Fire" were established. They all started as fire companies, and there was no addition to marine concerns until after the World War.

In the meantime, competition among fire companies grew keener as the number of companies increased, with the result that the year 1907 saw the formation of the Japan Fire Insurance Association, whose purpose was to regulate and maintain rates; this was the inauguration of the tariff system in this country. Another feature of this period was that the tendency, which had already been in evidence among marine companies, to extend their activities also to the fire field, was further stimulated on the strength of their increased solidity; thus, following the "Imperial Marine" and "Nippon Marine", the "Tokyo Marine" also entered the fire field as from 1914.

Then came the World War (1914–18) with unprecedented prosperity in all lines of business in this country, along with which all branches of insurance displayed a spectacular expansion, giving birth to no less than 23 companies during the four years 1917 to 1920. The following list gives these post-war companies, and also those subsequently established up to 1928, since when no new company has been established.

Established in	Present names	Present lines of business
1917	Daiichi Fire and Marine	Fire: marine: transit
	Nissho F. and M.	do
	Fuso M. and F.	do
	Nitto M. and F.	do
1918	Amagasaki M. and F.	do
	Nippon Kan-i Fire	Fire
	Tokyo Dosan Fire	do
	Daito M. and F.	Marine: fire: transit
	Asahi M. and F.	do
	Taisho M. and F.	Marine: fire: transit: motor: personal accident
1919	(a) Kyosai Fire	Marine: fire: transit
	Taifuku M. and F.	Marine: fire
	Mitsubishi M. and F.	Marine: fire: transit: Motor: personal accident: burglary
	Settsu M. and F.	Marine: fire: transit
	Tatsuura M. and F.	do
	Taihei F. and M.	Marine, fire: transit
1920	Tojin F.	Fire
	Dai-Nippon F. and M. Reinsurance	Marine: fire
	Taihoku F. and M. and T.	Marine: fire: transit
	Shin-Nippon F. and M.	Marine: fire
	Chitose F. and M. Reinsurance	Marine: fire: transit
	Toyo F.	do
	Daisei F. and M.	Marine: fire
1921	Shinkoku M. and F.	Marine: fire: transit
	Showa F.	Fire
1922	(a) Kyoto F.	do
	Chosen F. and M.	Marine: fire: transit
	Dairen F. and M.	do
1925	Taiheiyo M. and F.	Marine: fire: transit
1928	(a) Dai-Nippon Automobile	Motor

(a) These three companies amalgamated in 1935 into a new company named Shinko Kan-i Fire Insurance Co. Ltd.

Thus, at present the non-life insurance field in Japan comprises 51 Japanese companies, of which 7 specialize in fire, and 1 in boiler insurance. The rest are engaged in both marine and fire underwriting, 15 of which are also in the accident field. Actually, however, the bulk of the marine business is shared by only about 11 companies, and in the field of fire insurance about 25 companies are worthy of mention.

Besides these Japanese companies there are about 30 foreign concerns licensed to operate through branches or agencies in this country, but the volume of business transacted by them represents only about 5% of the aggregate of the Japanese non-life business.

Earthquake Fire in 1923 in relation to Marine and Fire Insurance. The 1st of September, 1923 is a memorable date in the history of the insurance business in Japan. The earthquake and the conflagration that ensued literally devastated the cities of Tokyo and Yokohama and adjacent districts, involving fire insurance contracts to the tune of approximately 1,542 million yen, of which 1,358 million yen were on the books of native companies, the remaining 184 million yen belonging to foreign companies operating in this country. Besides this, the loss by fire of cargo in the customs compounds or on crafts in Tokyo and Yokohama amounted to some 13 million yen, the major part of which was covered by marine policies issued by Japanese companies.

So far as marine insurance is concerned, no questions were raised, as the companies involved had no alternative but to make good the losses, there being no provision in marine policies that excluded the risk of earthquake. But in the case of fire insurance, notwithstanding the fact that fire policies expressly exempt the insurers from liability for any loss or damage caused by earthquake or resultant fire, they were constrained to surrender the advantage of this condition in the face of the terrible plight of the sufferers, which was so serious as to give rise to grave social problems. To cope with the situation, the companies involved ultimately agreed, on the initiative of the "Tokyo Marine", to make an *ex gratia* payment to policy holders. In this, however, it was only the "Tokyo Marine" which was able unaided to pay out of its own funds an amount equivalent to 10% of the losses incurred by the interests insured with the Company, while all other companies had, in order to meet the payment, which was actually less than 10%, to take advantage of loans from the Government. Under the circumstances, foreign companies operating in Japan also voluntarily made concessions to policy holders by refunding the premium for the current term of the policies then in force. Thus, the insuring public who suffered from the earthquake and fire were to some extent saved from the serious straits in which they found themselves, and the efforts made for general rehabilitation were assisted in a great measure, but the sacrifices made were a serious blow to the financial condition of most of the Japanese insurance companies, excepting the very strongest, and for them it will likely be many years before complete recovery can be realized.

Development of the Tariff System. As in other industries, the non-life insurance business in Japan also learned, as the number of participating companies increased, the need of a systematic control of its own affairs. The first organization having this object in view

came into existence in the fire business, which embraced more participants than in other lines of business, namely the establishment in 1907 of the Japan Fire Insurance Association already referred to. Unfortunately, however, this organization proved in less than five years to be powerless to deal effectively with the rampant breaches of tariffs by its members, which increased in gravity together with the number of operating concerns, and as a result, has ultimately been replaced by the present Joint Fire Insurance Association of Japan, which was founded in 1917 under the auspices of the "Tokyo Marine", embracing, besides all the Japanese fire offices which belonged to the former association, the foreign companies operating in Japan. The new association is affiliated to the Fire Office Committee, London, consisting, as in April, 1935, of 44 Japanese and 27 foreign companies, and although there are six Japanese companies outside the organization, it may well be regarded as the governing body of the whole fire insurance market in Japan. On the whole, it has functioned satisfactorily and to a great extent furthered the improvement and maintenance of the fire business in Japan, although it is to be admitted that, as is the case everywhere else, enforcement of the tariff rules and regulations requires constant attention.

On the marine insurance side, the co-operation of interests concerned was first represented by the formation in 1920 of the Japan Marine Underwriters' Association. Unlike the aforementioned Fire Association, however, the function implied by this organization was to deal with matters mainly on academic lines, such as a unification of practice and policy conditions, and so on. The institution, for uniform use in Japan, of Standard Hull Insurance Policy Conditions is one of the tasks accomplished by it in 1933, and now the standardization of cargo policy is also under way. At present the Association comprises 28 Japanese companies.

The need of some system to regularlize rating, which was not tackled by the Japan Marine Underwriters' Association, also became imperative, and the first attempt in this direction materialized in the establishment in 1927 of the Hull Insurers' Union. This may well be described as one of the outstanding accomplishments in the history of the marine business in Japan. In the depression which developed reactionarily to the World War boom, the hull insurance business in Japan was inexorably thrust to the wall, owing to the decline of hull values on the one hand and cut-throat competition in rates on the other. It was with the object of saving this situation that the Union was established, and fortunately this timely co-ordination of efforts among hull writing insurance companies has proved

successful in restoring the hull business to its former sound and satisfactory basis, and bringing to it a generally reassuring outlook. The organization, composed of ten Japanese companies occupying the foremost line in the hull market, not only lays down rates and conditions for every vessel offered in the Japanese market, and entertained by any one of the said ten companies, but also functions for promoting the interests of the hull business in general, in such matters as examining the careers of captains, commending those with good records, etc. Moreover, the member companies of the Union, with themselves as constituents, established in 1934 a salvage concern called the Nippon Salvage Company, Ltd., thereby bringing the whole salvage enterprise in Japan, previously conducted by two salvage companies, under complete control, much to the advantage of the hull insurance business as a whole.

In the cargo market, however, because of the multifariousness of the insured goods and of routes, any attempt to institute what could be called a general tariff system governing the hull market was naturally quite out of the question, and consequently there exist only such agreements as were privately concluded among offices in connection with particular cargoes in particular localities, stipulating rates and conditions respectively, although such agreements are tending to increase.

Extension of Activities into the Accident Field. The accident business, which is of relatively recent development, and in a position subordinate in every respect to the marine and fire lines, will be covered in just a few words.

Automobile insurance, which plays a leading part in the accident field, was inaugurated in 1914 by the "Tokyo Marine" Company. This company enjoyed a monopolistic position for several years, but there are now eleven companies engaged in this line. With the volume of available business still comparatively small, the underwriting is being conducted on a steady and conservative basis, and as a result the past experience of leading companies is quite satisfactory.

Fidelity Guarantee was first taken up as far back as in 1904 by the "Yokohama Fire and Marine", but this branch of the business has not yet shown any great appeal to the public, although there are now four companies issuing guarantee bonds.

Boiler and engine insurance also has a relatively long history, having been started in 1908, but as the sphere of its utility is very limited, the business has been left to the monopoly of one company specializing therein—the Dai-ichi Boiler and Steam Engine Insurance Co. Ltd.

The branch which ranks next in importance to the automobile business is personal accident insurance. This branch was commenced by the present Chuo Fire and Accident Insurance Company in 1911, and although the pace of progress has been slow, it is being gradually developed as the need of such protection is increasingly recognized, and the companies now engaged in this line number thirteen.

Burglary insurance was started in 1916 by the "Nippon Fire" and is being written by six companies, and plate glass insurance, taken up by the "Tokyo Marine" in 1926, has three companies interested, but neither line is yet of any great importance.

All branches belonging to the accident category, excepting boiler insurance, are transacted as side lines by companies whose main activities are in marine or fire or in both, and therefore the results of the accident business are not of any material importance to them, but none the less it is patent that the accident business as a whole is making a steady advance, and considering that preparations are already under way for such business as aviation, typhoon and flood, the day is sure to come, possibly in the near future, when the accident business will occupy the important position to which it is duly entitled.

Effects of Economic Conditions in Recent Years. The non-life insurance business in Japan, which, taking full advantage of the post-war boom, attained a phenomenal expansion and laid the foundation for its present-day prosperity, naturally had its due share of the effects of the reaction which developed into an unprecedented depression extending over the world. Fortunately, the experience gained, and the strength cultivated through some fifty years of strain and stress enabled it to withstand all hardships remarkably well; and although the calamity of the earthquake and fire of 1923, and the financial panic of 1927, worked havoc, especially among the weaker insurance companies, the non-life business as a whole was able to weather these waves of adversity and take a definite upward turn along with the general economic revival which became evident when the gold embargo was reimposed in December, 1931.

The following table will give some idea as to the trend of the non-life business as written by Japanese companies at home and abroad, before and after the yen went off the gold standard:—

[TABLE

TABLE 339

PREMIUMS OF VARIOUS NON-LIFE INSURANCE COMPANIES

(in 1,000 yen)

	1930		1931		1932		1933		1934	
	No. of Cos.	Gross premiums	No. of Cos.	Gross premiums	No. of Cos.	Gross premiums	No. of Cos.	Gross premiums	No. of Cos.	Gross premiums
Marine and transit	35	63,962	35	56,820	34	57,435	35	62,103	36	68,161
Fire	50	151,541	49	141,413	49	142,641	49	148,447	49	152,346
Automobile	10	1,540	11	1,443	11	1,617	11	1,853	11	2,130
Personal accident	11	684	12	683	12	798	12	1,065	12	1,006
Fidelity	2	118	3	103	3	93	4	89	4	92
Boiler	1	120	1	81	1	79	1	80	1	88
Burglary	5	60	6	37	6	60	6	60	5	63
Plate glass	2	4	3	5	3	8	3	9	3	15
Total	116	218,033	108	200,588	119	202,734	121	213,709	121	223,904

Based on *Insurance Year Book* compiled by the Ministry of Commerce and Industry. Excluding two companies, Chosen Fire and Taiwan Fire, established outside of Japan proper.

As will be observed from the above table, the upward turn in the activities of non-life business, notably in marine and fire, came into view with the turn of the year 1931, towards the end of which the gold embargo was reintroduced, which resulted in a considerable depreciation of the yen in terms of foreign currency.

First, in the case of hull insurance, the depreciation of the yen currency gave rise to an appreciation in the value of hulls, which, in turn, augmented the premium income. Taking advantage of the favourable exchange, the export business of Japan has shown a striking expansion, which naturally has brought about an increased demand for bottoms. At the same time, while a majority of disbursements are payable in yen, such freights as are receivable in foreign currency have produced considerable profit on exchange, much to the advantage of merchant shipping, and this has also served as a momentum for a further advance of Japanese vessels on ocean routes.

Behind the appreciation in the value of vessels, there exist also such contributory factors as the increased cost of shipbuilding due to the rise of the price of steel, and the better quality of ships in consequence of the Ship Improvement Plan.

Under the last-mentioned measure, some 400,000 tons gross of old vessels of 1,000 tons or more, and over 25 years of age, were to be broken up, and in their place, 200,000 tons gross of new steel cargo boats of over 4,000 tons gross each, with a speed of over 13½ knots, were to be built with the aid of a Government subsidy. As a result,

the available vessels decreased in number, but as it has been accompanied by a rise in freights, and therefore in the value of vessels, and further, as the value per gross ton of the newly-built vessels is about three to five times as great as that of the scrapped ones, the insured value of tonnage as a whole has been materially increased. In addition, the insurance companies have also greatly benefited by the improvement thus realized in the quality of vessels.

The expansion of the export business, as before mentioned, has of course also been instrumental in markedly increasing the premium income on cargo insurance, but besides, imports have also made a substantial contribution, having been considerably stimulated by the activities of the armament industries.

It may be worth mentioning here that while Japanese companies generally have thus benefited, in both hull and cargo business, by the yen depreciation, it is obviously inadvisable, in order to obtain a true perspective of the business status and for maintaining precise and uniform insurance accounting, to show the results of underwriting as being subject to fluctuations in exchange, and hence the leading companies have continued to adopt the practice of entering in their books the income of foreign currencies converted into yen at the old parity; therefore, the increase as shown in the figures of premium income already cited would have otherwise been much more.

In fire insurance, the depreciation of the yen, which was not accompanied by any material rise in the price level at home, has not proved to have had much influence on the volume of business in a way as to lead to an appreciation in value of insurable interests, but the expansion in industrial equipment and factories needed to cope with the activity in exports, and also the increased interests in warehouses following the augmented import of materials etc., have all been conducive to an increase in the premium income. As in the case of marine insurance, the income in foreign currencies from fire business abroad, which is by no means insignificant for leading Japanese companies, is not converted into yen at the depreciated rate of exchange; if this had been done, the fire premium income would have shown a much larger increase than that revealed in Table 339.

Reviewing the unique and spectacular achievements accomplished by the non-life insurance concerns in Japan during their still comparatively short career, and the manner in which numerous difficulties in the interim have been successfully overcome, reflecting considerable credit on the perseverance, concerted action, and united

efforts of the companies, it might be well to say that the present-day prosperity is due above all to the foresight and courage displayed by leaders in the marine business, which, as stated before, has throughout served as a guiding force and basis for the development in this country of the non-life business as a whole.

TABLE 340

CONSOLIDATED BALANCE SHEET OF NON-LIFE INSURANCE COMPANIES

(in 1,000 yen)

	1930	1931	1932	1933	1934
Number of companies	52	51	51	51	51
Subscribed capital	294,000	290,500	284,200	329,900	329,900
Assets					
Cash and deposits	111,129	102,241	93,554	117,419	118,551
Loans	37,557	35,120	31,764	26,815	26,441
Securities	186,265	183,885	207,235	235,550	239,807
Real estate	20,794	21,410	21,989	22,478	22,923
Furniture, etc.	1,496	1,441	1,376	1,255	1,215
Premiums due (incl. o/s interest)	5,003	4,768	4,810	4,280	5,238
Agents' accounts	20,463	25,288	26,460	26,991	28,830
Other outstanding accounts	22,413	29,653	27,116	26,197	30,359
Loss	1,449	2,282	561	2,686	4,374
Total	406,573	406,091	414,869	463,677	477,742
Liabilities					
Capital paid in	100,915	99,900	98,622	128,088	128,762
Legal reserves	30,686	13,070	31,711	32,283	33,963
Other reserves	34,311	33,712	35,639	39,514	42,274
Premium reserves	155,505	155,161	160,710	168,734	173,584
Outstanding loss reserves	24,655	25,293	27,344	28,313	29,140
Agents' accounts	5,154	4,678	960	1,076	824
Other outstanding accounts	25,736	27,969	29,546	32,585	34,521
Profit	29,609	28,305	30,334	33,082	34,672
Total	406,573	406,091	414,869	463,677	477,742
Net Profit	28,159	26,023	29,773	30,395	30,297
Balance B/F from previous year	8,305	6,953	7,547	8,232	7,474
Profit for the year	19,853	19,070	22,225	22,162	22,823

Excluding foreign concerns and two companies, Chosen Fire and Dairen Fire, established outside of Japan proper.

Both the marine and fire business in Japan were naturally started after the example of their foreign predecessors, but the progress attained by these companies thus far is so striking that they have

now established for themselves a position *sui generis*, and such facts as that Japan also now provides a direct market for the insurance on giant liners on the Atlantic and that many a contract is effected here for vessels flying a foreign flag may creditably be taken as evidence of how Japan has attained a place among the foremost countries in the world in insurance enterprise.

The attached figures (in Tables 340 and 341), taken from the official returns, give the consolidated position of the working results and financial condition of Japanese companies during the five years up to 1934.

TABLE 341

PROFIT AND LOSS ACCOUNTS

(in 1,000 yen)

	1930	1931	1932	1933	1934
Income					
Premiums	218,033	200,588	202,734	213,709	223,904
R/I recoveries	58,809	55,448	52,694	44,143	66,908
R/I commission received	17,806	15,725	15,191	15,416	15,937
R/I returns	5,779	5,447	5,352	5,608	5,908
Interests	20,457	20,314	20,807	21,856	23,083
Profits on sale, redemption, or revaluation of property.	6,899	8,721	8,819	7,384	5,235
Others	3,045	4,734	7,975	6,875	9,035
Total	330,831	310,979	313,575	314,993	351,013
Disbursements					
R/I premiums	98,252	86,308	83,921	84,570	89,961
Claims paid	112,841	108,562	106,280	100,009	134,493
Returns	17,522	17,099	18,470	20,576	20,600
Expenses	61,056	58,548	59,318	63,683	66,356
Taxes	4,502	3,956	3,255	4,114	4,446
Loss on sale, redemption or revaluation of property.	12,195	11,619	6,968	5,283	2,772
Others	2,836	3,744	5,412	4,972	4,339
Increase in premium and loss reserve	1,770	2,071	7,721	9,619	5,223
Total	310,977	291,909	291,350	292,831	328,190
Net balance for the year	19,853	19,070	22,225	22,162	22,823

CHAPTER XXVI

WAREHOUSING

THE Warehousing Law enacted in 1935 gives promise for the sound development of this line of activity under Government control. The usefulness and value of warehouses have come to be widely recognized in Japan, and a brief sketch of the general situation relating to this form of enterprise is given in the following pages.

Historical Survey. The origin of warehousing can be traced to the storage system which prevailed in the Tokugawa era, before the Meiji Restoration of 1868, when feudal lords sent a good deal of their wealth to the prosperous emporiums in Yedo (the present Tokyo) or Osaka, to be kept for storing and distribution.

Exchange companies which attained development under the modern economic system subsequent to the Meiji Restoration were the pioneers of the present banking business. Taking over the warehousing business above referred to, they, or sister concerns advanced loans against the security of goods stored in the warehouses. The origin of this enterprise dates back to April, 1880, when the Mitsubishi Exchange Company established its warehousing section. At the time, enterprises of a similar description came into existence one after another. The Tokyo Warehouse Company, a limited liability concern, with a nominal capital of ¥500,000, established as an independent institution on April 15th, 1887, achieved a record if its scale of enterprise is considered. Warehousing as an independent enterprise became separated from other branches of business at that time.

The number of warehousing companies in Japan, organized as joint-stock concerns, in the year 1933 was 444, with a total paid-up capital of ¥140,187,000, and reserves of ¥19,963,000. The monthly average of goods in the 107 principal warehouses all over Japan in the year 1935 reached a value of ¥645,914,000. The highest figure was recorded in 1920 with an average value of ¥1,052,701,000.

Particulars of the eight largest warehouse companies are given below:—

TABLE 342

WAREHOUSE COMPANIES IN JAPAN

Companies	Established in	Head office	Branches and agencies	Building area (at end of 1934)
				(*tsubo*)
Mitsubishi	1887	Tokyo	Osaka, Kobe, Yokohama, Shimonoseki-Moji	121,000
Toshin	1899	Tokyo	Kobe, Shimonoseki-Moji, Yokohama, Osaka, Nagoya	119,000
Sumitomo	1899	Osaka	Kobe, Tokyo	69,000
Sugimura	1896	Osaka	—	39,000
Shibusawa	1897	Tokyo	Osaka, Otaru, Shimonoseki-Moji, Yokohama	36,000
Kawanishi	1903	Kobe	Nagoya, Yokohama	32,000
Toyo	1893	Nagoya	—	23,000
Yokohama	1906	Yokohama	—	22,000

1 *tsubo*=3.9538 sq. yards=3.30578 sq. metres.

Business Expansion and Division of Functions. As a general statement, warehousing activities in Japan can be divided into two distinct branches, namely, harbour warehouses and urban warehouses. Harbour warehousing dates back to May, 1907, when it was originated by the Mitsubishi Warehouse Company, Ltd. Facilities for mooring ships, handling, loading and discharging cargo, shipping, custom brokerage and delivery service by sea, all of which consitute the major part of the warehousing business, are now offered by the influential companies.

Sections of some warehouse buildings are rented for factory use. The warehouses in the new harbour of Kobe which handle silk exports, have facilities for silk conditioning.

Warehouses perform a duty in the daily life of the inhabitants in urban districts, through the preservation and distribution of necessaries in large cities like Tokyo and Osaka. Where goods are consumed and distributed in large volume, a system of urban warehousing has been developed. Such warehouses handle a variety of business, such as spot sales, sample exhibitions, the renting of office accommodation, consignment business, delivery service on land, etc. The Yedobashi Warehouse of the Mitsubishi Warehouse Co. Ltd. in Tokyo may be regarded as a typical urban warehouse. This warehouse is provided with equipment for fumigating and for ensuring damp-proof storage of furs, clothing etc.

TABLE 343

PRINCIPAL MOORING EQUIPMENT AND HARBOUR WAREHOUSES

Mooring Equipments			Principal warehouses		
Place	Appellation	Available length	Management	Place	Building area (*tsubo*)
Kobe	Wada Pier	1,200	Mitsubishi	Kobe	2,942
	Takahama Quay	2,082		,,	9,445
	Shinko Wharf	8,172		Yokohama	5,119
	Onohana Quay	1,200			
Osaka	Sakurajima Pier	905	Toshin	Kobe	9,749
	No. 1 Quay	1,440		,,	9,985
	No. 1 Wharf	2,250		Yokohama	2,315
	No. 3 Wharf	2,370			
Yokohama	Shinko Quay	5,544	Sumitomo	Kobe	5,063
				Osaka	4,378
Kawasaki	Mitsui Wharf	1,100	Kawanishi	Kobe	6,651
	Nichiman Wharf	520			

Outline of Present Condition. Staple goods stored in warehouses are rice, sugar, raw silk, raw cotton, cotton yarn and cloth and imported paper. Rice is the most universal article on deposit. Sugar storage is becoming general throughout the country, whereas raw silk is mostly deposited in Yokohama and Kobe, which are the gateways for exportation. Enormous quantities of raw cotton are kept in warehouses at Osaka and Kobe, where the spinning industry is mostly located. Cotton yarn and cloth are also main articles deposited in Osaka. Wool is stored in Osaka, Nagoya, Yokohama and Tokyo in proportion to the number of factories in or near those cities.

Even if imported goods are not taken into warehouses, they are handled by warehouse companies who are parties to comprehensive contracts in the capacity as agents for importers, and take upon themselves the responsibility for landing and assorting.

The extent to which warehousing in Japan has developed will be seen from the figures at the end of 1933. The area and monthly balance of goods in deposit are given below:—

TABLE 344

AFFILIATED WAREHOUSES

	Warehouses of whole country	Member warehouses	Member warehouses of six large cities
Area (*tsubo*)	935,000	628,000 (67%)	506,000 (54%)
Number of units (1,000)	34,000	24,805 (73%)	20,548 (60%)
Value (1,000 yen)	859,768	559,387 (85%)	509,285 (77%)

Based on *Warehouse Statistics* compiled by the Ministry of Commerce and Industry and on returns of the Japan Warehousemens' Association.

Warehouse warrants, issued by the companies throughout the country during the year 1933, numbered 442,159, of a value of ¥1,004,149,483. Nearly all these warrants are warehouse certificates for facilitating business transactions. There exist special contracts for commercial usage between the warehouses and banks. In 1932, 2,474 banks were members of the Japan Warehousemens' Association, and as such were competent to deal in this special contract arrangement.

Business Results of Warehousing. Warehousing as an enterprise requires a considerable amount of fixed capital, while earnings, though not large, are steady. The table below gives a comparison of the warehousing business (on the basis of 8 large companies) and general industry, based on the average for the period from the latter half of 1930 to the latter half of 1934.

	Rate of fixed assets	Ratio of net profit to paid-up capital	Rate of dividend
General Industry	63%	7·4%	5·8%
Warehousing	87%	3·2%	2·2%

The organization of the Japan Warehousemens' Association in 1932, with the object of centralizing control of the industry, and the agreement for joint calculation of warehousing charges in Osaka, proved of much benefit, although the greatly improved position of the warehouse business can be attributed to the general economic recovery in the past few years. Certain warehouse companies have effected mergers, in consequence of which the situation as to earnings has been improved to a great extent. The diminished earnings in the latter half of 1934 were due to the heavy damage inflicted by the typhoon and attendant floods in the Kwansai district, which occurred on September 21st of that year.

TABLE 345

BUSINESS CONDITIONS OF WAREHOUSING COMPANIES

	No. of companies	Paid-up capital (¥1,000)	Net profit (¥1,000)	Rate of profit (%)
1929	428	131,572	4,953	3·8
1930	459	140,753	4,833	3·4
1931	449	132,505	3,593	2·7
1932	441	133,645	3,472	2·6
1933	444	140,187	4,090	2·9

Based on *Company Statistics* compiled by the Ministry of Commerce and Industry.

Special Warehousing Facilities. Refrigerating was first started in Yonago, Tottori prefecture, in the year 1900, and by 1907 it had extended into the principal cities. Subsidies were first granted in 1923, which proved an impetus to the enterprise. Many of the refrigerating plants are under the management of ice manufacturers. The Japan Foodstuff Industrial Co., organized in 1934 as the result of frequent mergers, has a controlling interest in refrigerated warehouses. There are refrigerating warehouses in Osaka (established in 1928), Kyoto (1928), Yokohama (1930), Kobe (1932), and Tokyo (1932).

There are Government and private bonded warehouses, the latter in accordance with a law enacted in 1897. Government bonded warehouses are, however, of minor importance, their area approximating 263 *tsubo*, while private bonded warehouses extended to over 59,601 *tsubo* as on October 1st, 1933.

Store houses for sugar imports from Taiwan, in accordance with the Sugar Excise Law (1901), are places where sugar is deposited pending the payment of import duty. There existed 98 such warehouses under the authorization of the Minister of Finance at the end of 1933.

There are State warehouses in Tokyo, Osaka, Sakata, Moji, Niigata and Nagoya, all of which were established in 1933, and are managed in accordance with the Rice Control Law. These State warehouses are connected with the Ministry of Agriculture and Forestry. Their aggregate accommodation capacity is 26,923 *tsubo*. Private warehouses keep a considerable amount of rice purchased by the Government in their charge.

There are, besides, State warehouses in Tokyo and Nagoya under the jurisdiction of the Ministry of Railways, the respective accommodation capacity being 5,563 *tsubo* and 1,188 *tsubo*.

Most prominent among special facilities are the agricultural warehouses which are non-money-making institutions exempt from taxes and duties, and are even given grants-in-aid. A system of associated agricultural warehouses was established in 1926.

Control of Warehousing. Warehousing has been subject to autonomous control since its inception.

The Nagasaki Warehousing Association, established in 1894, is the oldest of the warehousing societies as a local organ for business control. Similar organizations now exist in about 20 districts throughout the country. Their purpose is to prevent illegal or unfair competition, and to maintain rates under arrangement. A joint account of proceeds accruing from warehouse dues in respect of 21 descriptions of

staple goods has been in practice in Osaka since September, 1932. The Japan Warehousemen's Association, as the national organ of central control, was established in December, 1900. The Association conducts negotiations with the Government, insurance companies and commercial institutions, and also undertakes the standardization of service, contributes to the establishment of commercial custom, and prepares statistical material for publication. The Association was reorganized in July, 1932.

Except for special warehouses, such as bonded and agricultural, there has been no law embodying administrative provisions in respect of warehousing, the only legal provisions in the form of prefectural ordinances being police regulations concerning sanitary service as well as dangerous articles. A bill dealing with warehousing was introduced in the Imperial Diet at its 67th session, for the purpose of aiding the development of the industry, by granting permission for the issue of warehouse warrants. The bill was approved and promulgated on April 6th, 1935.

Its principal features are (1) permission shall be granted to warehouse companies to issue warrants; (2) the Government to be informed of reforms, changes in rules of management and warehousing charges; (3) compulsory storage; (4) compulsory fire insurance on deposits; (5) the competent Minister to be empowered to order a change in business plans, regulations and rates of charges.

The enactment of the Warehousing Law marks a turning point in the control of warehouses. When the draft of the Law was tabled for discussion, both Houses of Parliament gave whole-hearted approval to the measure, the House of Representatives expressing the hope that small warehousing concerns should be assisted by the supply of funds at a reduced rate of interest.

CHAPTER XXVII

TRANSPORTATION

1. Land Transportation

General Survey. Save for occasional setbacks arising from economic conditions, passenger and goods traffic naturally tends to increase with the development of a country. Transportation by land in Japan is no exception to this general rule.

Reviewing the recent movement in passenger and goods traffic on Government and private railways, it will be seen that with 1928 as the peak year, the former fell to the lowest level in 1932, while goods traffic declined during three consecutive years after 1930, the year 1931 being the worst, when the decrease registered over 20% compared with 1928.

Later on, in 1932, however, reflecting various favourable factors such as the return to prosperity of the export industries, the rapid expansion of industries on account of the shrinkage of imports brought about by declining exchange rates, and the enormous demand for military equipment, a sharp increase in traffic volume took place, particularly in building and raw materials. Thus railway traffic in 1933 had almost attained the level of 1928, the peak year. Activity further developed in 1934, passenger traffic reaching the highest figure recorded since the inception of the Government railways. This recovery was particularly marked in Government railway traffic, the Government railways being in a position of advantage in respect of working expenses per unit and the attraction of freight when compared with private railways.

Since the peak year of 1928, there has been a gradual decline in earnings of light railways, the volume of goods transported showing some decrease even in 1933, owing to the rapid extension of road transport.

A distinguishing feature of land transportation in Japan is that receipts from passenger traffic are much larger than those from

goods. The main reasons are that Japan being a maritime country, freight transportation by ship is considerable, and that the country is also relatively poor in raw materials and mineral products which elsewhere figure largely in transportation. This feature is more especially marked on private railways, where the transport of goods is subsidiary.

TABLE 346

TRAFFIC AND REVENUE OF RAILWAYS

Fiscal year	Passenger traffic		Goods traffic	
	Volume (million)	Receipts (million yen)	Volume (million tons)	Receipts (million yen)
1926	2,750	427·0	98·0	225·1
1927	2,905	442·5	104·1	236·3
1928	3,088	467·3	106·8	246·2
1929	3,062	466·2	105·6	243·9
1930	2,945	441·0	88·7	205·5
1931	2,777	402·7	83·8	195·4
1932	2,679	388·0	85·3	193·8
1933	2,814	415·5	98·4	218·6
1934	2,991	441·1	106·3	245·4

Based on *Statistical Returns of Railways* compiled by the Ministry of Railways.

The volume of goods conveyed by rail is in direct ratio to the economic prosperity of the country. An examination of the traffic returns of the State railways shows that a rapid increase took place after the depression of 1931–32, the index figure for 1935 being 120 as against 100 for 1930.

State Railways. (1) General. The State railways form the backbone of the land transportation system in Japan. The first railway service was opened in May, 1872, between Shinagawa (Tokyo) and Yokohama, covering a distance of 29 kilometres. Since then, there has been an annual increase in the mileage of railways open for traffic. The Railway Construction Law, promulgated in 1892, and the Railway Nationalization Law of 1906 marked epochs in the history of Japanese railways, the latter being of special significance in that it embodied a comprehensive programme for the nationalization of all trunk lines in Japan proper and stimulated Government acquisition of important private railways. In 1912, Government lines totalled 8,400 kilometres, which were further extended due to the rapid advance of industry and foreign trade during the Taisho and Showa eras. At

present the total length is given as 16,500 kilometres, or a twofold increase when compared with 1912. Business results of the Government lines have not always been favourable, as the occasional business depressions lead to a large-scale laying up of freight wagons. Save for such setbacks, the State railways have made a steady development, which, through subsidies, has also extended to local feeding lines.

The extension of lines has led to a corresponding increase in the consumption of coal and electric power. In sympathy with the inactivity in general business and transportation, coal consumption dropped in 1932, but with the favourable turn in 1932, again advanced in the following year, although the total was still below the figure for 1929. The reason for the comparatively low consumption in 1934 is due to rationalization carried out in the years of depression, as well as the electrification of important lines. The consumption of electric power has increased appreciably since the opening of the present Showa era, reaching 277 million kw.h. in 1934, an advance of 150% compared with 1926. On the other hand, there has been no corresponding advance in the outlay for electric power consumed, due to the great reduction in power cost.

TABLE 347

DEVELOPMENT OF STATE RAILWAYS AND COAL AND ELECTRIC POWER CONSUMPTION

Fiscal year	Total length in kilometres (at the end of fiscal year)	Coal consumption		Electric power consumption	
		(1,000 tons)	(1,000 yen)	(1,000 kw.h.)	(1,000 yen)
1912	8,394	1,515	6,581	7,028	295
1921	10,819	2,633	33,703	40,093	1,809
1927	13,391	3,220	36,020	142,402	4,495
1928	13,692	3,263	36,674	165,684	5,044
1929	14,149	3,163	34,787	180,199	5,179
1930	14,575	2,978	30,422	188,488	4,030
1931	15,014	2,783	24,251	198,418	2,541
1932	15,372	2,750	23,651	212,439	2,507
1933	15,844	2,956	26,638	242,377	3,304
1934	16,535	3,108	31,076	276,903	4,754

Figures compiled by the Accounting Bureau of the Ministry of Railways.

(2) Finance. There was a geometrically progressive increase in revenue up to 1928, and in expenditure up to 1929, but a gradual

decline later, owing to the intensification of the business depression. In the year 1932, the revenue showed a decrease of 25% compared with 1929. However, in 1934, the excess of revenue over expenditure amounted to 118 million yen, registering the most favourable balance in six years since 1928.

The Imperial Railway Special Account Law provides for the transfer of excess revenue to capital account, to be employed for the construction and improvement of lines, accordingly, the fluctuations in revenue directly affect construction and improvement work. However, since 1922, the proceeds transferred to capital account have been expended solely on improvements, while outlay on new construction or on the purchase of private railways has been financed by the floatation of public loans.

As to the capital structure of the State railways, capital originally owned and loans stood in 1912 at about 900 million yen, increasing gradually to 3,800 million yen in 1934.

There has been an annual increase in gross profits, the years 1924–1929 being the most prosperous. After a decline in the depression years of 1931 and 1932, profits again reached the level of 200 million yen in 1934. A similar tendency is recorded in net profits. The more favourable profit situation has led to a big improvement in railway service and a revision of freight charges. This revision, effective from October 1st., 1935, is estimated to involve a reduction in freight charges of about 6 million yen, although the resultant increase in goods traffic will probably offset this reduction.

TABLE 348

PROFITS OF STATE RAILWAYS

(in million yen)

Fiscal year	1928	1929	1930	1931	1932	1933	1934
Capital originally owned	1,481·7	1,580·5	1,639·6	1,672·8	1,724·8	1,802·8	1,891·9
Loans	1,627·4	1,704·7	1,743·2	1,789·6	1,838·5	1,879·6	1,921·3
Total capitalization	3,109·1	3,285·2	3,382·8	3,462·3	3,563·4	3,682·4	3,813·2
Working revenue	529·1	517·8	458·1	433·5	426·0	473·6	518·7
Working expenditure	300·7	304·1	284·8	266·6	265·1	282·2	314·1
Gross income	228·4	213·7	173·3	166·9	160·9	191·4	204·5
Total revenue	529·3	518·0	458·1	433·5	426·0	473·3	518·7
Total expenditure	393·4	399·0	382·6	365·1	364·9	385·6	417·8
Net income	135·9	119·0	75·6	68·5	61·1	88·9	100·9
Ratio to capital (%) (excl. loans)	9·2	7·5	4·6	4·1	3·5	4·9	5·3

Based on *Statistical Returns of Railways.*

(3) Traffic Returns. The number of passengers carried by the State railways was only a little over 160 million in the opening years of the Taisho era. In 1920, they reached 400 million, and in 1929, 860 million, or a fivefold advance compared with the earlier years of the Taisho era. During the years of economic depression, some decline was registered, but as a result of the favourable trend from 1933, the following year witnessed the largest conveyance of passengers since the inception of the State railways, with a total number of 910 million. However, passenger traffic receipts for 1934 were still below the prosperous years of 1928 and 1929, being a little over 270 million yen.

The annual upward tendency in tonnage of goods traffic has been slow but steady, if not so remarkable as in passenger transportation. In 1912, goods traffic totalled 33 million tons, which increased, save for some setbacks during the intervening years, to about 80 million tons in 1928. The three following years witnessed a decline, due to the intensification of the business depression, 1931 recording a fall to 60 million tons. This decrease becomes more apparent if the extension of lines is taken into consideration. In 1933, however, an upward trend developed, and in 1934, the total traffic advanced to more than 77 million tons. The bottom in earnings was reached in 1932, receipts in 1934 again mounting to 219 million yen, approximating those for 1928, the most prosperous year. The average receipts per ton and kilometre have gradually decreased since 1928 and 1929.

TABLE 349

TRAFFIC RETURNS OF STATE RAILWAYS

Fiscal year	Passenger traffic				Goods traffic			
	Number of passengers (in 1,000)	Traffic earnings (million yen)	Average daily earnings per kilometre (yen)	Average receipts per person and kilometre (yen)	Volume of goods traffic (1,000 tons)	Ton-kilometres of goods traffic (in million)	Traffic earnings (million yen)	Average freight charge per ton and kilometre (yen)
1926	742,141	266·2	58	0·0119	74,811	11,879	201·6	0·0169
1927	797,613	271·5	57	0·0116	78,657	12,454	211·7	0·0169
1928	849,264	285·3	58	0·0115	79,788	12,770	220·7	0·0171
1929	864,984	279·0	56	0·0114	77,245	12,577	217·9	0·0171
1930	826,249	255·1	49	0·0112	64,108	10,901	184·1	0·0167
1931	789,939	240·0	45	0·0109	60,611	10,601	176·1	0·0164
1932	784,269	233·4	43	0·0107	61,755	10,561	174·7	0·0163
1933	846,137	254·5	45	0·0107	72,022	11,992	198·4	0·0163
1934	919,835	274·1	47	0·0106	77,537	13,347	218·7	0·0162

Ibid.

The most important goods transported by rail are coal, timber, rice and other cereals, gravel, manure and mineral products. Although allowance must be made for rice and other cereals, which are subject to fluctuations depending on the result of the harvest and the economic conditions prevailing in rural districts, all of these articles serve as an index to the prosperity of the economic and industrial world. In recent years, reflecting the improved condition of industry, there has been an active movement of coal, iron, timber and machinery.

Rice movements reveal an alternate rise and fall, depending on the results of the harvest, up to 1931, when an upward tendency set in and an increase of 16·2% over the preceding year was recorded. There are, however, signs in 1935 of a big decrease in the movement of rice, due to the poor crop in the previous year.

TABLE 350

TRANSPORTATION OF IMPORTANT GOODS

(in 1,000 metric tons)

	1930	1931	1932	1933	1934
Rice	3,133	3,164	3,179	3,237	3,762
Timber	5,525	4,686	4,748	5,859	7,051
Gravel	3,136	1,781	1,702	1,962	1,993
Cement	1,518	1,365	1,394	1,746	1,838
Coal (not incl. free shipments)	22,447	19,659	20,229	23,661	25,745
Charcoal	1,248	1,220	1,161	1,117	1,245
Mineral products	859	811	932	1,179	1,375
Iron and steel manufactures	983	872	869	929	1,092
Manure (artificial)	1,397	1,353	1,555	1,583	1,663

Based upon *Annual Report on Important Railway Goods* compiled by the Ministry of Railways.

Private Railways. (1) General. Although there was a decline in the business of private railways after the promulgation of the Railway Nationalization Law in 1906, a fresh impetus was engendered by the later rapid economic development of the country. In the years between 1923, the year of the great earthquake disaster, and 1926, the opening year of the present Showa era, there was an excessive number of private railways.

The Local Railway Law and the Light Railway Law were promulgated in 1919 and 1921 respectively, with the object of affording Government assistance to, and exercising control over the development of private railways as feeders to the State railways.

The total capital of local private railways amounted to 130 million yen in 1916, and to 1,360 million yen in 1932, representing a tenfold increase, while at the same time, there was a corresponding increase in the capitalization of light railways from 300 million yen in 1916 to 2,280 million yen in 1927.

The length of local private railways totalled approximately 5,400 kilometres in 1926, and over 7,200 kilometres in 1932. There has since been a decline in the length of lines in operation, due mainly to the rapid progress of automobile traffic in recent years, which has unfavourably affected traffic since they specialize in short-distance services.

TABLE 351

PRIVATE RAILWAYS

	1912	1927	1930	1931	1932	1933	1934
Total capital (million yen)	303	3,354	3,495	3,460	3,518	3,383	2,751
Local railways	62	1,068	1,282	1,314	1,361	1,312	1,283
Light railways	241	2,286	2,213	2,146	2,157	2,071	1,468
Total construction expenditure (million yen)	245	1,194	1,644	1,710	1,751	1,784	1,782
Local railways	55	549	898	946	970	970	974
Light railways	193	645	747	765	782	813	808
Length of lines (kilometres)	2,987	8,231	9,730	9,870	9,904	9,837	9,703
Local railways	1,283	5,472	7,018	7,195	7,242	7,185	7,088
Light railways	1,704	2,759	2,712	2,676	2,662	2,653	2,615

Based on *Statistical Returns of Railways.*

(2) Traffic Returns of Local and Light Railways. With the exception of 1931, there has been an annual increase in the passenger traffic of local private railways, particularly in 1934, the passengers conveyed during that year reaching about 500 million and earnings amounting to 62 million yen, both unprecedented figures. Goods traffic has also advanced, the figure for 1934 marking the highest on record, while receipts from goods in 1934 showed a decline of 12·8% when compared with 1929.

Passenger traffic on light railways advanced up to 1928, when a sharp downward tendency set in. Receipts from passenger traffic in 1934, although slightly above the preceding year, were 19·4% lower than the record figure of 1928. Goods traffic also decreased from 1926 to 1932, and receipts from this source in 1934 fell by 50% as compared with 1926.

The poor business results of private railways, and especially of light railways, is attributable to the recent economic depression, and reckless competition in the past. The advance of motor transportation was also a contributing factor.

TABLE 352

TRAFFIC RETURNS OF PRIVATE RAILWAYS

	Traffic volume				Receipts from traffic (1,000 yen)			
	Local railways		Light railways		Local railways		Light railways	
	Passengers (million)	Goods (1,000 tons)	Passengers (million)	Goods (1,000 tons)	Passenger receipts	Goods receipts	Passenger receipts	Goods receipts
1912	32·3	3,673	506·6	1,642	3,718	1,356	21,524	604
1927	307·6	23,494	1,800·1	1,975	46,354	21,911	124,623	2,642
1928	366·3	25,093	1,872·0	1,910	52,094	22,882	129,903	2,508
1929	415·7	26,466	1,819·8	1,835	60,552	23,400	126,570	2,170
1930	428·4	22,950	1,690·9	1,669	59,390	19,732	115,599	1,656
1931	420·7	21,660	1,566·5	1,484	56,998	17,939	105,756	1,368
1932	427·7	22,213	1,466·7	1,357	55,430	17,845	99,140	1,252
1933	462·4	24,840	1,505·5	1,541	59,068	19,310	101,884	1,269
1934	499·8	26,828	1,570·9	1,907	62,263	20,304	104,760	1,431

Ibid.

(3) Business Results. Business results have generally been in direct ratio to traffic returns. After 1929—the peak year—they declined,

TABLE 353

TRAFFIC RECEIPTS AND WORKING EXPENSES OF PRIVATE RAILWAYS

(in million yen)

	Local railways			Light railways			Total profits of private railways
	Working receipts	Working expenses	Profits	Working receipts	Working expenses	Profits	
1912	5·7	3·1	2·7	22·9	12·6	10·3	13·0
1927	74·7	42·1	32·6	137·1	77·9	59·1	91·7
1928	82·5	46·1	36·4	143·2	82·5	60·7	97·1
1929	91·7	52·5	39·2	140·5	81·6	39·0	98·2
1930	87·8	52·5	35·4	128·8	77·6	51·1	86·5
1931	82·9	47·8	35·2	115·9	71·2	44·6	79·8
1932	81·7	47·4	34·3	109·7	68·1	41·5	75·8
1933	87·4	48·8	38·6	110·9	67·6	43·3	81·9
1934	91·4	51·9	39·5	113·1	70·7	42·4	81·9

Ibid.

touching bottom in 1932, and although a slight recovery was witnessed in the results of private railways since 1933, so far as local railways are concerned, the profits for the year 1934 were the best on record, while light railways, on the contrary, even showed a decline as compared with the preceding year.

(4) Government Subsidies. With the object of promoting the development of private railways, the Government granted a subsidy to local railways since January, 1912, to the extent of a fivehundredth part of the construction expenses for a period of ten years from the opening of the lines. In the earlier years following the promulgation of the Private Railways Subsidy Law, only three private railways received subsidies to a total amount of about ¥23,000, but by 1916 the number had grown to 59, and the subsidy to ¥947,000. By 1930, private railways recorded a further increase to 102, subsidies also advancing to ¥7,500,000. The term of the Law expired in 1931, but because of the urgent need of some form of assistance to counteract the intensified business depression, the period has been extended. In 1934, the number of companies receiving the subsidy was 107, subsidies totalling approximately 7 million yen. It is impossible to give an accurate idea as to the extent to which private railways have suffered by the recent advance of automobile traffic, but losses have been more direct and far-reaching than in the case of the State railways, and consequently, there has been a growing tendency among private railway companies to undertake automobile service as a subsidiary business, or to purchase or amalgamate with the already established automobile lines.

TABLE 354

AUTOMOBILES IN JAPAN INCLUDING DEPENDENCIES

	Passenger cars	Trucks	Special cars	Total
1925, June . .	21,002	8,162	1,051	30,215
1929, „ . .	54,115	25,218	2,138	81,471
1930, Aug. . .	58,690	29,744	1,682	90,116
1931, „ . .	63,917	32,859	2,220	98,996
1932, „ . .	66,906	34,531	2,478	103,915
1933, „ . .	68,224	36,117	2,462	106,803
1934, Oct. . .	76,124	42,337	2,731	121,192
1935, „ . .	82,775	48,135	3,949	134,859

Motor Transportation. Transportation by motor buses and trucks began to develop in Japan after 1923. Such favourable factors as low initial outlay and moderate working expenses and fixed capital combined to popularize this means of communication all over the country.

Automobiles in service throughout Japan in 1925 numbered a little over 30,000, but by October, 1935 the total reached about 134,859, of which about 61·4% were passenger cars and 38·6%, trucks.

In 1930, truck services affected adversely the State railways to the extent of 1,758,000 tons in petty consignments and 1,798,000 tons in car-load consignments, making a total of 3,556,000 tons. When compared with the total of 55,930,000 tons transported by the State railways in that year, this represents a loss of 6%.

As to the effect of motor bus services, in 1931 the total third-class passenger traffic of the State railways (season tickets excepted) declined to 379 million, due to the business depression and the extension of motor-bus services. The number of passengers carried by motor buses was 51·7 million, representing 13·7% of the total number of passengers carried by the State railways. Passengers conveyed a distance within 5 kilometres constituted 35% of the total carried by motor buses, those up to 10 kilometres 34%, and those up to 20 kilometres 23%. Thus 92% of the passengers were conveyed within a distance of 20 kilometres. From the point of view of traffic receipts, the share of motor buses amounted to 7·6 million yen, or 4·4% of the actual receipts of the State railways, which were returned at 170·6 million yen. However, if the comparison is confined to receipts from passengers conveyed a distance of under 20 kilometres, the ratio will be 20·2%, showing clearly the effect of motor-bus competition. These figures cover the worst years in passenger

TABLE 355

TRAFFIC RESULTS OF STATE RAILWAYS MOTOR SERVICE

Fiscal year	Passenger traffic				Goods traffic			
	Number of buses	Motor bus traffic (1,000 km.)	Passengers conveyed (1,000)	Traffic receipts (1,000 yen)	Number of trucks	Motor-truck routes (1,000 km.)	Goods traffic (1,000 metric tons)	Traffic receipts (1,000 yen)
1930	13	115·8	124·9	25·4	10	40·2	1·7	3·0
1931	23	694·7	784·5	158·9	14	68·7	6·0	10·3
1932	60	978·9	1,210·4	236·2	50	95·8	9·6	17·1
1933	116	2,138·5	2,682·8	496·1	65	215·7	25·8	41·3
1934	183	4,594·6	4,134·5	977·9	80	335·9	39·3	66·2

transportation, namely 1930 and 1931, and having regard to the later extension of motor-bus services, their effect upon railways, especially on private lines, will be much greater.

In view of the increasing importance of motor transportation as a feeder of the State railways, and in facilitating door-to-door service, the State railways themselves started such service in December, 1930.

2. Marine Transportation

Japan's Position in World Shipping. The importance of the shipping industry to a maritime nation is paramount, which accounts in a great measure for its ever-growing development and the constant progress witnessed in the technique of shipbuilding and navigation.

International shipping suffered from serious depression after the World War, and has since passed through a very difficult period, due to surplus tonnage. Vessels, which had increased abundantly during the World War, became a burden on the market as the reduced demand for space on account of the depression caused a slump in freight rates all over the world. The result was a gradual increase in laid-up vessels, whilst freight and charter rates were forced down to the lowest levels on record.

Faced with a huge excess tonnage, all maritime nations adopted whatever measures were at their disposal to counter the situation.

TABLE 356

Tonnage of the Principal Maritime Countries

(at the end of June of each year)

	1894		1914		1920		1935	
	Number of vessels	1,000 gross tons	Number of vessels	1,000 gross tons	Number of vessels	1,000 gross tons	Number of vessels	1,000 gross tons
Great Britain, incl. dominions	7,185	9,838	10,123	20,524	9,779	20,142	9,169	20,286
Germany	912	1,215	3,090	5,135	901	419	2,070	3,693
France	555	892	1,025	1,922	1,400	2,963	1,382	2,989
U. S. A.	610	888	1,757	4,330	4,039	14,525	3,089	12,145
Norway	559	404	1,656	1,957	1,596	1,980	1,858	3,967
Italy	224	319	637	1,430	789	2,118	1,041	2,838
Netherlands	207	307	709	1,472	922	1,773	1,397	2,544
Sweden	535	227	1,088	1,015	1,297	1,073	1,272	1,541
Japan	288	174	1,103	1,708	1,940	2,996	2,146	4,086
Total (incl. other countries)	12,907	16,066	24,444	45,404	26,513	53,905	29,071	63,727

Taken from *Lloyd's Register.*

As regards Japan, the elimination of obsolete vessels brought about an adjustment in tonnage, which, in conjunction with the decline of Japanese exchange rates, led to a recovery in the shipping market. On the whole, the shipping industry in Japan, and probably elsewhere, seems to have already passed the bottom of the depression. Japanese tonnage now totals more than 4 million gross tons, ranking third in world shipping.

In the year 1914, vessels flying the Japanese flag numbered 1,103 of 1,708,000 gross tons, but during the World War, Japanese shipping made a remarkable progress, and in 1919 rose to the fourth position, next to Great Britain, the United States and Germany. In the following year, Germany was required to surrender a great part of her tonnage under the Versailles Treaty, and Japan succeeded to the third place which she still retains.

History of Japanese Shipping Policy. The great development of Japanese shipping since the Meiji Restoration period was in no small measure due to Government protection and encouragement. Shipping policy during the seventy years since the Restoration is divided into three stages, which may be stated as follows:—

(i) Period of inception. (1868–1895)
(ii) Period of general assistance. (1896–1909)
(iii) Subsidization of important shipping services only. (1909–up to the present).

(a) Subsidies were first granted to the Mitsubishi Kaisha, then the only large company, as from September 15th, 1875.

In 1882, the Kyodo Unyu Kaisha, a semi-official company, was established with the support of the Government to break the monopoly of the Mitsubishi Company, but these two companies were subsequently amalgamated in 1885, forming a new company, the Nippon Yusen Kaisha of present fame. The N. Y. K. thereupon received an annual subsidy of ¥880,000 during fifteen years until 1900.

(b) Stimulated by the Sino-Japanese War (1894–5), shipping registered a marked development, and the Government took a further step to protect and encourage the industry. Two laws were enacted in 1896 concerning shipping and shipbuilding, one of which, the Shipping Subsidy Law provided for a subsidy to every Japanese shipowner of steel vessels of not less than 1,000 tons.

The Law was enforced for thirteen years from 1896 to 1909, and the subsidies paid during the period amounted to 17 million yen.

(c) The huge burden engendered by this general assistance led to

the adoption of a new and more discriminating law in 1909. Under the new law, only steamships of more than 3,000 gross tons and less than fifteen years old, plying on European, North and South American, and Australian routes were subsidized.

Shipowners of subsidized vessels were required to carry Government mail free of charge. In addition to these subsidies, the Government occasionally granted other assistance in return for the carriage of mail, and compensation for calling at particular ports. The above Subsidy Law has been operative up to the present day, although some revisions have taken place in regulations. The total annual subsidies for the past few years were as follows:

TABLE 357

SHIPPING SUBSIDIES

(Unit: yen)

Fiscal year	Special subsidies under the Subsidy Law(*a*)	Other subsidies(*b*)	Total
1932	6,562,400	3,907,400	10,469,800
1933	6,538,400	3,836,800	10,375,200
1934(*c*)	6,199,700	3,796,100	9,995,800
1935(*c*)	5,961,700	3,721,100	6,682,800

(*a*) North American routes (Japan—San Francisco and Japan-Seattle) and South American routes (Japan—East Coast and Japan—West Coast). (*b*) European and Australian routes included. (*c*) Budget figures.

Ship Improvement Plan. As a way out of the depression of the past few years the Ship Improvement Plan, operative from October, 1932, was highly successful. The purpose of the plan was to facilitate the breaking up of old vessels of 400,000 aggregate tons, and the building, with Government assistance, of modern ships totalling 200,000 tons. The plan provided that ships to be scrapped should be of more than 1,000 tons and over twenty-five years old, and that the new ships to be built should be steel cargo boats of over 4,000 tons with a speed of over 13·5 knots. For this plan, the Government granted a subsidy to the amount of 11 million yen spread over a period of a little less than three years (including 1 million yen for expenses in providing special facilities). By April, 1935, 94 vessels of 399,240 gross tons were scrapped, and new ships, numbering 31 of 198,989 gross tons, were built by the end of 1935. Of the 31 vessels of 199,000 tons built under the plan, 13 are of 7,000 tons, 2 of 10,000 tons (both oil tankers), and the remaining 16 of from 4,000 to 6,000 tons.

At the end of June, 1932, vessels over 25 years old aggregated 800,000 tons, decreasing to about 500,000 tons at the end of March, 1935,

due to the enactment of the "scrap-and-build" plan, as a result of which Japan's shipping was considerably improved. However, if the situation were allowed to remain at that, Japanese shipping would again be burdened with obsolete ships of more than 800,000 tons in 1940. To provide against this eventuality, a second plan sponsored by the Government was put into operation in April, 1935, to be completed within one year, the tonnage to be scrapped and new ships to be built to aggregate 50,000 tons. The subsidy will total ¥ 1,500,000, at the rate of ¥ 30·00 per ton, ¥ 650,000 to be expended in 1935–1936, and the balance of ¥ 850,000 in 1936–1937.

The subsidy is ¥ 20·00 per ton less than under the first plan, and provides that, in the event of a future scarcity of tonnage, breaking-up operations shall not be started until construction of the new vessel is completed, and that the time of construction may be extended to three years from the date on which the order for breaking-up is received. One ship only is allowed to be built by each company under the plan, and to prevent Japanese crews being thrown out of employment, shipowners are prohibited from employing crews of foreign nationality.

The Japanese Ship Improvement Society, recognizing the necessity for extending this plan for another period after 1936, filed a request for a third appropriation with the Ministry of Communications in June, 1935.

Present Conditions. Vessels under the Japanese flag in 1935 numbered more than 4,000, with a total tonnage of 4,170,000 gross tons. It is worthy of mention that the number of motor vessels is rapidly increasing, and at the same time, the total number of vessels also

TABLE 358

TOTAL NUMBER AND TONNAGE OF JAPANESE VESSELS

(At end of year)

	Number	Gross tons		Number	Gross tons
1870	35	24,997	1927	3,608	4,078,511
1877	183	79,202	1930	3,719	4,326,212
1887	252	107,808	1931	3,726	4,331,685
1897	626	426,624	1932	3,687	4,258,000
1907	1,592	1,112,937	1933	3,683	4,162,703
1914	2,331	1,853,425	1934	3,877	4,136,691
1919	3,040	3,005,550	1935	4,036	4,169,772

Compiled by the Ministry of Communications.

TABLE 359

INWARD AND OUTWARD VESSELS BY FLAG

(in 1,000 tons)

		1933		1934		1935	
		Out.	In.	Out.	In.	Out.	In.
Japan	Number	13,402	13,402	13,154	13,267	13,905	13,935
	Tonnage	39,324	39,694	40,326	40,689	43,916	43,932
Kwantung L. T.	Number	1,404	1,418	1,328	1,320	1,393	1,402
	Tonnage	3,544	3,571	3,404	3,396	3,508	3,531
Great Britain	Number	1,633	1,633	2,004	2,015	2,346	2,359
	Tonnage	8,080	8,068	9,425	9,470	10,609	10,656
U. S. A.	Number	536	534	542	541	610	611
	Tonnage	3,453	3,443	3,321	3,371	3,731	3,750
Norway	Number	410	417	603	599	876	876
	Tonnage	1,344	1,360	1,897	1,883	2,876	2,876
Germany	Number	335	334	373	374	414	422
	Tonnage	1,485	1,482	1,663	1,667	1,893	1,927
Total (incl. other countries)	Number	18,729	18,427	19,644	19,775	21,837	21,904
	Tonnage	61,195	61,627	65,542	65,980	73,669	73,804

Figures taken from *Monthly Return of the Foreign Trade of Japan*, compiled by the Ministry of Finance.

witnessed a considerable increase during the past two years, reflecting a recent increasing tendency in the building of small boats, generally known as "marine trucks".

One of the important factors in the revival of Japanese shipping was the reimposition of the gold embargo. With the depreciation of the yen, not only was there a great expansion in foreign trade which benefited the merchant fleet, but as freight rates were paid in foreign currencies, receipts in paper yen mounted considerably, thus greatly improving the financial status of shipping companies.

Shipping receipts decreased in 1931 and 1932, reflecting the depression during those years, but advanced to ¥126,000,000 and ¥144,600,000 in 1933 and 1934, an increase of 26·4% and 45% respectively on the figures for 1932. From the point of view of invisible trade, shipping receipts are an important item in receivable accounts, in line with profits accruing from overseas enterprises and services (¥168,000,000 in 1933 and ¥184,800,000 in 1934) and returns on investments abroad (¥174,000,000 in 1933 and ¥164,300,000 in 1934).

Tramp Tonnage. Tramp tonnage reached the peak in the years 1929 and 1930. Since the autumn of 1932 it has decreased, due to the elimination of obsolete tonnage resulting from the enactment of the Ship Improvement Plan. In January, 1934, these vessels numbered 551 of 3,300,000 gross tons, a decrease of 44 vessels and 99,000 gross tons compared with 1931, indicating the extent of the adjustment effected in the industry, which contributed much toward an improvement in the Japanese shipping market. It should be mentioned that Japanese shipping was able to gain a position of advantage in ocean shipping markets owing to the fact that freight rates were actually reduced, being payable in yen on the basis of a much depreciated currency. This circumstance, coupled with the increased movement of merchandise occasioned by the present recovery, has restored tramp shipping to its former activity. Laid-up ships which had increased to 320,000 tons in December, 1931, decreased to only 11,000 tons in June, 1935.

The most active season for ocean shipping is from the beginning of autumn to the middle of winter, due to shipments of Manchurian products, and transportation of wheat and timber. Coastal shipping is usually active in summer, this being the best season for the transportation of timber and other materials from Northern waters. Vessels employed on European routes and on the Atlantic side of North America in January, 1933 augmented to the unprecedented number of 104, of an aggregate tonnage of 940,000, while the combined

TABLE 360

TRAMP SHIPPING IN JAPAN

(Deadweight tons in January of each year)

	1931		1934		1935		1936	
	Number	Tonnage	Number	Tonnage	Number	Tonnage	Number	Tonnage
European routes	32	301,985	54	503,276	32	290,349	21	192,585
North American, Atlantic	34	300,722	28	265,041	26	243,223	28	271,866
Japan-America, Pacific	40	395,009	52	479,953	45	419,340	45	458,911
Australian and Indian routes	38	277,856	23	192,517	33	275,841	40	368,127
South Asian and Straits Settlements routes	70	411,028	88	549,940	80	519,233	48	346,435
Coastal routes	291	1,230,750	267	1,110,542	292	1,312,758	321	1,531,770
In dock	20	113,267	20	123,689	21	124,618	14	95,587
Laid-up ships	64	325,279	14	66,124	5	30,127	4	14,605
Other routes	6	44,896	5	10,870	4	21,834	—	—
Total	595	3,400,792	551	3,301,952	539	3,247,231	521	3,279,886

Figures furnished by the Japan Shipping Exchange. Ships of over 2,000 deadweight tons only.

total of vessels on the Pacific coast of North America and in Australian and Indian waters in the same year was 182 of 1,603,000 tons, the tonnage then engaged on these far flung routes corresponding to 47% of Japan's aggregate tonnage. This unusual overseas activity was due mainly to the depreciation of the yen, and to the active state of Japanese foreign trade, but participation in overseas tramp shipping has since greatly lessened.

Great importance is attached to services to South Asia and the Straits Settlements, in view of the return cargo of phosphorite and iron ore. Ships employed on these routes have increased considerably in recent years. These routes are considered of importance in Japanese shipping for the absorption of surplus tonnage, for it is a practice of Japanese owners to turn their surplus tonnage to South Asian routes when withdrawing ships from other ocean services.

Freight and Charter Rates. Better conditions have developed since 1929, except as regards freight rates on ocean services, the advance in charterage being especially notable. On ocean routes, too, shipowners have benefited by the low yen exchange rate.

The highest rates for freight and charterage during 1934 were quoted immediately after the typhoon disaster in the western part of Japan in September of that year. Subsequently, however, the freight market declined, whilst charter rates remained steady. The present situation still shows some improvement compared with 1933, but in the absence of favourable factors, it is considered that the expansion of Japanese shipping attained saturation point in 1934.

TABLE 361

FREIGHT AND CHARTER RATES

		1923	1929	1930	1931	1932	1933	1934	1935
Freight rates									
Coal, Wakamatsu-Yokohama (¥ per ton)	highest	4·00	1·80	1·20	1·30	2·20	2·10	2·50	2·30
	lowest	1·45	·70	·70	·60	·70	1·05	1·35	1·60
Timber, Karafuto-Japan (¥ per 100 *koku*)	highest	350	160	107	130	145	150	170	160
	lowest	130	75	55	45	60	85	100	120
Timber, North American Pacific Coast-Japan ($ per 1,000 B. M.)	highest	16·50	10·35	7·50	8·00	5·50	5·75	7·50	7·00
	lowest	11·00	6·00	4·75	4·75	3·00	3·50	5·25	5·00
Charter rates (¥ per ton)									
Large vessels (over 6,000 tons)	highest	2·50	2·80	2·10	2·20	2·50	2·55	3·40	3·40
	lowest	1·30	·80	·70	·55	·90	1·20	2·40	1·60
Medium vessels (3,000 to 6,000 tons)	highest	3·00	4·10	3·30	2·80	3·30	3·50	3·80	3·80
	lowest	1·20	1·00	·80	·60	·95	1·60	2·20	2·50
Small vessels (1,000 to 3,000 tons)	highest	5·00	5·50	4·30	4·00	4·00	4·30	5·50	4·90
	lowest	2·30	1·50	1·20	1·20	1·40	2·30	2·90	2·90

Ibid.

Business Results. From the table hereunder, it will be seen that the leading Japanese shipping company, the Nippon Yusen Kaisha, was able to declare a dividend of 5% per annum for the first half of 1930. From that time throughout the period of 1931 and 1932, no shipping company was able to disburse any dividend. For the first time after many years, the Meiji Kaiun K.K. paid a dividend of 4% in 1933, and other companies, except the Kokusai Kisen K.K., Kawasaki Kisen K.K., Nisshin Kisen K.K., and Taiyo Kaiun K.K., followed this example later. In view of the present position of the Japanese shipping industry, it may be said that the business results of all companies are now improving.

TABLE 362

RATES OF DIVIDEND OF LEADING SHIPOWNERS

(% p. a.)

Half yearly	1928		1929		1930	1933		1934		1935	
	I	II	I	II	I	I	II	I	II	I	II
N. Y. K. . .	8·0	8·0	8·0	8·0	5·0	—	—	3·0	3·0	5·0	7·0
O. S. K. . .	6·0	6·0	6·0	6·0	—	—	5·0	5·0	5·0	5·0	5·0
Kinkai Yusen .	5·0	5·0	5·0	4·0	—	—	—	3·0	3·0	3·0	3·0
Chosen Yusen .	6·0	—	—	—	—	—	3·0	5·0	5·0	5·0	5·0
Dairen Kisen .	*	7·0	7·0	5·0	—	—	5·0	5·0	5·0	5·0	6·0
Kokusai Kisen .	—	—	—	—	—	—	—	—	—	—	—
Kitanihon Kisen	*	5·0	*	—	—	*	4·0	*	6·0	*	6·0
Kawasaki Kisen	—	—	—	—	—	—	—	—	—	—	—
Nisshin Kisen .	10·0	8·0	5·0	6·0	4·0	—	—	—	—	—	—
Taiyo Kaiun .	—	—	—	—	—	—	—	—	—	—	—
Meiji Kaiun .	4·0	4·0	4·0	—	—	4·0	4·0	5·0	6·0	6·0	6·0
Toyo Kisen .	—	—	—	—	—	—	—	—	3·0	3·0	3·0
Karafuto Kisen .	—	6·0	5·0	—	—	—	—	—	3·0	3·0	3·0

From the second half of 1930 up to the second half of 1932, no dividend was distributed by any company. * Business term extends over whole year.

PART SIX

RECENT DEVELOPMENT IN FOREIGN TRADE

CHAPTER XXVIII

THE EXPANSION OF FOREIGN TRADE AND ITS BEARINGS ON THE NATIONAL ECONOMY

1. General Survey

Seventy years have scarcely elapsed since Japan joined the comity of world nations and entered into commercial relations with foreign countries. Up to the time previous to the Sino-Japanese War (1894–95) Japan remained a purely agricultural country and the development of her foreign trade was insignificant. It was only after the close of that war that, stimulated by the sudden expansion of national strength and the rise of industries consequent upon the economic prosperity engendered by the war, the foreign trade of the country began to show steady development. The Russo-Japanese War (1904–05), in which Japan was again victorious, gave an impetus to further expansion, and also accelerated the growth of national industries. During the World War, which in a great measure checked the import of European and American goods to Asiatic markets, Japan attained to the position of a great industrial nation and obtained at a bound a footing on the world market in competition with the highly industrialized countries of the West. Although a part of the gains secured during the World War had to be relinquished in the post-war period, the emergence of Japan as a serious competitor may be attributed to the opportunities provided by that war. The most recent phase of expansion owes its inception to the reimposition of the gold embargo which corrected the former overvaluation of the yen through a rapid depreciation of Japanese currency.

Foreign Trade of Japan Proper. The development of the foreign trade of the Japanese Empire centres entirely on the trade of Japan proper, which claimed a share of 96·4% in exports and of 94·2% in imports on the average for the period from 1930 to 1935. Unless otherwise stated, the following investigation, therefore, relates to

Japan proper only which includes Karafuto, the southern part of Sakhalin.

Prior to the outbreak of the World War, the annual total foreign trade of Japan proper exceeded only slightly the figure of 1,000 million yen, the average for the four years, 1911 to 1914, reaching 1,116 million yen. During the World War, trade advanced at a tremendous rate and in 1919 reached upwards of 4,272 million yen. Although the price advance during the war period was in a measure responsible for the increase, the expansion in volume was also astounding. The annual trade balance which in normal years showed an excess of imports was reversed during the war period as a result of unprecedented activity of the export trade, whilst imports were checked by the War.

The post-war period witnessed a reaction in the value of foreign trade which was accentuated by declining prices. After the great seismic disaster of 1923 in the Tokyo-Yokohama districts, the volume of trade advanced owing to the increase of exports through depreciated exchange rates and larger imports for the rehabilitation of the devastated region. In 1925, the value of both exports and imports exceeded the record figures of the war period, the combined total expanding to 4,878 million yen, the highest figure ever reached previously. The increase was, however, more pronounced in imports, the annual balance of trade during the seven years from 1920 to 1926 showing an unhealthy excess of imports of 398 million yen on the average.

The year 1929 was a turning point in Japanese foreign trade which entered a period of severe depression affecting both exports and imports. The removal of the gold embargo led to an overvalued condition of Japanese currency which the Government endeavoured to overcome by a policy of consistent deflation. The result of foreign trade in 1931 showed a decrease of about 47% in exports and of over 44% in imports compared with 1929, the total value of exports and imports declining by nearly 2,000 million yen in comparison with 1929. The main cause of the sharp decline in the trade of 1931 was the extraordinary recession in prices which averaged about 45% compared with the year 1929, whilst the volume was only about 3% less, and, indeed, showed an increase over the figure of 1930.

Industry was severely affected by this shrinkage, and conditions were aggravated by the decline in domestic purchasing power on account of the depressed state of Japanese agriculture. This period, trying as it was, laid the foundation for the subsequent recovery on account of the elimination of many unsound concerns and the

general rationalization of industries which was actively promoted by the Government. An opportunity for renewed industrial expansion presented itself by the depreciation of Japanese currency due to the reimposition of the gold embargo in 1931, the sudden activity of industries occasioned by a reflationary policy, and the creation of close economic relations between Japan and Manchoukuo. The value of foreign trade in 1935 showed an advance of 108·6% on that of 1931 and exceeded even the record figure of 1925.

The great expansion in foreign trade during the past few years is, of course, largely due to the depreciation of the yen which brought about an advance in prices of imported articles. This is verified by the fact that the increase in volume of imported articles during the five years from 1931 to 1935 did not exceed 15%, which compares with an advance of about 75% in value during the same period. It is characteristic that the price advance in exports was of only modest proportion, the expansion being attributable to the increase in volume rather than to the advance in prices. In contrast to the development of imports, the volume of exports during the five years increased by over 75%.

A survey of the foreign trade in 1935 as compared with 1929 reveals a remarkable change in many respects, though there was no marked disparity in value. There was an extraordinary increase in volume, which was particularly pronounced in finished articles on the export side and in raw materials and semi-finished articles on the import side. This development indicates the rapid progress of industrialization in the past few years.

A considerable number of articles were added to the list of important export articles in the course of the past six years. Export articles reaching an annual total of over one million yen numbered 81 in 1929 and 136 in 1935. The market for both exports and imports widened considerably, particularly as regards exports, which were distributed over a number of new markets which had previously held little or no importance for Japanese trade.

Trade of Japan Proper with Dependencies. The development of this trade has been far less subject to abnormal fluctuation, and even during the period of the world depression in 1930 and 1931 the decrease in exports and imports was not so marked as in the trade with foreign countries. The ratio of the trade between Japan proper and dependencies to total value of Japanese foreign trade including dependencies increased from 20% in 1929 to 25% in 1931. There was a slight decline in later years owing to the extraordinary advance of overseas trade, but the ratio in 1934 still reached 23%.

TABLE 363

FOREIGN TRADE OF JAPANESE EMPIRE SINCE 1889[a]

(in 1,000 yen)

	Japan proper[b]	Chosen	Taiwan	Mandated Islands	Total
Exports					
1889–1893 (Average)	70,401	—	—	—	70,401
1899–1903 („)	243,703	—	10,976	—	254,679
1911–1914 („)	531,281	4,807	13,209	—	549,297
1916–1920 („)	1,747,968	20,705	35,211	59	1,803,943
1925–1929 („)	2,092,642	29,035	41,793	64	2,163,534
1925	2,305,590	24,342	47,966	22	2,377,919
1929	2,148,619	35,773	33,188	78	2,217,658
1930	1,469,852	25,852	22,809	61	1,518,575
1931	1,146,981	12,772	19,449	10	1,179,211
1932	1,409,992	29,210	18,045	49	1,457,296
1933	1,861,046	52,773	17,666	584	1,932,069
1934	2,171,925	57,674	26,518	1,964	2,258,081
1935	2,499,073	64,902	36,544	2,661	2,603,181
Imports					
1889–1893 (Average)	74,069	—	—	—	74,069
1899–1903 („)	270,469	—	12,353	—	282,822
1911–1914 („)	584,440	21,053	17,950	—	623,443
1916–1920 („)	1,594,004	60,311	38,917	64	1,693,296
1925–1929 („)	2,308,370	113,837	61,443	279	2,483,929
1925	2,572,658	105,388	56,489	165	2,734,700
1929	2,216,238	107,768	64,541	629	2,389,175
1930	1,546,071	88,855	45,131	257	1,680,314
1931	1,235,675	52,696	30,859	178	1,319,409
1932	1,431,461	61,686	31,041	341	1,524,529
1933	1,917,220	64,368	35,477	439	2,017,504
1934	2,282,602	79,527	38,031	335	2,400,495
1935	2,472,236	100,093	44,979	572	2,617,881

(*a*) Excludes gold and silver. (*b*) Includes Karafuto.

Japanese trade with the dependencies generally shows an excess of imports, the largest record being that of 1924 when exports from the homeland reached 301 million yen as against 521 million yen of imports from the dependencies.

Chosen leads all other dependencies in total volume of trade, the share for the five years ending 1934 being 67% in exports and 55% in imports. Trade with Taiwan accounted for 31% in exports and 42% in imports, that of the Mandated Islands for 2% and 3% respectively.

TABLE 364

TRADE OF JAPAN PROPER WITH DEPENDENCIES

(in million yen)

	Exports				Imports			
	Chosen	Taiwan	Mandated Islands	Total	Chosen	Taiwan	Mandated Islands	Total
1913	40·4	42·8	—	83·3	25·3	40·5	—	65·8
1924	211·8	86·6	2·4	300·8	306·7	211·1	3·5	521·2
1925	234·6	129·9	3·5	368·0	317·2	215·2	5·8	538·4
1929	315·3	140·4	6·5	462·2	309·9	238·7	8·2	556·8
1930	278·2	123·1	5·5	406·8	240·7	218·6	10·6	470·0
1931	217·8	114·8	5·8	338·3	249·0	201·4	12·8	467·3
1932	258·7	133·5	6·3	398·4	282·1	222·7	13·8	518·7
1933	339·8	149·9	8·6	498·3	315·9	230·7	18·2	564·8
1934	439·6	177·0	12·6	629·2	407·7	279·4	16·5	703·6
1935	558·8	218·1	...	...	485·9	314·2	...	...

TRADE OF JAPAN PROPER WITH CHOSEN AND TAIWAN BY PRINCIPAL ARTICLES

(in 1,000 yen)

	Chosen			Taiwan		
	1931	1934	1935	1931	1934	1935
Exports						
Textiles	58,586	128,011	136,567	21,976	31,519	34,562
Cotton tissues	23,524	44,160	36,322	13,358	17,250	20,265
Silk and rayon tissues	10,607	24,950	31,994			
Underwear and clothing	7,279	19,061	21,393	1,689	3,263	3,590
Iron and steel	11,550	26,813	39,562	7,344	11,517	15,383
Machinery and tools	18,251	40,013	62,326	8,804	17,152	21,478
Mineral oil	6,374	13,406	16,632	2,229	3,706	4,553
Paper	10,655	16,857	20,686	5,006	6,306	7,219
Manure	4,490	14,239	17,226	4,330	16,582	22,772
Wood and timber	1,657	7,757	9,129	4,217	7,271	10,211
Imports						
Cereals and other foodstuffs	171,370	268,680	285,348	179,966	246,107	277,765
Rice	138,438	222,290	240,434	41,097	101,816	105,545
Beans	14,378	19,109	18,620	—	459	485
Sugar	—	—	—	120,475	122,322	145,977
Aquatic products	13,353	18,146	15,937	3,304	3,980	3,649
Bananas and tinned pineapple	—	—	—	12,487	12,675	16,782
Raw silk (incl. wild silk)	19,000	18,017	19,903	—	—	—
Manure	8,346	25,189	32,004	—	11	26
Iron	3,162	12,093	17,352	—	496	466
Copper	1,717	11,042	21,608	—	234	364
Ores	2,301	4,744	9,993	4,597	7,493	9,835

The greater part of imports from the dependencies consists of foodstuffs and raw materials. In foodstuffs, Chosen supplies about 65% and Taiwan about 90%, the former chiefly rice, and the latter sugar and rice. The increase or decrease in the import volume of these articles determines as a rule the total value of the import trade. The recent expansion of trade relations with the dependencies has been less evident in trade with Taiwan, owing to the scarcity in Taiwan of industrial raw materials as required by the expanding home industries.

Chosen is the largest source of raw materials in addition to foodstuffs. However, measured by the large requirements of Japanese industry, the supplies of raw materials obtained from Japanese dependencies are not large, whilst the imports of foodstuffs, particularly rice and sugar, constitute an important addition to the Japanese national economy.

Exports to the dependencies are rather numerous, and comprise textile fabrics (cotton, silk and rayon) and clothing, which represent the largest percentage of exports to both Chosen and Taiwan, iron, steel, machinery, vehicles, paper, manure, mineral oil, timber, coal, etc. The export trade has been steadily expanding since 1932, this tendency being particularly noticeable in shipments to Chosen.

Foreign Trade of the Dependencies. The development of the export trade of the dependencies in recent years differs in many respects from that of Japan proper. The trade of Chosen and Taiwan, which represents by far the largest share of the external trade of the dependencies, has shown a continuous decline after reaching the highest mark in 1926, until in 1933 it dwindled to one-third of the figure for 1926. A similar tendency is witnessed in the import trade. The highest mark was reached in 1926 in Chosen and in 1927 in Taiwan, but since then the trade has been gradually dwindling until in 1931 the value of imports of both territories declined to less than one-half of the highest record reached in 1926 and 1927 respectively.

The year 1934 witnessed a radical change in this trend, the improvement of trade both in Chosen and Taiwan being very marked, and this improvement continued in 1935. The export trade of Chosen, in particular, presented unusual activity on account of the heavy advance in shipments to Manchuria which represented 93% of the total export trade to destinations other than Japan proper. The closer trade relations established between Chosen and Manchoukuo also had the result of increasing, although to a lesser extent, imports from Manchoukuo.

TABLE 365

EXTERNAL TRADE OF CHOSEN AND TAIWAN

(in 1,000 yen)

	1931	1932	1933	1934	1935
Chosen					
Total exports	261,799	311,354	368,628	465,367	550,796
Exports to foreign countries	12,772	29,210	52,773	57,674	64,902
Manchoukuo and Kwantung L. T.	10,846	27,205	45,563	53,462	58,044
China	1,241	948	1,599	2,008	3,313
Principal articles:					
Cotton yarn and tissues	1,535	7,144	6,445	6,915	4,091
Wood and timber	1,019	1,615	5,060	6,185	5,616
Iron and steel	78	912	3,061	4,486	5,939
Sugar	1,821	2,350	2,292	2,521	3,146
Aquatic products	1,334	2,246	3,078	3,446	3,737
Total imports	270,466	320,356	404,185	519,150	659,403
Imports from foreign countries	52,696	61,686	64,368	79,527	100,590
Manchoukuo and Kwantung L. T.	33,310	42,202	44,455	50,811	53,949
China	6,198	3,773	5,858	7,796	16,448
U. S. A.	4,552	5,076	2,195	5,084	7,548
Taiwan					
Total exports	220,872	240,728	248,413	305,929	350,745
Exports to foreign countries	19,449	18,045	17,666	26,518	36,544
Manchoukuo and Kwantung L. T.	309	1,999	1,979	3,334	4,493
China and Hong Kong	10,809	9,204	6,877	11,284	19,600
South Asia	3,597	1,898	1,784	2,893	2,872
U. S. A.	3,456	3,754	4,719	5,466	5,664
Principal articles:					
Tea	7,363	4,870	5,445	8,918	8,318
Camphor	1,586	1,548	2,963	2,382	2,038
Sugar	2,357	3,174	563	122	5,556
Coal	2,295	1,316	1,531	1,387	1,334
Total imports	145,622	164,498	185,389	215,022	263,120
Imports from foreign countries	30,859	31,041	35,477	38,031	44,979
Manchoukuo and Kwantung L. T.	889	4,932	17,559	18,010	23,566
China and Hong Kong	16,241	15,642	6,726	6,747	6,982
South Asia	2,792	4,912	4,779	4,299	5,157

2. TRADE BALANCE AND INTERNATIONAL ACCOUNTS

The foreign trade of Japan results, as a rule, in an excess of imports every year, and this excess is greater in the trade balance

of the whole Empire, including dependencies, than in the trade of Japan proper alone. An exception occurred in 1909 and in the four consecutive years from 1915 to 1918, when the World War effectively checked imports. The period from 1920 to 1928 witnessed a particularly heavy excess of imports, which may be traced to the greatly enhanced purchasing occasioned by the war-time boom, the requirements for reconstruction of areas devastated by the earthquake of 1923, and last but not least, to the relatively high level of prices ruling in the country compared with international standards.

The excess of imports, which reached the highest mark (over 300 million yen) in 1928, subsequently declined annually to about 58 million yen for the whole empire in 1932 due to a marked decrease in the volume of imports and a slight improvement in the export trade. Notwithstanding the marked development of the export trade in recent years, the international trade balance has lately been anything but favourable because of the expansion of imports of raw materials and semi-finished goods brought about by the industrial activity in Japan proper. The excess of imports in 1934 aggregated 142 million yen, including 111 million yen for Japan proper, the net excess being 129 million yen when the export excess of silver is deducted. A similar tendency prevailed throughout the first half of 1935, but there was an unexpected improvement in the third quarter on account of a large increase in exports, which reduced the total excess of imports for the whole year to 14·7 million yen, and even brought about an export excess of 26·8 million yen for Japan proper. This favourable turn was entirely due to the steady increase of exports, the increasing tendency of imports continuing unabated.

The international debit account, as reflected by the excess of imports, in trade is ordinarily covered by the proceeds from invisible accounts due to Japan. The principal receipts in invisible trade consist of revenue from shipping services, profits from Japanese enterprises abroad, remittances of Japanese emigrants, insurance receipts, expenditure in Japan by foreign tourists, etc. The years 1930 and 1931 were abnormal in that not only did invisible receipts show a considerable decrease, but the interest burden on foreign loans was substantially increased by the depreciation of Japanese exchange rates. At the same time, there was a large outflow of funds in the form of Japanese investments and withdrawals of capital invested by foreigners in Japan. The international balance of payment was therefore heavily against Japan, which had to be covered in 1931 by the shipment of specie totalling about 411 million

yen. In the following year (1932), the situation improved, due to an increase in receipts and the practical disappearance of the abnormal flight of capital in invisible trade accounts. In 1933, invisible export receipts were sufficient to cover the adverse trade balance and still leave a credit of about 91 million yen due to Japan, this being the first substantially favourable balance of payment since the World War. In 1934, the excess of receipts in invisible trade accounts recorded a large increase over the figure of the previous year, but the investment of funds in Manchurian enterprises resulted in an adverse balance of payments of about 121 million yen.

Apart from the aforementioned ordinary trade and invisible trade accounts, there are other items of international debit and credit accounts, such as funds held abroad by Japanese exchange banks, specie deposited for account of the Japanese Government in foreign

TABLE 366

INTERNATIONAL DEBIT AND CREDIT ACCOUNTS OF JAPAN

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934
Trade account						
Merchandise	-171,517	-161,740	-140,195	- 67,233	- 85,435	-142,414
Japan proper only	*- 67,619*	*- 76,219*	*- 88,691*	*- 21,470*	*- 56,174*	*-110,677*
Silver	+ 3,178	+ 1,405	- 914	+ 8,446	+ 7,549	+ 13,137
Japan proper only	*+ 3,339*	*+ 1,729*	*- 557*	*+ 8,543*	*+ 7,557*	*+ 13,593*
Total	-168,339	-160,335	-141,109	- 58,287	- 77,886	-129,277
Japan proper only	*- 64,280*	*- 74,790*	*- 89,248*	*- 12,427*	*- 48,617*	*- 97,084*
Invisible trade account						
Ordinary receipts and payments	+187,250	+133,015	+ 83,620	+102,136	+111,789	+192,188
Shipping	+159,175	+125,335	+100,641	+ 99,701	+126,062	+144,614
Insurance	+ 8,291	+ 364	+ 2,916	+ 8,899	+ 8,694	+ 23,438
Enterprise and labour remittances	+116,103	+ 90,637	+ 78,084	+146,156	+157,912	+177,292
Interest and dividends	- 87,265	- 80,661	- 72,384	- 97,430	-115,108	-102,116
Others	- 9,053	- 2,660	- 25,637	- 55,190	- 65,771	- 51,040
Extraordinary receipts and payments	- 92,421	-147,918	-232,664	-100,136	- 20,976	-183,441
Total	+ 94,829	- 14,903	-149,044	+ 2,000	+ 90,813	+ 8,747
Grand total	- 73,510	-175,238	-290,153	- 56,787	+ 12,927	-120,530
Gold exports and imports	- 546	+286,752	+388,195	+112,058	+ 20,918	+ 1
Japan proper only	*- 462*	*+299,592*	*+410,780*	*+112,695*	*+ 20,925*	*+ 1*

+ Indicates excess of exports or receipts. - Indicates excess of imports or payments.

markets, etc., which must also be taken into consideration. These items are, however, not included in official statistics, and their condition and value cannot be ascertained. The total amount is probably not large enough to modify to any great extent the balance of accounts as set forth in the foregoing Table 366.

3. Trade Development and Industrial Production

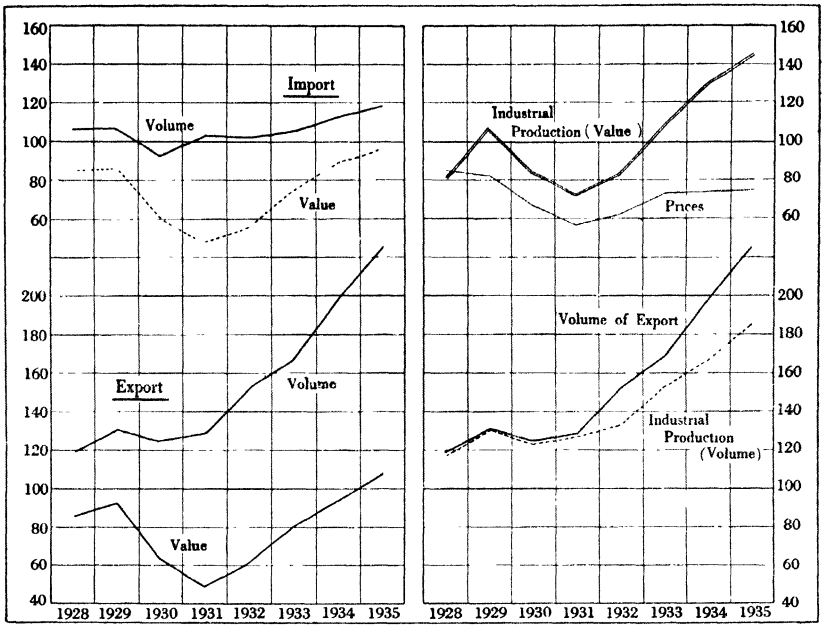
General Survey. The great expansion of Japanese industry during and after the World War coincided with a remarkable advance in foreign trade, both attaining their fullest development in 1925. In that year, the estimated total national production of Japan proper approximated 13,330 million yen, or more than four times the figure of the pre-war period of about 3,100 million yen, while foreign trade also quadrupled, showing a total of about 4,878 million yen. The following year (1926) saw a remarkable reactionary decrease in both exports and imports, which was accentuated by a sharp decline in prices, but the situation improved before long, and in 1929, the total production again increased to 12,915 million yen, while foreign trade also advanced to 4,451 million yen. Still, compared with the figures of 1925, both production and trade in 1929 showed a decrease of about 400 and 500 million yen in each case.

Mainly affected by the fall of prices through deflation and the decline of purchasing power consequent on the world-wide depression, the volume of industrial production and trade showed a big decrease during the period from 1929 to 1931, the rate of decrease being greater in trade which declined by 45% against 35% in production. The country, however, emerged from the depression early in 1932, but in the subsequent development of production and trade the former position was reversed. While production in 1933 increased by 32% over the figure for the year 1931, the advance in foreign trade reached 59%. Accurate figures covering the value of production in 1934 and 1935 are still unavailable, but there appears to have been an estimated increase of about 20%, the total for 1935 exceeding the figure for 1925 by a good margin at an estimated production value of about 15,000 million yen. Meanwhile, foreign trade reached 4,970 million yen, an increase of 18% over the figure of the previous year. This proves that in the economic development of the country, foreign trade played a very important rôle as a more sensitive factor than national production.

It is a patent fact that the conspicuous increase in foreign trade since 1932 was largely due to the depreciation of the exchange rate.

INDEX CHART SHOWING THE DEVELOPMENT OF PRODUCTION AND FOREIGN TRADE

(Base : 1925)



This was particularly the case as regards the volume of the export trade. Although the volume of both exports and imports continued to increase, the advance was greater in the export trade whose de-

TABLE 367

PRODUCTION AND FOREIGN TRADE

(in million yen)

	Japan proper			Japanese Empire		
	1929	1931	1933	1929	1931	1933
Total production	12,915	8,435	12,344	15,102	10,083	14,428
Total exports (a)	2,206	1,181	1,800	2,276	1,214	1,971
Special goods	*58*	*34*	*39*	*58*	*34*	*39*
Total imports (a)	2,245	1,245	1,928	2,499	1,329	2,028
Special goods	*109*	*10*	*11*	*109*	*10*	*11*
Ratio of exports to total production (%)	17·1	14·0	14·6	15·1	12·0	13·7
Ratio of imports to total demand (%)	17·3	14·6	15·5	16·3	13·0	14·0

(a) Includes exports and imports of special goods. Exports and imports for Karafuto are included in Japan proper.

velopment also exceeded the expansion of industrial production. The volume of industrial production indicated an increase of 42% in 1935 compared with 1931, whilst exports advanced by 75% during the same period.

Ratio of Primary and Industrial Products. A division of national production into primary and industrial products reveals the interesting fact that both in production and the export trade, the ratio of industrial products tends to advance, a development which has been much accelerated during the past few years and indicates the growing industrialization of the country. Of the national production in 1929, about 63% consisted of industrial products, and this ratio increased to 72% in 1934, compared with 45% in 1914. In the export trade, the ratio of industrial products exceeded 90% in recent years, including finished goods of about 60% in 1935, compared with 45% in 1929. A contrary tendency has been witnessed in the import trade, primary products advancing from 61% to 68% in the same period.

TABLE 368

RATIO OF PRIMARY AND INDUSTRIAL PRODUCTS

(%)

	1929		1931		1934		1935	
	Primary products	Industrial products	Primary products	Industrial products	Primary products	Industrial products	Primary products	Industrial products
Production	36·9	63·1	34·1	65·9	28·3*	71·7*	...	...
Exports.	6·7	93·3	8·3	91·7	6·4	93·6	6·0	94·0
Imports.	60·5	39·5	62·0	38·0	69·9	30·1	68·3	31·7

* Estimated figures.

Output of and Foreign Trade in Primary Products. The output of primary products in Japan proper was valued at 5,790 million yen in 1925, but thereafter declined to only 2,882 million yen by 1931, advancing again to 4,063 million yen in 1933. On the other hand, the output of industrial products kept on increasing steadily during the same period without a break, the total value being returned at 8,282 million yen in 1933. Among primary commodities agricultural produce predominates, representing about 65 to 70% of the total value. As will be seen from the reference made to the import trade, the domestic output of primary products must be supplemented by large supplies drawn from abroad. About 21 to 31% of the total requirements are being filled by imports, the exports being negligible,

amounting to about 3% of the national production. In view of the great industrial expansion, raw material imports are gradually increasing.

TABLE 369

PRIMARY PRODUCTION AND FOREIGN TRADE

	Agri-cultural products	Stock breeding products	Forestry products	Marine products	Mineral products	Total incl. miscel-laneous
Production (million yen)						
1929	3,227·9	244·3	298·7	567·4	426·9	4,765·6
1931	1,825·5	188·6	199·2	398·5	270·2	2,882·0
1933	2,752·9	211·6	248·1	463·0	387·5	4,063·1
1934	2,420·2	219·9	291·4	490·8	469·5	3,891·8
Exports (¥ 1,000)						
1929	44,952	5,805	24,436	34,765	29,072	139,605
1931	39,813	3,394	12,063	15,774	20,930	92,336
1933	36,674	8,024	20,994	16,545	22,553	105,094
1934	50,481	9,414	27,351	23,693	23,706	135,057
1935	49,022	12,776	27,366	32,600	23,999	146,384
Imports (¥ 1,000)						
1929	859,484	126,336	137,937	15,889	200,339	1,340,652
1931	443,388	105,847	65,612	23,531	127,532	766,492
1933	800,453	181,004	82,681	31,685	229,105	1,325,981
1934	939,723	206,859	112,822	39,647	295,004	1,594,755
1935	960,424	212,748	119,766	22,042	371,621	1,687,685
Ratio of exports to production (%)						
1929	1·4	2·4	8·2	6·1	6·8	2·9
1931	2·2	1·8	6·1	4·0	7·7	3·2
1933	1·3	3·8	8·5	3·6	5·8	2·6
1934	2·1	4·3	9·4	4·8	5·0	3·5
Ratio of imports to total demand (%)						
1929	21·3	35·1	33·5	2·9	33·5	22·5
1931	19·9	36·9	26·0	5·8	33·8	21·6
1933	22·8	47·5	26·7	6·6	38·3	25·1
1934	28·4	50·6	29·9	7·8	39·8	31·5

Compiled from official sources.

The domestic output of primary products may be classified into foodstuffs and raw materials, the former representing the largest part of the total home production, and attaining almost to a state of national self-sufficiency. The national production of raw materials accounts only for less than 20% of the primary production, and for as much as 90% of the imports of primary products in 1933.

The balance of trade in primary products results in an enormous excess of imports which has increased from 674 million yen in 1931 to 1,541 million yen in 1935. The increase is counterbalanced by an equally sharp advance from 1,013 million yen in 1931 to 2,285 million yen in 1935, in exports of industrial products.

Output of and Foreign Trade in Industrial Products. Excepting the period of depression between 1929 and 1931 inclusive, the manufacturing industry in Japan has been making a fair development on the whole. Industrial production, which showed a great expansion during the World War, naturally did not remain unaffected by the post-war reaction, but had already outstripped the peak of the war boom during the period from 1921 to 1925. In the course of the following four years up to 1929, production again increased by 31% in volume and 8% in value, the relatively small advance in value being the result of the general downward tendency of prices. The world depression, however, put an abrupt end to the expansion of industry, and the output of industrial products decreased by 9% in volume and 32% in value during the period from 1929 to 1931. The decline was, however, short-lived and signs of recovery were already in evidence in 1932. In 1933, production again increased both in volume and value, exceeding the figure of 1929. Authentic production figures for 1934 and 1935 are not yet available, but the development of the index of industrial production leads to an estimate of nearly 11,000 million yen for 1935. Comparing this estimate with the period before the World War, when industrial production totalled about 1,400 million yen, the extraordinary expansion of Japanese industry becomes evident.

The textile industry occupies a predominant position in production, with a total output in 1933 of about 3,049 million yen, followed by the chemical industry, foodstuffs and provision manufacturing, etc. Development, however, has been most rapid in the metal industry, mechanical engineering and the chemical industry, the relative position of these branches of the manufacturing industry in recent years changing as follows during the years from 1929 to 1935.

Decline: textile industry from 41·5% to 36·8%, foodstuffs and provision industry from 13·6% to 12·0%.

Advance: metal industry from 5·8% to 11·4%, mechanical engineering from 8·4% to 9·7%, and chemical industry from 13·6% to 16·7%.

The expansion of manufacturing industries and the consequent growth of industrial production has naturally resulted in an increase

of raw material requirements. Consumption of raw and other materials in the manufacturing industries declined from a ratio of 63·7% in 1929 to 60·2% in 1932, but increased again in 1933 to 62·3% due to the price advance. About 27% of the raw material requirements are annually imported, but this percentage has probably been exceeded in 1934 and 1935.

TABLE 370

RAW MATERIALS USED IN INDUSTRIAL PRODUCTION AND IMPORT RATIO

(in million yen)

	1929	1930	1931	1932	1933	1934	1935
Industrial production	8,149	6,417	5,553	6,368	8,282	...	...
Estimated value of raw materials consumed	5,620	4,412	3,728	4,198	5,584	...	...
Ratio of raw materials to industrial production (%)	*63·7*	*62·8*	*61·3*	*60·2*	*62·3*	...	...
Imported raw materials and semi-manufactures	1,579	1,065	865	1,040	1,510	1,830	1,976
Ratio of imported raw materials to total consumed (%)	*28·1*	*24·1*	*23·2*	*24·8*	*27·0*	...	...

Ratio of raw materials to industrial production and estimated value of raw materials consumed are based on *Factory Statistics*

The cost of raw materials in production differs widely according to industry, ranging from 72·3% in the spinning industry to 27·1% in the ceramic industry and 40·1% in mechanical engineering, according to conditions which obtained in 1933. The textile industry not only leads other industries in the ratio of raw material cost, but is also most dependent upon foreign supplies.

Taken as a whole, Japanese industry must look to foreign countries for about one-fourth of the total volume of raw materials required, which corresponds to one-fifth of the total value of production. These imports are counterbalanced by the export, in the form of manufactured articles, of a portion of the national industrial production, the ratio of these exports to total home production fluctuating between 24% in 1929 and 18% in 1931, but increasing to 21% in 1933. The ratio for 1934 and 1935 is still unknown, but in view of the fact that the volume of exports surpassed that of production, there is no doubt that the ratio has continued to advance.

The great extent to which Japanese production is dependent upon the export trade is revealed by a comparison with similar statistics abroad. The degree of dependence of American production on exports was 5·3% in 1929 and only 3·2% in 1933. In Great Britain,

TABLE 371

Production and Exports of Industrial Products

	Production (in million yen)			Exports (in 1,000 yen)					Rate of exports to production (%)		
	1929	1931	1933	1929	1931	1933	1934	1935	1929	1931	1933
Textile products	3,382·2	2,095·9	3,049·4	1,481,913	704,957	1,070,303	1,203,592	1,377,681	43·8	33·6	35·1
Raw silk	857·6	427·7	497·7	781,040	355,394	390,901	286,794	387,032	91·1	83·1	78·5
Rayon	45·4	50·7	104·0	183	2,244	9,483	22,400	22,853	0·4	4·3	9·1
Cotton tissues	736·5	423·0	704·9	412,707	198,732	383,215	492,351	496,097	56·0	47·0	54·4
Silk tissues	493·9	406 9	501·1	121,786	43,053	63,545	77,488	77,444	24·7	10·6	12·7
Rayon tissues	40·1	47·7	106·4	28,168	39,712	77,382	113,484	128,260	70·3	83·2	72·7
Woollen and worsted tissues	210·5	153·7	201·1	4,153	1,396	12,377	29,849	32,401	2·0	0·9	6·2
Knitted goods	66·0	54·3	73·5	36,711	21,176	42,047	47,618	50,266	55·6	39·0	57·1
Metal products	746·5	444·7	946·2	37,672	34,695	83,623	118,863	140,631	5·1	7·8	8·8
Iron and steel	237·9	131·4	366·2	5,104	7,694	38,779	58,846	71,482	2·1	5·9	10·6
Machinery and tools	682·2	443·3	805·1	41,870	34,638	75,034	133,858	153,938	6·1	7·8	9·3
Chemical products	1,105·4	887·3	1,385·1	106,447	75,463	137,407	160,036	200,961	9·6	8·5	9·9
Ceramic products	271·9	186·1	268·2	59,356	34,932	58,356	69,370	74,154	21·8	18·8	21·8
Pottery and porcelain	74·8	54·2	85·2	36,963	19,307	35,634	41,877	42,735	49·5	35·6	41·8
Glass and glassware	44·7	34·4	52·5	13,211	6,534	15,327	19,454	23,337	29·5	18·9	29·1
Foodstuffs	1,108·3	817·1	995·2	94,415	51,667	113,679	107,892	126,553	8·5	6·3	11·4
Sugar	158·1	108·2	123·5	31,116	15,386	16,056	14,521	18,485	19·7	14·2	13·0
Wheat flour	146·1	81·5	135·8	26,816	9,517	34,955	28,452	33,700	18·3	11·7	21·0
Canned and bottled foodstuffs	60·1	39·1	62·4	25,681	18,948	46,984	50,304	57,130	42·8	48·3	75·3
Other industrial products	852·9	678·2	826·1	112,832	76,796	159,505	184,323	211,217	13·2	11·3	19·3
Total	8,149·4	5,552·6	8,275·3	1,934,505	1,013,148	1,697,906	1,977,934	2,285,135	23·7	18·2	20·5

Compiled from official sources.

the share in 1930 was about 20%, approximately the same as in Japan, but may have decreased in later years. The ratio of exports to industrial production in Germany declined from about 15% in 1929 to only 8% in 1934.

The conspicuous advance in the ratio of exports to total industrial production indicates the important part played by exports as a stimulating force in the great industrial expansion of recent years. The ratio of exports to production was highest in the textile industry with 35%, but the recent industrial expansion has notably increased the share of exports in miscellaneous industrial products, metal manufactures, and machinery and tools.

CHAPTER XXIX

CHANGES IN CONSTITUENT PRODUCTS AND REGIONAL DISTRIBUTION

1. Foreign Trade by Groups of Commodities

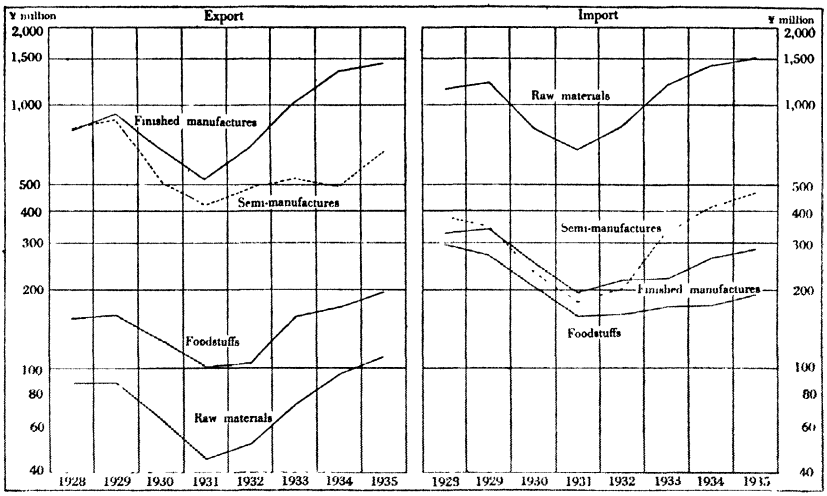
General Survey. Scarcity of natural resources has caused the industrial development of Japan to depend mainly upon foreign raw materials and the expansion of the export trade in manufactured goods. To this fact is also due the gradual change in constituent products and regional distribution of the export and import trade. This tendency was highly accentuated during the World War, the exports of finished manufactures in the total trade rising from 29% in 1913 to 45% in 1929, whilst the total imports of raw materials and semi-manufactures advanced from 66% to 71%.

This process towards a constitutional change was temporarily checked with the advent of the economic depression. The export ratio of manufactured goods, however, continued to increase slightly even during the period from 1929 to 1931. This comparative improvement was, however, only the result of a drastic decline by 500 million yen in the export of raw materials and semi-manufactures, particularly raw silk. In the years following the reimposition of the gold embargo, a fresh impetus was given to the tendency towards a constitutional change by a process of general industrialization of the country. The ratio of exports in finished manufactures rose from 45% in 1929 to about 60% in 1935, while imports of raw materials and semi-manufactures advanced from 71% to 80% during the same period. Moreover, this change took place not only in ratio, but also in value, for these two groups of merchandise increased more than twofold. It is noteworthy that the share of textile goods declined, both in the exports of finished goods and in the imports of raw materials and semi-manufactures.

Foodstuffs. Japan usually buys more foodstuffs than she sells to other countries. In 1925 the total excess of imports over exports in

CHART SHOWING FOREIGN TRADE BY GROUPS OF COMMODITIES

(Base : 1925)



this group of commodities reached 245 million yen, but due to the general tendency towards a decrease in imports and an increase in exports, there has since then been a gradual decline, the import excess in 1934 being only 2·5 million yen, which was converted into an export surplus of 4·5 million yen in 1935.

There was a temporary decline in exports after 1930, but in 1934 the total recovered to the 1929 level. This recent increase was brought about by an expansion of canned provisions, flour, refined sugar, tea and beer. Canned foodstuffs constitute the chief item, accounting in 1934 for about 50 million yen out of a total export value of 124 million yen for manufactured foodstuffs. There has recently been a decline in the exports of crude foodstuffs, such as fish, vegetables and fruits, while manufactured foodstuffs have been steadily on the increase.

As regards imports, a slight increase has been witnessed after 1932, though the total value is still far below the figure for 1929. Crude foodstuffs, such as beans, peas and wheat, constitute more than two-thirds of the total imports.

[TABLE

TABLE 372

EXPORTS AND IMPORTS BY GROUPS OF COMMODITIES[a]

	1913	1925	1929	1931	1933	1934	1935
	(in million yen)						
Total exports	632	2,306	2,104	1,122	1,832	2,139	2,460
Foodstuffs	62	147	160	102	158	172	197
Raw materials and semi-manufactures	379	1,253	973	468	613	594	783
Finished manufactures	185	878	937	533	1,032	1,346	1,451
Miscellaneous goods	6	27	34	19	30	27	29
Total imports	729	2,573	2,213	1,232	1,912	2,277	2,466
Foodstuffs	121	392	271	159	173	174	193
Raw materials and semi-manufactures	480	1,821	1,579	865	1,510	1,830	1,976
Finished manufactures	124	349	346	198	220	263	286
Miscellaneous goods	4	11	17	10	9	10	11
	(Percentages)						
Total exports	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Foodstuffs	9·8	6·4	7·7	9·1	8·6	8·0	8·0
Raw materials and semi-manufactures	60·0	54·4	46·2	41·7	33·5	27·8	31·8
Finished manufactures	29·2	38·1	44·5	47·5	56·3	62·9	59·0
Total imports	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Foodstuffs	16·5	15·3	12·2	12·9	9·0	8·0	7·8
Raw materials and semi-manufactures	65·9	70·6	71·4	70·2	79·0	80·4	80·1
Finished manufactures	17·0	13·6	15·6	16·1	11·5	11·6	11·6

(a) Not including re-exports and re-imports.

TABLE 373

EXPORTS AND IMPORTS OF FOODSTUFFS

(in 1,000 yen)

	Exports			Imports		
	Total	Crude foodstuffs	Manufactured foodstuffs	Total	Crude foodstuffs	Manufactured foodstuffs
1929	160,118	48,155	111,963	271,156	214,332	56,794
1930	128,820	42,060	86,760	208,296	147,578	60,718
1931	102,297	37,663	64,634	156,612	111,205	47,407
1932	104,328	26,767	77,561	160,671	130,640	30,031
1933	157,988	30,320	127,638	173,185	131,163	42,022
1934	171,931	48,316	123,615	174,448	125,935	48,513
1935	197,110	51,801	145,309	192,605	147,496	45,109

Raw Materials and Semi-manufactures. Exports of raw materials are confined to a small variety of special goods, such as timber, fish meal, manure, coal, waste cotton and waste silk, etc. There has been some advance in the export of these commodities during recent years, the total value reaching 110 million yen in 1935.

Contrary to the situation in raw materials, Japanese exports of semi-manufactures are greater than imports, and up to 1928 occupied the most important position in the Japanese export trade. This category includes raw silk, which was the main export article up to 1933 and even at present represents about 60% of the total exports of semi-manufactures. In spite of the recent advance of rayon yarn, the ratio of textile goods in this trade appears to be declining on account of the price decline in raw silk and the pronounced upward tendency of oils, fats, iron and steel. The great increase in exports of iron and steel is especially noteworthy.

Raw materials and semi-manufactures constituted about 80% of the import trade in 1934 and 1935. There has been a steady increase in

TABLE 374

EXPORTS AND IMPORTS OF RAW MATERIALS AND SEMI-MANUFACTURED GOODS

(in 1,000 yen)

	Raw materials			Semi-manufactures		
	Total value	Textile goods		Total value	Textile goods	
		Value	Ratio to total (%)		Value	Ratio to total (%)
Exports						
1929	88,739	18,926	21·3	883,775	816,904	92·4
1930	64,497	10,532	16·3	524,099	441,305	84·2
1931	44,802	4,316	9·6	422,844	371,306	87·8
1932	51,008	3,726	7·3	486,196	418,691	86·1
1933	73,765	5,942	8·1	538,793	430,027	79·8
1934	95,739	9,015	9·4	498,529	359,699	72·2
1935	110,463	17,008	15·4	672,413	481,218	71·6
Imports						
1929	1,223,917	710,090	58·0	355,393	29,955	8·4
1930	828,572	455,653	55·0	236,427	25,343	10·7
1931	684,338	402,126	58·8	181,138	35,091	19·4
1932	838,799	557,596	66·5	201,231	20,422	10·1
1933	1,181,146	801,539	67·9	328,799	31,862	9·7
1934	1,413,856	952,118	67·3	415,842	40,962	9·9
1935	1,507,620	943,710	62·6	468,616	43,123	9·2

the import of raw materials following the reimposition of the gold embargo due to the general activity of industry.

The chief items in the import of raw materials, representing more than one half of the total value, are textile materials, particularly raw cotton and wool. Crude and heavy oils, rubber, coal and minerals have shown a marked advance, whilst the import of timber appears to be on the decline. Textile materials are much less prominent in the imports of semi-manufactures, due to the fact that this class of import includes cotton yarn, woollen yarns, and rayon which are extensively produced in Japan. Apart from occasional imports of cotton yarn from China, pulp for the rayon industry is the largest item in textile materials.

Finished Manufactures. In 1929 the exports of finished manufactures totalled 937 million yen, this total being still below the aggregate figure for raw materials and semi-manufactures. In the following two years, there was a general decline in the export trade, but during this period the export of manufactured goods outstripped that of raw and semi-manufactured materials. The subsequent expansion

TABLE 375

EXPORTS AND IMPORTS OF FINISHED MANUFACTURES

(in 1,000 yen)

	Total value	Textile manufactures		Metal mfs. and machinery		Chemical manufactures	
		Value	Ratio to total (%)	Value	Ratio to total (%)	Value	Ratio to total (%)
Exports							
1929	937,307	681,417	72·7	57,510	6·1	72,961	7·8
1930	691,190	465,649	67·4	52,420	7·6	69,728	10·1
1931	532,930	355,468	66·7	41,051	7·7	50,676	9·5
1932	700,509	493,255	70·4	51,422	7·3	54,273	7·8
1933	1,031,576	690,064	66·9	101,387	9·8	88,444	8·5
1934	1,345,512	900,263	66·9	174,042	12·9	95,542	7·1
1935	1,451,330	954,728	65·8	199,069	13·7	105,839	7·3
Imports							
1929	345,913	37,000	10·7	204,778	59.2	88,206	25·5
1930	255,009	21,965	8·6	137,283	53·8	79,269	31·1
1931	197,534	18,364	9·3	90,586	45·9	73,141	37·0
1932	219,619	19,141	8·7	101,106	46·0	79,908	36·4
1933	220,328	15,300	6·9	113,100	51·3	74,064	33·6
1934	262,644	11,278	4·3	152,287	58·0	75,879	28·9
1935	286,292	14,755	5·2	169,535	59·2	81,691	28·5

in the export trade brought the total of finished manufactures in 1934 to 1,346 million yen, or 63% (1,451 million yen and 59% in 1935) of the total export trade.

Textile manufactures represent the largest part of the export trade in manufactured goods, but the relative share of other articles advanced from 27% in 1929 to 34% in 1935.

The import of finished manufactures has, as a whole, shown a downward tendency in recent years. The advance of machinery and other capital goods is the only exception.

The most important item is machinery, the total imports of which amounted to 159 million yen in 1935. Allowance must, of course, be made for the increase in value due to low exchange rates. Chemical manufactures rank next in importance, while the import of textile goods has shown an annual decline to only 5·2% of the total import trade in finished manufactures.

The general trend in imports of finished manufactures is towards production goods such as machinery, while consumption goods are on a steady decline.

2. Regional Distribution of Foreign Trade

The development of Japanese foreign trade during the last few years has, in an increasing measure, centred on the export of manufactured goods and the import of raw materials. As a consequence of this general tendency, there have been some significant changes in the regional distribution of foreign trade, leading to closer relations with countries producing raw materials and also with economically undeveloped regions. The marked advance of Japanese trade with Asia, Central and South America, Africa, and Oceania synchronizes with a sharp relative decline in trade with Europe, and to a lesser extent, with North America.

Asia offers, of course, the largest market for Japanese goods. In 1929 this Continent accounted for 42% of the total export trade, ranking next to North America, but in 1935 it occupied the foremost place with 51%, while North America's share declined during this period from 44% to 22%. The cheap prices of Japanese goods stimulated the demand from industrially undeveloped countries such as Central and South America, exports to these regions advancing from 4·2% in 1929 to 12% in 1935.

Japanese export trade with Oceania, including Australia and New Zealand, has shown considerable development during the past few

CHART SHOWING FOREIGN TRADE BY CONTINENTS

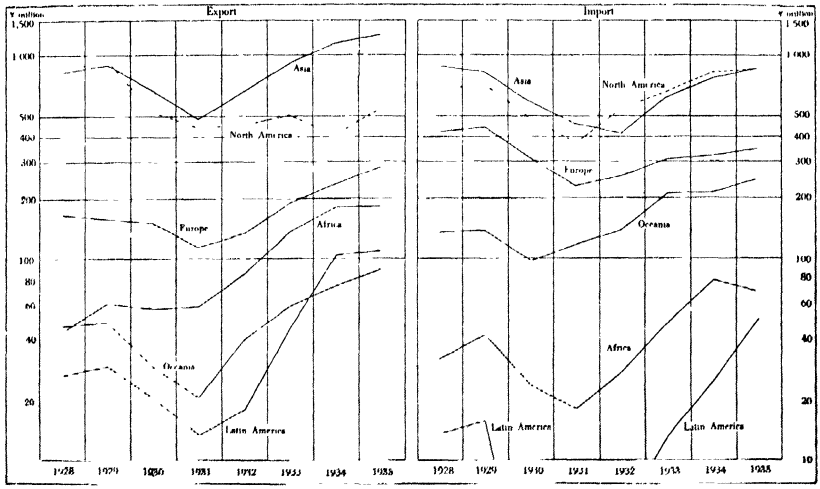


TABLE 326

DISTRIBUTION AND DEVELOPMENT OF FOREIGN TRADE BY CONTINENTS

	1913	1929	1931	1934	1935
	Value (million yen)				
Total foreign trade	1,362	4,365	2,383	4,454	4,971
Asia	619	1,738	957	1,942	2,149
Europe	372	602	343	563	640
North America	319	1,666	823	1,237	1,413
Central and South America, Africa and Oceania	51	336	236	680	750
	Ratio to total (%)				
Asia	45·4	39·8	40·2	43·6	43·2
Europe	27·3	13·8	14·4	12·6	12·9
North America	23·4	38·2	34·5	27·8	28·4
Central and South America, Africa and Oceania	3·9	7·7	9·9	15·3	15·1

years. Although still a good customer of Japanese goods, Europe has not figured much during the period of trade activity after 1932. Asia, North America, and Europe continue to supply most of Japanese imports, but the position of Europe has perceptibly declined. Imports from North America, Oceania and Africa, which

consist largely of raw materials, show an increasing tendency, supplies from North America now occupying the foremost position in the import trade.

Exports to new markets, when considered individually, are as yet very small, but their combined total is of increasing importance.

TABLE 377

COMPARISON OF NEW AND OLD MARKETS IN EXPORT TRADE

(%)

	1929	1931	1933	1934	1935
New markets	4·8	7·7	11·6	16·0	15·0
Old markets	95·2	92·3	88·4	84·0	85·0

New markets cover Asia Minor, Afghanistan, Persia, Arabia, etc., Central and South America, and Africa.

From the viewpoint of political units, Japanese foreign trade relations are closest with the British Empire and the United States. In recent years the trade connection with Manchoukuo and the Kwantung Leased Territory has assumed an increasing importance, while the former dependence of the export trade on the United States has been conspicuously lessened. This changing tendency is less pronounced in imports.

TABLE 378

TRADE DISTRIBUTION BY POLITICAL UNITS

(in million yen)

	Exports				Imports			
	1929	1932	1934	1935	1929	1932	1934	1935
British Empire . .	438·7	369·8	627·0	702·8	686·9	403·5	722·5	776·5
%	*20·4*	*26·2*	*28·9*	*28·1*	*31·0*	*28·2*	*31·7*	*31·4*
U.S.A. and Colonies .	951·0	474·2	440·9	590·7	672·2	520·2	788·4	833·9
%	*44·3*	*33·6*	*20·3*	*23·6*	*30·3*	*36·3*	*34·5*	*33·7*
Netherlands and Colonies	94·0	112·7	176·3	162·1	82·8	44·3	67·1	84·1
%	*4·4*	*8·0*	*8·1*	*6·5*	*3·7*	*3·1*	*2·9*	*3·4*
France and Colonies .	47·2	23·9	75·8	80·8	35·8	26·8	29·6	36·3
%	*2·2*	*1·7*	*3·5*	*3·2*	*1·6*	*1·9*	*1·3*	*1·5*
Manchoukuo and Kwantung L.T. . . .	124·5	146·5	403·0	426·3	166·3	128·3	191·4	216·5
	5·8	*10·4*	*18·6*	*17·1*	*7·5*	*9·0*	*8·4*	*8·8*
China	346·7	129·5	117·1	148·8	210·0	77·2	119·6	133·8
%	*16·1*	*9·2*	*5·4*	*6·0*	*9·5*	*5·4*	*5·2*	*5·4*
Other countries . .	146·5	153·4	331·8	387·6	362·2	231·2	364·0	391·1
%	*6·8*	*10·9*	*15·3*	*15·5*	*16·3*	*16·2*	*15·9*	*15·8*

Japanese trade relations were closest with industrial countries up to 1929, but this position has been reversed since 1930. In 1935, agricultural countries accounted for 54% of the total trade, as against 38% for industrial countries. Moreover, the United States, though classified as an industrial country, supplies largely agricultural products and raw materials. The tendency towards closer trade relations with agricultural countries has been particularly pronounced in the export trade.

TABLE 379

TRADE DISTRIBUTION BY AGRICULTURAL AND INDUSTRIAL COUNTRIES

(in million yen)

	Exports				Imports			
	Agricultural countries		Industrial countries		Agricultural countries		Industrial countries	
	Value	Ratio to total (%)	Value	Ratio to total (%)	Value	Ratio to total (%)	Value	Ratio to total (%)
1929	910	42·4	1,053	49·0	974	44·0	1,056	47·7
1930	695	47·3	623	42·4	702	45·4	707	45·7
1931	519	45·2	519	45·2	595	48·1	529	42·8
1932	702	49·8	561	39·9	594	41·5	726	50·7
1933	947	50·8	663	36·0	974	50·8	886	46·2
1934	1,220	56·2	613	28·6	1,178	51·6	1,043	45·7
1935	1,359	54·4	777	31·1	1,312	53·1	1,132	45·8

Industrial countries; Great Britain, France, Germany, Belgium, Italy, Switzerland, Austria, Czechoslovakia, the Netherlands, Norway, Sweden and U.S.A.

CHAPTER XXX

EXPORTS AND IMPORTS BY COMMODITIES

1. Export Trade

(1) General Survey.

The development of industry in a country is well reflected not only in the quantitative advance of its foreign trade, but also in the qualitative changes of its constitution. When examining the rise and fall in the exports of various commodities, an indication is found of the past progress and the future prospects of the various Japanese industries. Some commodities that once were on the list of principal export articles have dwindled to a mere trifle, while others have risen in the space of a few years and now rank among the country's most important exports. Instances are not far to seek, for the export trade of Japan, especially since the reimposition of the gold embargo, is full of such examples.

A list of articles whose export value amounted to over 15 million yen in 1931, the leanest year, and which maintained the same level in 1935, includes cotton tissues, raw silk, rayon tissues, silk tissues, canned and bottled foodstuffs, knitted goods, pottery and porcelain, footwear and paper. Seven out of these nine articles, raw silk and paper being exceptions, showed an increase in value in 1935 over 1929, the peak year before the reimposition of the gold embargo. On account of the sharp decline of raw silk value, however, the total export value of these nine articles showed a decrease compared with 1929, in spite of the general recovery of foreign trade after the reintroduction of the gold embargo. Excluding raw silk, the total value shows an increase of 27·7% over that of 1929, disclosing the fact that the advance of the remaining eight articles still constituted the centre in the recent general development of the Japanese export trade. However, the ratio of the above nine articles to the total value of exports shows a sharp decline from 69·1% in 1929 to 51·4% in 1935. This fact indicates the extraordinary advance made by various arti-

cles which, formerly, were not prominent in export statistics. Articles, which in 1931 had an export value of less than 15 million yen, but which advanced beyond this figure in 1935, were sixteen in number—iron, machinery, vehicles, ironware, cotton yarn, toys, wheat flour, woollen tissues, vegetable oils, glass and glassware, wood and timber, rayon, aquatic products, refined sugar, lamps and accessories, and hats and caps. The exports of these articles, refined

TABLE 380

EXPORTS OF PRINCIPAL COMMODITIES

(in 1,000 yen)

	1929	1931	1933	1934	1935
Cotton tissues	412,707	198,732	383,215	492,351	496,097
Raw silk	781,040	355,394	390,901	286,794	387,032
Rayon tissues	149,955	39,713	77,382	113,484	128,260
Silks tissues		43,053	63,545	77,488	77,444
Canned and bottled foodstuffs	25,681	18,948	46,984	50,304	57,130
Knitted goods	36,711	21,176	42,047	47,618	50,266
Pottery and porcelain	36,963	19,307	35,634	41,877	42,735
Footwear	15,065	17,679	29,630	21,545	23,366
Paper	26,289	20,995	17,687	20,650	23,085
Total (A)	1,484,410	734,998	1,087,026	1,152,112	1,285,415
Iron	5,252	7,410	34,666	53,029	65,836
Machinery and tools	13,616	13,641	25,857	57,777	63,856
Vehicles and parts (incl. tyres)	12,673	8,442	28,342	46,590	53,997
Ironware	15,196	10,246	26,897	35,277	37,504
Cotton yarn	26,756	8,511	15,712	23,485	35,873
Toys	13,855	9,824	26,375	30,386	33,852
Wheat flour	26,816	9,517	34,955	28,452	33,700
Woollen and worsted tissues	4,153	1,396	12,377	29,849	32,401
Vegetable oils	6,864	4,071	7,161	11,033	31,607
Glass and glassware	13,211	6,534	15,327	19,454	23,337
Wood and timber	21,138	9,954	18,638	23,915	23,182
Rayon yarn	184	2,245	9,483	22,400	22,853
Aquatic products	22,350	10,177	10,302	16,473	20,735
Refined sugar	29,975	14,863	14,909	13,532	17,577
Lamps and accessories	9,486	7,784	15,863	15,696	16,747
Hats and caps	18,129	10,531	13,927	17,860	16,284
Total (B)	239,653	135,145	310,790	445,207	529,341
Ratie to total exports (%)					
(A)	*69·1*	*64·1*	*58·4*	*53·0*	*51·4*
(A)+(B)	*80·2*	*75·9*	*75·1*	*73·5*	*72·6*

sugar, aquatic products and hats and caps excepted, are far more active than in 1929, the total value showing the extraordinary increase of 120·9%.

The total export value of the twenty five articles referred to above, accounted for more than 70% of the total value of all exports. As in the case of the first group, there is a decline in ratio to total export trade in the articles of the second group. This reflects a forging ahead of other new exports and the wide spread of the recovery during the past few years in the Japanese export trade.

(2) Textile Manufactures.

Textile manufactures form the backbone of Japanese exports. A

TABLE 381

EXPORTS OF TEXTILE MANUFACTURES

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Raw silk and silk manufactures.						
Raw silk	416,647	355,394	382,366	390,901	286,794	387,032
Tissues	65,775	43,053	50,288	63,545	77,488	77,444
Other manufactures	14,384	9,133	13,041	19,961	30,621	32,337
Total	496,806	407,580	445,695	474,407	394,903	496,814
Cotton manufactures						
Yarn	15,033	8,511	21,547	15,712	23,485	35,873
Tissues	272,117	198,732	288,713	383,215	492,351	496,097
Other manufactures	35,811	22,998	31,630	50,773	58,318	69,755
Total	322,960	230,240	341,889	449,700	574,153	601,725
Woollen manufactures						
Yarns	890	861	1,697	5,293	12,185	9,688
Tissues	2,758	1,396	4,481	12,377	29,849	32,401
Other manufactures	87	94	198	392	572	936
Total	3,736	2,351	6,376	18,062	42,605	43,025
Hemp, flax and jute manufactures						
Linen yarn	(a)	1	2	(a)	—	1
Tissues	643	726	239	349	1,072	941
Other manufactures	3,090	2,952	3,120	3,961	4,710	6,118
Total	3,732	3,679	3,361	4,311	5,782	7,059
Rayon manufactures						
Yarn	3,236	2,245	5,911	9,483	22,400	22,853
Tissues	34,935	39,713	60,540	77,382	113,484	128,260
Total	38,171	41,958	66,451	86,865	135,884	151,113
Other textiles	52,080	45,283	51,899	92,689	115,650	153,217
Grand total	917,486	731,091	915,672	1,126,033	1,268,977	1,452,954
Ratio to total exports (%)	*62·4*	*63·7*	*64·9*	*60·5*	*58·4*	*58·1*

(a) Less than 500 yen.

few years ago they accounted for over 60% of total exports, but in recent years, the ratio declined, and in 1935 was only 58·1%. The most important exports are silk, cotton, and rayon manufactures.

Raw Silk. Raw silk formerly occupied the foremost place on the list of Japanese staple export articles, the highest level being reached in 1925 with a total of 878 million yen. In 1930 the value was down to 417 million yen, and a low record was registered in 1934 at a total of 287 million yen. This decline reflects the lower price position of raw silk as there actually was an increase in volume from 1925 to 1929, while the later reduction was only very slight. The year 1934, which witnessed the lowest total value, even showed an increase in volume compared with 1925, which fact serves to demonstrate the extraordinary extent of the price decline.

By far the largest customer for Japanese raw silk is the United States, and the export trade is almost entirely dependent upon economic conditions in that country. There has recently been a slight decline in the share of the United States owing to increased shipments, in view of the low prices, to France, Great Britain, and Austrtralia.

TABLE 382

EXPORTS OF RAW SILK BY PRINCIPAL MARKETS

	Market price (yen per bale)	Total exports		Exports by destinations (piculs)			
		Value (1,000 yen)	Volume (piculs)	U.S.A.	France	Great Britain	Australia
1925	1,957	877,721	436,071	421,600	12,530	821	550
1929	1,315	781,040	574,849	555,895	9,770	3,159	1,711
1930	851	416,647	469,896	448,674	10,372	3,350	2,783
1931	596	355,394	555,925	536,664	2,867	9,244	2,809
1932	701	382,366	546,590	512,996	11,557	12,957	4,417
1933	761	390,901	483,275	437,419	20,850	18,384	4,156
1934	534	286,794	505,999	425,914	36,574	22,878	5,523
1935	717	387,032	553,156	466,576	34,792	28,433	5,081
			(100·0%)	*(84·3%)*	*(6·3%)*	*(5·1%)*	*(0·9%)*

Silk Tissues. Exports have shown a sharp recovery in value since 1932. Quantitatively, the recovery has not been so great, which reflects an advance in the price position.

Up to 1932, Australia ranked first as a customer for Japanese silk textiles, but in 1935 she had dropped to fourth place, accounting for only 8·6% of the total exports of Japanese silk textiles. The decline

is not in any way due to competition met on the Australian market, but solely to decreased consumption on account of the world depression. There has been a sensational advance in the export of silk textiles to British India and Great Britain, particularly to the first named country which now occupies the first place, showing, in 1935, a threefold increase compared with 1931. This advance is the more noteworthy in that it was made in spite of restrictive measures adopted by the Indian Government.

TABLE 383

EXPORTS OF SILK TISSUES BY PRINCIPAL MARKETS

	1930	1931	1932	1933	1934	1935
Quantity						
Habutae (1,000 *kin*) . . .	1,174	692	707	663	911	130,977 (1,000 sq. yds.)
Other silk tissues (1,000 sq. yds.)	72,303	67,364	82,676	95,777	105,064	
Value (1,000 yen)						
British India	6,247	4,990	10,403	15,259	20,087	18,074
Great Britain	6,563	4,218	4,642	7,619	10,588	12,063
Australia	13,615	8,733	13,724	10,799	8,840	6,691
U.S.A.	6,465	4,520	3,810	5,563	5,258	6,778
Union of South Africa . .	4,843	4,016	2,531	4,738	4,651	4,008
Total (incl. other countries) .	65,775	43,053	50,288	63,545	77,488	77,444

Cotton Tissues. These constitute at present the most important export item among textile goods. The advance registered since 1932 is without parallel in the history of the Japanese cotton export trade, with an increase in the year 1935 of 149·6% compared with the value for 1931. The increase in quantity recorded during the same period was not quite so large, being about 92·8%. The advance was particularly striking in bleached and finished tissues. The export ratio of plain tissues to total exports of cotton tissues declined to a little more than one-third, while bleached tissues increased from 7·2% in 1929 to 18·8% in 1935. This tends to prove that expansion in exports of cotton tissues is due not only to an increase in quantity, but also to a higher grade of tissues exported.

The principal customers for Japanese cotton tissues are British India, the Netherlands East Indies, Manchoukuo, Egypt, and the Straits Settlements, these countries accounting for more than half of the total exports. The chief market is British India, exports to this destination in 1932 registering the enormous quantity of 645 million square yards. Later, in 1933, this trade was severely affected by the denunciation on the part of the British Indian Government of

the Indo-Japanese Commercial Treaty. After prolonged negotiations, an agreement was reached between the two Governments in January, 1935, and a new Convention concluded, as a result of which Japanese trade was placed at a great disadvantage. The quota system adopted in the Convention provides for a limit on Japanese cotton tissues of 325 million yards per annum in exchange for the purchase of 1 million bales of Indian raw cotton, this total to be increased to a maximum of 400 million yards on the basis of a purchase of 10,000 bales for every additional 1·5 million yards.

Exports of cotton textiles to the Netherlands East Indies and Egypt also witnessed an extraordinary expansion after the reimposition of the gold embargo, but the outlook for trade with these destinations is obscured by counter-measures adopted against Japanese goods. Negotiations for a new trade basis have as yet been unsuccessful.

China used to be the largest customer for Japanese cotton textiles, but anti-Japanese movements, combined with the impoverishment of the rural communities in the interior, have brought about a marked decline in Chinese purchasing power, and exports to that country now rank below Siam. It may be said that the partial loss of the Chinese market has compelled Japanese cotton textiles to look for an outlet elsewhere. There has been a slight recovery in recent trade with China, but in view of the unsatisfactory economic situation in that country, the outlook for the near future does not appear to be promising.

TABLE 384

EXPORTS OF COTTON TISSUES BY PRINCIPAL MARKETS

	1929	1931	1933	1934	1935
Value (1,000 yen)	412,707	198,732	383,215	492,351	496,097
Volume (1,000 sq. yds.)					
Plain	816,035 (45·6)	561,317	611,307	772,502	945,254 (34·7)
Bleached	128,096 (7·2)	190,159	463,712	509,798	511,335 (18·8)
Finished	846,429 (47·2)	662,304	1,015,219	1,294,965	1,268,520 (46·5)
Total	1,790,560(100·0)	1,413,780	2,090,238	2,577,264	2,725,109(100·0)
Volume of exports to					
British India (incl. Ceylon)	581,105 (32·5)	404,411	451,605	451,641	561,510 (20·6)
Netherlands East Indies	193,443 (10·8)	212,107	423,031	440,980	370,463 (13·6)
China	530,605 (29·6)	218,391	111,481	59,445	56,046 (2·1)
Egypt	107,404 (6·0)	103,799	210,350	233,688	163,737 (6·0)
Manchoukuo and Kwantung L. T.	(a)56,228 (3·1)	58,448	177,959	254,069	229,371 (8·4)
Straits Settlements	29,472 (1·6)	41,305	95,742	90,991	44,761 (1·6)
Siam	17,833 (1·0)	5,884	39,830	60,556	70,012 (2·6)

(a) Kwantung L. T. only.

The decline of Chinese trade is closely associated with the rapid advance of the Manchurian market. There has been a sharp increase in the demand from Manchuria for Japanese cotton tissues since the Manchurian incident, and exports to that country are now higher than to China. While in 1929 the principal markets accounted for 80% of the total cotton goods exports, the share in 1931 shrank to 73% and in 1935 to a little more than 50%. This reflects the growing spread of Japanese cotton textiles to new overseas markets.

Rayon Yarn and Tissues. Although still far below cotton tissues, exports of rayon tissues registered a phenomenal advance in recent years, outstripping the export value of silk tissues in 1933. When compared with 1931 exports in 1935 showed an increase of 223% in value and 204% in quantity.

The largest customer for Japanese rayon tissues is Australia, displacing British India in 1935. British India and the Netherlands

TABLE 385

EXPORTS OF RAYON TISSUES BY PRINCIPAL MARKETS

	1931	1932	1933	1934	1935
Value (1,000 yen)					
British India . .	16,530 (41·6) %	22,554	17,654	22,422	22,455 (17·5) %
Neth. East Indies .	7,970 (20·1)	13,644	14,973	13,068	12,684 (9·9)
Manchoukuo and Kwantung L. T. .	192 (0·5)	621	2,926	8,268	11,983 (9·3)
Australia . . .	513 (1·3)	2,899	9,136	16,937	22,806 (17·8)
Egypt . . .	862 (2·2)	5,726	4,328	8,076	5,449 (4·2)
Union of South Africa . . .	2,912 (7·3)	3,126	3,873	6,250	5,149 (4·0)
Uruguay . . .	*	41	917	3,688	3,909 (3·0)
Total (incl. other countries)	39,713(100·0)	60,540	77,382	113,484	128,260(100·0)
Quantity (1,000 sq. yds.)					
British India . .	61,399 (44·0)	92,585	62,007	76,283	74,671 (17·6)
Neth. East Indies .	27,405 (19·6)	59,461	60,803	46,726	49,987 (11·8)
Manchoukuo and Kwantung L. T. .	*	*	*	16,344	28,343 (6·7)
Australia . . .	1,259 (0·9)	8,340	21,160	42,988	65,801 (15·5)
Egypt . . .	2,996 (2·1)	19,746	16,206	26,612	20,032 (4·7)
Union of South Africa . . .	*	*	*	13,768	12,751 (3·0)
Uruguay . . .	*	*	*	*	17,534 (4·1)
Total (incl. other countries)	139,521(100·0)	241,694	260,055	345,656	424,141(100·0)

* Unavailable.

East Indies are important, although their relative share has greatly diminished in recent years. When taken together, they accounted in 1931 for more than half of the total exports, but the share receded to about 27·4% in 1935. The demand from Manchoukuo and Egypt also increased greatly.

The development in the past few years of the Japanese export trade of rayon yarn has even been greater than in other textiles. Symptoms of an upward movement in this trade appeared first in 1929, when prices declined to a competitive basis. With the exception of 1931, the export trade has since made very favourable progress, the total in 1935 showing more than a tenfold increase compared with 1931. This tremendous increase, particularly when taken together with the remarkable advance in the export of rayon tissues, was due to low prices, which in turn were brought about by improvements in production methods and management, and by the depreciation of Japanese currency.

TABLE 386

EXPORTS OF RAYON YARN

	1929	1931	1932	1933	1934	1935
Value (1,000 yen) . .	184	2,245	5,911	9,483	22,400	22,853
Quantity (1,000 *kin*) . .	116	1,932	5,559	6,697	16,793	23,003
British India . .	—	123	1,606	1,021	6,387	7,660
Kwantung L. T. . .	1	32	273	4,327	6,189	5,431
Mexico	—	—	71	245	1,159	1,794
China	113	1,420	2,600	357	713	2,398

Woollen and Worsted Tissues. Exports have made remarkable progress in recent years, especially after the reimposition of the gold embargo, showing an eightfold increase in 1935, compared with 1929.

TABLE 387

EXPORTS OF WOOLLEN AND WORSTED TISSUES TO PRINCIPAL MARKETS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Kwantung Leased Territory	2,059	737	2,926	5,944	8,281	8,729
Manchoukuo	—	21	172	1,361	1,540	1,397
British India	376	63	592	1,647	8,219	4,921
China	1,431	258	431	1,687	2,975	3,043
Total (incl. other countries) .	4,153	1,396	4,481	12,377	29,849	32,401

The outlook for a further expansion appears promising. In view of the previous long continued depression, production costs have been lowered, methods of manufacture and management improved, and the industry appears to be on a firm foundation. The advantages of low exchange rates after the reimposition of the gold embargo, have been primarily responsible for this development.

(3) Metals, Machinery and Vehicles.

TABLE 388

EXPORTS OF METALS, MACHINERY AND VEHICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Ores	520	1,164	1,039	2,043	2,550	2,132
Metals						
Iron and steel (not incl. nails, etc.)	5,252	7,410	12,278	34,666	53,029	65,836
Copper	7,409	12,010	10,518	6,457	8,407	12,258
Brass	5,003	3,064	3,740	5,498	7,817	8,503
Total (incl. other metals)	19,051	23,119	27,565	48,381	72,355	91,485
Metal manufactures						
Insulated electric wire	3,529	2,366	1,997	4,598	7,362	11,382
Agricultural implements and mechanic tools	631	364	514	1,486	2,566	3,659
Ironware (incl. nails, etc.)	15,196	10,246	14,193	26,897	35,277	37,504
Antimony manufactures	1,680	1,390	1,728	2,970	3,610	3,003
Nickel manufactures	814	268	714	1,750	3,327	3,506
Brass manufactures	908	414	546	1,310	2,265	2,749
Aluminium manufactures	859	342	410	1,127	1,895	1,660
Other metal manufactures	1,583	626	998	2,466	2,753	4,364
Total	25,200	16,018	21,100	42,604	59,055	67,827
Machinery and vehicles						
Clocks	2,055	689	920	2,092	3,221	3,400
Surgical and scientific instruments	3,877	3,159	3,842	9,608	16,282	18,664
Vehicles and parts	12,673	8,442	11,506	28,342	46,590	53,997
Vessels	6,390	3,961	7,488	1,724	1,112	1,289
Machinery and tools	13,616	13,641	10,943	25,857	57,777	63,856
Total	38,611	29,891	34,700	67,622	124,982	141,206
Grand total	83,382	70,191	84,404	160,650	258,942	302,650
Ratio to total exports (%)	*3·9*	*6·1*	*6·0*	*8·6*	*11·9*	*12·1*

Of export articles other than textiles, the most important are iron, iron and steel manufactures, machinery, and vehicles.

Iron and Steel. The greater part of the iron and steel exported consists of steel products. These exports represented in 1931 only 7·7 million yen, but registered an increase of about 600% in volume and more than 900% in value during the space of four years. It is noteworthy that steel products not only improved their position in total exports, but that the ratio of exports to domestic production also increased from 6·4% in 1932 to 12·5% in 1934.

This extraordinary advance in steel exports is due mainly to the depreciation of Japanese currency, but the contribution made by

TABLE 389

EXPORTS OF IRON AND STEEL PRODUCTS

	1929	1931	1932	1933	1934	1935
Value (1,000 yen)						
1. Ingots and slabs	32	27	35	115	1,081	2,454
2. Scrap iron	843	356	493	378	930	972
3. Bars, rods, plates and sheets	2,496	3,813	3,400	7,927	17,804	28,866
4. Wire	327	363	1,584	3,828	5,247	6,677
5. Wire-ropes	622	485	396	723	1,128	1,324
6. Pipes and tubes	806	2,125	2,024	4,518	9,458	9,706
7. Rails and others	127	242	4,346	17,176	17,382	15,837
Total (1-7)	5,252	7,410	12,278	34,666	53,029	65,836
8. Nails	695	640	2,486	4,491	6,746	6,618
Total for steel products (3-8)	5,072	7,668	14,235	38,664	57,764	69,028
Quantity (metric tons)						
1. Ingots and slabs	243	348	571	709	4,643	14,066
2. Scrap iron	15,563	9,006	12,486	8,339	17,515	15,986
3. Bars, rods, plates and sheets	15,167	39,818	32,995	63,296	140,607	192,263
4. Wire	1,873	2,836	10,952	22,713	32,899	47,718
5. Wire-ropes	1,135	1,151	1,052	1,527	2,377	3,116
6. Pipes and tubes	3,691	18,558	15,053	29,465	49,212	43,826
7. Rails and others	822	2,113	42,504	104,469	103,048	115,625
Total (1-7)	38,494	73,830	115,613	230,518	350,301	432,600
8. Nails	2,813	5,011	18,999	25,046	36,788	36,170
Total for steel products (3-8)	25,501	69,487	121,554	246,516	364,931	438,718

lower production costs, through improvements in manufacturing methods, is also worthy of note. Exports have been stimulated by extensive building in the new State of Manchoukuo.

TABLE 390

EXPORTS OF STEEL PRODUCTS TO PRINCIPAL MARKETS

(in 1,000 yen)

	Kwantung Leased Territory	Manchoukuo	China	Netherlands East Indies	British India	Siam	Straits Settlements	Total (incl. other countries)
1931	2,799	—	2,268	1,397	44	268	40	7,668
1932	8,912	130	1,562	1,905	583	308	108	14,235
1933	28,891	805	2,599	2,367	1,673	711	626	38,664
1934	40,416	2,157	4,576	3,014	2,880	1,561	1,038	57,764

Important customers for steel products are the Kwantung Leased Territory, Manchoukuo, China, and the Netherlands East Indies, the first two destinations accounting in 1934 for 73·7% of the total exports. There has been a sharp decline in the demand from China, but shipments to that country show some signs of recovery lately. Potentially, the Chinese market is of the greatest future importance. The quantities shipped to the Netherlands East Indies, British India,

TABLE 391

EXPORTS OF IRONWARE

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Nails	695	640	2,486	4,491	6,746	6,618
Cutlery	410	260	498	1,784	2,694	3,416
Sewing needles	518	511	799	1,100	915	1,147
Enamelled ware	6,707	2,698	4,114	7,217	8,050	9,419
Pans and kettles	132	82	178	708	942	540
Tinned iron sheet	2,164	2,273	1,542	1,987	1,702	2,348
Umbrella ribs and frames	665	371	587	620	952	1,267
Total (incl. other ironware)	15,196	10,246	14,193	26,897	35,277	37,504
Principal markets						
Manchoukuo	—	89	230	1,459	1,883	2,562
Kwantung L. T.	3,446	1,397	2,663	6,059	10,108	8,394
British India	2,304	1,762	3,322	5,151	4,985	5,466
Neth. East Indies	1,735	842	2,575	4,366	5,055	3,719
China	2,434	1,544	1,429	1,694	2,012	2,282
Siam	776	380	569	1,190	1,610	2,113
Straits Settlements	519	227	345	1,187	2,246	1,744

Siam and other markets in Asia are not very substantial, but future prospects are considered bright.

Ironware. Exports registered a sharp decline to about 10 million yen in 1931, but have since turned upwards, the total in 1934 and 1935 showing a more than threefold increase. Ironware as enumerated here includes nails, enamelled ware, pans and kettles, umbrella ribs and frames, which are produced by small enterprises.

The Kwantung Leased Territory is the principal customer with the Netherlands East Indies, and British India ranking next. Enamelled ware is principally exported to the Netherlands East Indies, the Straits Settlements, British India and Siam. China, the chief market in the past, has lost importance on account of the rise of enamelled ware manufacture in Shanghai. The Netherlands East Indies are now restricting the imports of enamelled ware from Japan.

Machinery, Parts and Accessories. Exports maintained the level of about 13 million yen up to 1931, when there was a temporary decline, followed by a sharp expansion in later years, the total reaching to 64 million yen in 1935, an increase of over 600% when compared with 1932. The chief item in machinery exports, were spinning

TABLE 392

EXPORTS OF MACHINERY BY PRINCIPAL MARKETS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Electrical machinery	2,454	2,686	1,415	2,724	10,055	8,042
Spinning and weaving machines	3,661	5,156	3,651	4,879	8,378	12,547
Boilers	604	409	344	577	2,652	1,901
Pumps	384	352	344	909	1,572	1,623
Machine tools	401	220	216	566	1,189	1,941
Printing machines	454	249	372	900	1,128	1,105
Locomotives	*	*	*	*	8,422	13,777
Other machines	5,658	4,570	4,602	15,301	24,381	22,920
Total	13,616	13,641	10,943	25,857	57,777	63,856
Principal markets						
Kwantung L. T.	5,672	4,230	3,954	14,197	39,429	34,779
China	5,336	6,731	3,849	4,951	9,691	15,310
Manchoukuo	—	150	394	1,938	3,337	5,607
British India	582	471	900	2,105	2,273	3,071
Asiatic Russia	1,196	1,365	1,180	1,329	1,129	1,106

* Included in other machines.

and electrical machinery, which show a strong upward tendency even at present. Among more recent export goods are locomotives, boilers, machine tools and other miscellaneous machines. Low production costs in view of the decline of Japanese currency, and the great demand for army and navy requirements appear to be the chief causes for the progress achieved in this section of the export trade.

The principal destinations of machinery exports are the Kwantung Leased Territory, China and Manchoukuo. The advance made in shipments to the first mentioned destination during three years until 1934 involves a tenfold increase, and although there was a slight decline in 1935, shipments to this destination still accounted for more than half of the total export. Purchases from the Kwantung Leased Territory consist mainly of railway engines, electrical machinery and steam boilers, while Manchoukuo takes electrical machinery, printing machines, and machine tools. In the exports to China and British India, spinning and weaving machines are the most important items in view of the development of the spinning industry in these countries.

Vehicles. There was a sharp decline in the export of vehicles in 1931, and a favourable turn in later years, exports in 1935 showing an increase of 540% as compared with 1931. The bulk of exports is accounted for by bicycles and parts, which are manufactured in small factories scattered in Nagoya and Kyoto, to be assembled

TABLE 393

EXPORTS OF VEHICLES AND ACCESSORIES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Rickshas	373	1,169	831	1,017	876	945
Bicycles	3,430	5,198	8,277	16,423	24,603	22,676
Motor cars	—	—	—	—	613	11,000
Other vehicles	8,870	2,074	2,399	10,902	20,497	19,376
Total	12,673	8,442	11,506	28,342	46,590	53,997
Of which rubber tyres accounted for	6,301	3,858	4,378	8,839	9,995	9,946
Principal markets						
Kwantung L. T. and Manchoukuo	3,144	630	1,555	7,523	17,470	...
China	3,131	2,693	2,677	3,776	5,330	...
Neth. East Indies	3,623	2,267	2,833	6,456	9,141	...
British India	668	1,196	2,420	4,051	4,037	...
Straits Settlements	1,489	878	780	2,793	4,639	...

in other factories ready for export. This system has proved a success, and has greatly contributed to the rapid development of the export trade. The export of motor vehicles and parts of purely

TABLE 394

EXPORTS OF OILS, FATS, CHEMICAL MANUFACTURES AND PAPER

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Oils, fats and waxes						
Vegetable oil	6,864	4,071	4,120	7,161	11,033	31,607
Camphor oil	563	478	619	485	465	522
Peppermint oil	2,276	858	1,260	2,007	1,838	2,282
Fish and whale oil	7,767	1,944	3,234	2,529	3,306	6,893
Mineral oil	527	748	2,908	3,090	3,919	4,560
Japan wax	2,255	1,155	1,177	1,139	1,258	1,445
Hardened oil	2,007	2,997	4,221	4,940	5,042	8,921
Soap	1,637	693	1,197	3,203	3,541	3,981
Total (incl. other oils & fats)	26,887	13,610	19,759	26,321	32,832	63,210
Chemical manufactures						
Dried pyrethrum	4,252	1,681	4,752	6,350	7,447	6,400
Sulphur	693	754	1,435	2,431	2,887	3,609
Chemicals	8,430	8,314	11,821	20,091	21,997	28,381
Camphor	6,199	2,945	3,541	4,445	4,603	5,039
Menthol crystals	5,170	2,984	3,690	5,284	4,557	5,401
Perfumery	1,143	673	824	1,476	1,806	2,148
Pharmaceutical products	1,261	958	746	1,273	2,055	2,406
Explosives	591	226	113	1,089	1,016	938
Matches	3,715	1,409	938	3,249	2,929	3,209
Coal-tar dyes	370	509	1,523	2,896	4,259	7,305
Coal-tar, pitch, etc.	662	637	649	1,353	1,360	700
Pencils	755	447	783	1,468	1,811	1,909
Ink	896	554	469	835	1,165	1,298
Paint	671	437	750	1,830	2,023	2,685
Artificial manure	300	597	1,780	2,409	2,447	2,753
Total (incl. other chemical mfs.)	40,226	26,896	37,588	62,355	70,426	84,197
Grand total	67,113	40,506	57,347	88,676	103,258	147,408
Ratio to total exports (%)	3·1	3·5	4·1	4·8	4·8	5·9
Paper and pulp	26,289	21,010	14,022	17,691	20,650	23,194
Aggregate grand total	93,402	61,516	71,369	106,367	123,908	170,602
Ratio to total exports (%)	4·3	5·4	5·1	5·7	5·7	6·8

Japanese make is still negligible, although showing some promise in recent years. The export of rubber tyres for various vehicles is fairly important and shows a rapid increase.

(4) Oils, Fats, Chemical Manufactures and Paper.

There has been an increase in exports since 1932, although to a lesser extent than in other articles. This may be partly due to the active home demand in consequence of the industrial expansion of the past few years. The principal articles besides paper are vegetable and hardened oils. (See Table 394 on preceeding page).

Vegetable Oils. The most important are oils from colza and seeds of perilla ocimoides. Soya bean oil, which once held a place second only to colza oil, has recently declined in importance. The greater part of colza oil is sent to the United States, with Great Britain and Germany ranking next.

The use of oil from seeds of perilla ocimoides was formerly confined to application on Japanese umbrellas, but its utilization lately in dyeing has stimulated the export of this article to the United States.

TABLE 395

EXPORTS OF VEGETABLE OILS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Linseed oil	192	85	150	212	186	275
Oil of perilla ocimoides.	—	804	1,101	3,532	3,710	10,053
(to U. S. A.)	—	*797*	*1,088*	*3,517*	*3,694*	...
Cocoa-nut oil	29	16	16	37	45	986
Soya bean oil	2,237	1,049	1,010	342	624	1,420
Colza oil	4,316	1,963	1,308	2,245	5,025	11,212
(to U. S. A.)	*2,347*	*1,249*	*723*	*1,487*	*3,867*	...
Cotton seed oil	90	1	2	2	121	5,098
Total (incl. other oils)	6,864	4,071	4,120	7,161	11,033	31,607
Volume (1,000 piculs)	*293*	*304*	*277*	*298*	*511*	*1,269*

Chemicals. Exports of chemicals have made great progress in recent years. The principal products are caustic soda, calcium carbide, and soda ash.

The largest customer for Japanese chemicals is China (¥ 3,601,000 in 1934), followed by British India (¥ 1,392,000 in 1934) and the Kwantung Leased Territory (together with Manchoukuo, ¥ 1,648,000 in 1934). In view of the steady progress of the chemical industry, exports are expected to show further development.

TABLE 396

EXPORTS OF CHEMICALS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Caustic soda	*	*	*	*	2,025	2,685
Calcium carbide	415	433	550	947	1,378	1,598
Soda ash	*	*	*	*	1,194	2,258
Potassium chlorate	3	5	123	276	892	1,162
Bleaching powder	450	403	261	487	755	1,107
Nitric acid	322	423	414	531	626	512
Acetic acid	18	34	66	426	598	886
Lead arsenate	*	*	*	*	189	418
Potassium iodide	208	630	844	679	410	142
Sodium sulphide	373	402	461	593	590	417
Sulphate of ammonia	*	*	*	*	134	660
Total (incl. other chemicals)	8,430	8,314	11,821	20,091	21,997	28,381

* Unavailable

Dried Pyrethrum. A quantitative decrease was witnessed after 1932, but exports reached a new record in 1935. Japan is well suited to the cultivation of the plant and there is ample room for expansion.

TABLE 397

EXPORTS OF DRIED PYRETHRUM TO PRINCIPAL MARKETS

	1929	1931	1932	1933	1934	1935
Value (1,000 yen)						
U. S. A.	3,504	1,179	4,349	5,500	6,791	5,809
Hong Kong	42	99	102	137	135	160
Australia	81	32	35	68	87	44
Total (incl. other countries)	4,252	1,681	4,752	6,350	7,447	6,400
Quantity (piculs)						
U. S. A.	69,999	31,184	86,731	73,425	85,968	117,101
Hong Kong	860	2,545	1,929	1,700	1,528	2,815
Australia	1,302	815	706	945	846	1,083
Total (incl. other countries)	83,216	43,845	94,678	84,808	93,848	127,750

The principal destination is the United States which took more than 90% of the total export. A small quantity is exported to Hong Kong and Australia.

Paper. Paper manufacturing has made a rapid development as one of the Japanese staple industries, the export trade, too, being of

long standing. The peak in exports was reached in 1930, and this has not yet been regained in spite of the favourable turn since 1933. Principal articles are printing and cigarette paper which, after a marked decline in 1932, showed a sharp advance in the succeeding years.

The principal customers for Japanese paper are China, Kwantung Leased Territory and Manchoukuo, China formerly accounting for more than half of the total exports. On account of the anti-Japanese boycott movement in China and the competition of Canadian and Swedish paper, Japanese paper has been nearly ousted from that market. There has been a growing demand from Kwantung and Manchoukuo, which, in 1935, more than counterbalanced the loss in China.

TABLE 398

EXPORTS OF PAPER BY PRINCIPAL ARTICLES AND DESTINATIONS

(in 1,000 yen)

	1931	1932	1933	1934	1935
Printing paper	11,627	6,234	7,642	7,675	8,518
Cigarette paper	2,686	676	1,017	2,159	2,365
Paper board	2,114	1,676	1,300	1,719	2,644
Simili paper[a]	787	1,434	2,089	1,594	2,168
Hanshi and *mino* paper	185	586	667	921	889
Total (incl. other papers)	20,995	14,022	17,687	20,650	23,085
Volume (1,000 piculs)	*1,413·9*	*994·5*	*1,155·2*	*1,293·3*	*1,499·8*
Principal markets					
Kwantung Leased Territory	2,089	3,610	6,128	6,851	7,158
Manchoukuo	155	312	1,287	1,934	2,532
China	13,669	5,122	4,786	6,153	6,572
Hong Kong	1,496	525	650	1,251	1,669
British India	983	1,161	842	750	1,107

(a) Includes *tosinoko* papar until 1934.

(5) Ceramic Manufactures.

Exports include pottery and porcelain, glass, and cement, of which the first two are the most important.

Pottery and Porcelain. Japan is rich in raw materials for this industry, which is of ancient standing, and exports have attained a position second only to Great Britain. In 1931, the export trade was adversely affected by the depression in foreign markets, but has since recovered, the total in 1935 registering a marked increase over 1931.

Exports of pottery and porcelain are characterized by extended distribution covering most of the principal markets of the world. Shipments to the United States in 1935, mostly tableware, accounted for 36·9% of the total export value, British India and the Netherlands East Indies following with a much smaller share.

Glass and Glassware. Stimulated by the low exchange rates after the year 1931, the exports of glass and glassware have made a particularly rapid development, reaching in 1935 a total of more than three times the export trade of 1931. The principal export articles in this group are bottles. The export of window-glass was formerly confined to British India, but a good market has been gained on the strength of low exchange rates, in South Africa, Canada, and the Netherlands East Indies.

TABLE 399

EXPORTS OF CERAMIC MANUFACTURES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Pottery and porcelain	36,963	19,307	22,937	35,634	41,877	42,735
Glass and glassware	13,211	6,534	9,282	15,327	19,454	23,337
Cement	9,182	9,090	8,546	7,395	8,038	8,082
Total	59,356	34,932	40,765	58,356	69,370	74,154

EXPORTS OF POTTERY AND PORCELAIN TO PRINCIPAL MARKETS (in 1,000 yen)

U.S.A.	14,501	6,634	6,441	10,180	14,314	15,776
British India	2,559	1,392	3,463	3,965	3,200	3,529
Australia	1,159	666	1,768	2,707	2,331	2,805
Neth. East Indies	4,928	1,712	2,414	3,729	3,169	2,120
Kwantung L.T.	1,601	560	757	1,193	1,768	1,794
Canada	1,650	1,139	1,317	1,399	1,508	1,458
Great Britain	517	697	825	1,296	1,161	1,187
Manchoukuo	—	13	87	531	1,239	1,180
China	2,301	604	539	992	1,388	1,209
Total (incl. other countries)	36,963	19,307	22,937	35,634	41,877	42,735

EXPORTS OF GLASS AND GLASSWARE TO PRINCIPAL MARKETS (in 1,000 yen)

British India	4,086	2,239	4,106	5,507	5,474	6,226
U.S.A.	281	100	492	803	1,816	2,309
Neth. East Indies	1,932	1,149	1,070	2,069	1,932	1,983
China	2,548	1,046	809	1,047	1,191	1,389
Philippines	833	520	504	809	881	1,060
Australia	615	81	358	756	832	1,048
Total (incl. other countries)	13,211	6,534	9,282	15,327	19,454	23,337

(6) Foodstuffs.

This export trade is of fairly great magnitude, although, unlike the trend of other articles, the increase has been moderate during the past few years. The only exceptions were canned and bottled provisions, this industry having made noteworthy progress of late.

TABLE 400

EXPORTS OF FOODSTUFFS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Flour	26,816	9,517	20,539	34,955	28,452	33,700
Tea	12,028	8,233	8,173	8,450	9,557	11,419
Refined sugar	29,975	14,863	7,797	14,909	13,532	17,577
Canned foodstuffs (incl. bottled)	25,681	18,948	22,774	46,984	50,304	57,130
Aquatic products	22,350	10,177	7,757	10,302	16,473	20,735
Beans and peas	14,611	5,080	5,905	7,171	9,051	6,722
Beer	3,755	3,035	4,835	7,684	5,535	5,871
Rice	1,094	15,879	4,786	2,124	8,420	5,225
Total (incl. other foodstuffs)	160,118	102,297	104,328	157,988	171,931	197,110

EXPORTS OF CANNED AND BOTTLED FOODSTUFFS TO PRINCIPAL MARKETS

(in 1,000 yen)

	1931	1932	1933	1934	1935
Great Britain	4,636	6,157	13,136	24,712	20,488
U. S. A.	7,811	8,053	17,838	11,182	16,813
Belgium	307	891	1,135	1,272	2,509
France	3,313	3,159	7,309	1,806	2,202
Kwantung L. T.	468	943	1,447	1,198	1,528
Total (incl. other countries)	18,948	22,774	46,984	50,304	57,130
Volume (1,000 piculs)	*43·4*	*50·9*	*98·7*	*110·5*	*571·3*

EXPORTS OF TEA TO PRINCIPAL MARKETS

(in 1,000 yen)

U. S. A.	5,275	4,752	5,084	4,629	4,481
U. S. S. R.	1,875	1,336	1,550	1,627	1,583
Canada	675	672	722	876	579
Kwantung L. T	138	165	143	173	242
Total (incl. other countries)	8,233	8,173	8,450	9,557	11,419
Volume (1,000 piculs)	*192·1*	*223·3*	*222·9*	*240·2*	*281·3*

Canned and Bottled Foodstuffs. The greater part of canned and bottled foodstuffs exported consists of fishery products, particularly

crab and salmon. A fairly large quantity is directly exported from floating factories in extra-territorial waters, the value of these shipments, which are not included in Japanese export statistics, being estimated in 1934 at about 27 million yen. When this is taken into account, the total exports of canned provisions may reach about 76 million yen.

The most important customers are Great Britain and the United States.

Flour, Refined Sugar and Aquatic Products. The export trade in these commodities appears to have derived little or no advantage from the low exchange rates. The explanation may be that the market has so far been almost entirely confined to China. The anti-Japanese boycott movement depressed the trade in these articles to so great an extent that, notwithstanding a compensatory larger demand from the Kwantung Leased Territory and Manchoukuo, the loss suffered in the Chinese market has not yet been balanced up to 1934.

Tea. Tea has maintained, from the very early days of Japanese foreign trade, an important position on the list of staple export articles. With 1929 as the peak year, exports gradually declined in value up to 1933, when a favourable turn took place. The value for 1935 still showed a decrease of about 5·1% compared with 1929, but the volume shipped has been greatly increased. This discrepancy between value and quantity is partly explained by larger shipments of cheap grades to Soviet Russia combined with a decline in the more expensive sorts to the United States.

Exports which had formerly consisted almost entirely of green tea, were unfavourably affected by a change in taste on the part of the American public, the largest customer, from green to black tea. Japanese efforts to market black tea were aided by the agreement reached between the principal producers, British India, Ceylon and the Netherlands East Indies limiting exports, and the low rate of Japanese currency. Although still small both in value and quantity, the export outlook for black tea appears to be promising, while green tea continues to be shipped in increasing volume to Soviet Russia.

(7) Other Important Articles.

Among these, there are several which have figured largely in the recent development of Japanese export trade, and which, therefore, deserve special mention.

Wood and Timber. There was a sharp decline in timber exports in 1931, but later a favourable turn set in. In 1934, the recorded

increase was 140% compared with 1931. The exports of sleepers are mainly accounted for by the increasing demand from Manchoukuo, while the advance in veneer is due to large shipments to Great Britain.

TABLE 401

EXPORTS OF WOOD AND TIMBER

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Railway sleepers	200	124	26	613	2,207	689
Veneer	1,461	555	1,292	2,551	4,011	4,397
Shooks	6,354	3,225	3,305	4,506	5,780	5,012
Matchwood	1,895	1,567	780	809	658	370
Other sawn wood	5,809	2,347	3,574	6,325	6,621	7,520
Logs and cants	5,419	2,137	2,352	3,834	4,639	5,193
Total (incl. other wood)	21,138	9,954	11,329	18,638	23,915	23,182
Principal markets						
Great Britain	2,346	1,381	2,866	3,838	5,089	5,629
Kwantung L. T.	2,556	529	724	2,854	4,142	4,746
Manchoukuo	—	45	28	729	2,355	1,096
China	4,212	2,277	2,362	2,702	2,704	2,987
British India	3,330	1,763	1,530	1,885	1,060	1,199
Netherlands East Indies	1,433	1,008	894	1,265	1,072	879
Straits Settlements	1,557	206	275	703	1,031	519

Electric Bulbs. This article was formerly imported, but production has made rapid progress, and not only are domestic requirements adequately met, but, owing to low production cost and depreciated exchange rates, an important export trade has been built up. On

TABLE 402

EXPORTS OF ELECTRIC BULBS

	Value (1,000 yen)				Quantity (1,000 gross)			
	1931	1932	1933	1934	1931	1932	1933	1934
U. S. A.	2,911	4,470	3,066	2,964	470	820	735	586
Great Britain	719	1,734	1,967	1,621	221	389	404	310
Argentine	57	668	388	455	17	82	48	48
British India	183	433	456	443	30	84	76	82
Kwantung L. T.	474	235	284	303	15	19	21	13
Total (incl. other countries)	5,875	10,187	10,167	8,942	1,052	1,899	1,892	1,572

account of restrictive measures in foreign markets, the development of this trade appears to have been checked.

Toys. Toys are mainly manufactured by small enterprises and are widely exported to all parts of the world. The largest customer is the United States which takes more than 30% of the total exports, with Great Britain and British India coming next. Although far smaller, shipments to the Netherlands are noteworthy on account of their rapid expansion.

TABLE 403

EXPORTS OF TOYS TO PRINCIPAL MARKETS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
U. S. A.	4,632	2,922	4,987	6,976	9,604	11,494
Great Britain	1,364	2,100	2,288	4,054	4,605	4,877
British India	1,413	711	1,466	3,809	3,063	2,751
Australia	474	208	861	1,812	1,766	2,010
Netherlands	155	313	598	1,212	1,184	1,068
Netherlands East Indies	754	594	804	1,924	1,046	851
Total (incl. other countries)	13,855	9,824	15,119	26,375	30,386	33,852

2. IMPORT TRADE

As in the case of exports, imports experienced a marked increase since the reimposition of the gold embargo at the end of 1931. An analysis of 11 principal commodities, the imports of which amounted to more than 15 million yen each in 1931 and 1934, reveals that there has been a sharp advance since 1932 to more than double in 1935, while their share in percent of imports rose from 59·5 to 63·6. In contrast to the increase of exports, that of imports is practically concentrated on a few principal commodities, while the import of other commodities registered a decreasing tendency. The fact that the commodities where the advance was great were all raw materials, is an eloquent illustration of the recent development of Japanese industry.

(1) Raw Materials for the Textile Industry

Commodities connected with the textile industry constitute the largest part of imports and represent about 40% of the total import trade. Such commodities are, for the most part, raw materials, and the recent trend is for these materials to increase in value as well as in volume, while the import of manufactured goods shows a gradual decrease both in value and volume.

TABLE 404

IMPORTS OF PRINCIPAL COMMODITIES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Raw cotton	573,016	296,273	447,401	604,847	731,425	714,262
Iron and steel(a)	159,722	48,027	65,075	136,641	171,563	207,159
Wool	101,816	86,146	87,559	164,192	186,455	191,761
Mineral oil	92,928	85,788	98,588	108,859	124,027	152,647
Beans and peas	78,746	37,349	42,070	50,345	51,968	71,649
Wood and timber	88,838	43,380	35,029	40,584	40,183	49,775
Coal	42,979	28,269	27,358	36,657	47,193	48,970
Wheat	70,896	32,936	49,572	44,384	40,749	43,199
Oil cake	75,919	44,349	34,599	41,181	42,052	38,678
Motor cars and parts	33,608	16,329	14,821	13,871	32,302	32,589
Sulphate of ammonia, crude	48,086	15,861	7,035	9,421	13,807	21,069
Total (A)	1,366,554	734,707	909,110	1,250,982	1,481,723	1,571,759
Pulp	13,485	11,840	15,329	27,066	44,256	55,101
Crude rubber	33,886	13,183	15,989	29,685	57,338	51,636
Ores	25,839	14,571	16,479	22,172	27,806	44,542
Oil yielding materials	30,778	14,549	14,772	23,293	25,257	43,088
Copper	6,089	845	901	9,628	28,389	37,959
Hemp, jute, etc.	29,401	13,698	17,102	23,137	27,462	27,795
Hides and leather	20,103	11,608	11,514	17,478	21,150	26,300
Fodder	12,261	11,666	19,929	20,761	31,074	20,744
Lead	15,166	8,187	10,070	12,012	17,977	20,490
Phosphorite	13,455	7,213	11,097	15,374	16,677	20,060
Aluminium	11,402	3,312	7,794	10,233	12,576	18,362
Machine tools	5,624	3,070	5,808	16,247	21,433	18,296
Tin	9,243	3,538	5,966	10,674	15,338	15,601
Internal combustion engines	18,113	10,930	12,471	16,148	20,778	15,559
Total (B)	244,845	128,210	165,221	253,907	367,512	415,532
Ratio to total imports (%)						
(A)	*61·7*	*59·5*	*63·5*	*65·2*	*64·9*	*63·6*
(A) + (B)	*72·7*	*69·8*	*75·1*	*78·5*	*81·0*	*80·4*

(a) Excludes nails, rivets, etc.

The most important of raw materials for the textile industry are cotton, wool, and hemp, jute, etc., imports of which witnessed a steady advance in recent years, and those in the past two years were more than twice as large as in 1931. Meanwhile, imports of woollen textiles, worsted yarn, and cotton tissues registered a heavy decrease at the same time, which is accounted for by the development of domestic manufacturing.

TABLE 405

IMPORTS BY GROUPS OF COMMODITIES CONNECTED WITH THE TEXTILE INDUSTRY

(%)

	1929	1931	1932	1933	1934	1935
Raw materials . . .	91·9	88·8	94·4	95·7	97·1	97·5
Semi-manufactured goods	3·0	6·8	2·1	2·3	1·6	0·8
Finished goods . . .	5·1	4·4	3·5	2·0	1·3	1·7

TABLE 406

IMPORTS OF RAW MATERIALS FOR THE TEXTILE INDUSTRY

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Raw materials						
Cotton	573,016	296,273	447,401	604,847	731,425	714,262
Wool	101,816	86,146	87,559	164,192	186,455	191,761
Goat and camel hair .	290	376	792	1,626	1,212	1,331
Hemp, jute, flax, etc.	26,048	11,945	14,940	19,761	24,309	24,668
Cocoons . . .	1,757	988	302	179	52	611
Other vegetable fibres	3,353	1,754	2,162	3,376	3,153	3,126
Waste and old fibres	2,817	3,179	3,290	5,199	5,204	7,117
Waste yarns. . .	994	1,466	1,180	2,358	307	833
Total . . .	710,090	402,126	557,626	801,539	952,118	943,709
Ratio to total imports (%) .	*32·1*	*32·5*	*39·0*	*41·8*	*41·7*	*38·2*
Semi-manufactured goods						
Cotton yarn . .	1,798	15,551	5,924	14,477	13,252	5,153
Woollen and worsted yarns	18,737	12,429	5,113	3,021	1,708	1,931
Raw silk . . .	1,840	1,892	1,199	1,088	713	1,013
Rayon yarn . . .	855	1,006	408	638	123	86
Total . . .	23,231	30,878	12,644	19,223	15,796	8,183
Finished goods						
Cotton tissues . .	8,575	4,375	4,131	2,954	952	1,159
Woollen and worsted tissues . . .	19,941	9,993	10,488	7,213	5,199	6,753
Tissues of flax, hemp, etc.	985	390	498	656	523	818
Silk tissues . . .	104	88	92	49	63	85
Other manufactures .	9,641	5,050	5,353	5,907	5,924	7,121
Total . . .	39,246	19,896	20,562	16,778	12,662	15,936
Grand total . .	772,567	452,901	590,832	837,540	980,575	967,828
Ratio to total imports (%) .	*34·9*	*36·7*	*41·3*	*43·7*	*43·0*	*39·1*

Raw Cotton. Raw cotton ranks first in the list of imports, although its relative importance slightly declined, representing 29% of the total imports in 1935. The production of cotton in Japan is insignificant compared to the extent of the cotton spinning industry, the remarkable development of which resulted in a steady expansion in the volume of raw cotton imports. The value of these imports, however, experienced a sharp decline from the highest record of 923 million yen in 1925. Though again increasing since 1932, the total value for 1935 was 22·6% less than for 1925, while the volume showed an increase of 12·3% over 1925 and of 28·3% over 1930.

The principal countries supplying raw cotton are the United States, British India, Egypt and China, about 90% coming from the United States and British India. The present trend, in view of the change of Japanese cotton spinning from coarse counts to medium and finer counts, is towards a preference for long-fibred American to the detriment of Indian cotton. This tendency is, however, influenced by the relative price conditions as shown by the recent increase of Indian and Egyptian cotton, following the sharp price advance in American cotton.

TABLE 407

RAW COTTON IMPORTS BY PRINCIPAL SOURCES

	1930	1932	1933	1934	1935
Value (1,000 yen)	362,047	447,401	604,847	731,425	714,262
U. S. A.	176,801	320,752	381,656	400,919	371,952
British India	147,688	91,747	168,797	252,435	259,037
Egypt	12,592	15,301	19,085	39,787	43,009
China	21,985	18,886	24,348	15,693	20,705
Quantity (1,000 piculs)	9,573	12,740	12,489	13,555	12,284
U. S. A.	3,883	9,102	7,435	6,487	5,758
	(%) *40·6*	*71·4*	*59·5*	*47·9*	*46·9*
British India	4,725	2,740	3,977	5,792	5,211
	(%) *49·4*	*21·5*	*31·8*	*42·7*	*42·4*
Egypt	183	330	280	550	537
	(%) *1·9*	*2·6*	*2·2*	*4·1*	*4·4*
China	703	532	569	331	427
	(%) *7·3*	*4·2*	*4·6*	*2·4*	*3·5*

Wool. According to a survey made by the Ministry of Agriculture and Forestry, wool consumption in Japan reached 218,002,275 lbs. in 1933. As domestic production accounts for only about 200,000 lbs., practically the entire wool requirements must be imported. With the

rapid development of the Japanese woollen spinning industry, imports are steadily rising, the expansion being particularly marked after the reimposition of the gold embargo, notwithstanding the depreciation of Japanese currency. In contrast to the increase of wool, imports of woollen and worsted yarns and tissues declined sharply, particularly woollen tissues which are now being exported on an expanding scale.

Wool imports are practically monopolized by shipments from Australia, but there is a tendency lately to import wool from other countries in order to equalize trade balances.

TABLE 408

IMPORTS OF WOOL BY PRINCIPAL SUPPLYING COUNTRIES

	Australia	Argentine	Union of South Africa	Chile	Great Britain	New Zealand	Total (incl. other countries)
Value (1,000 yen)							
1930	72,336	621	19	194	340	—	73,610
1932	84,246	481	1,032	22	376	—	87,559
1933	156,514	2,427	2,529	465	1,051	792	164,192
1934	159,241	7,553	5,781	934	905	9,904	186,455
1935	182,007	612	1,872	875	756	4,007	191,761
Quantity (piculs)							
1930	848,039	9,617	209	4,622	3,066	—	867,162
	(%) 97·8	*1·1*	*0·02*	*0·5*	*0·4*	—	*100·0*
1932	1,488,198	8,095	17,386	835	4,263	—	1,543,992
1933	1,705,653	30,918	28,906	12,442	9,200	13,763	1,805,842
1934	1,165,320	59,392	38,961	7,659	6,256	76,408	1,372,860
1935	1,727,021	7,107	19,401	10,746	5,713	54,571	1,840,980
	(%) 93·8	*0·4*	*1·1*	*0·6*	*0·3*	*3·0*	*100·0*

(2) Ores, Metals and Metal Manufactures.

The volume of imports depends upon the state of activity in the heavy industries, and registered a decline in the years from 1929 to 1931. Subsequently, there was an increase, the high figures for 1935 reflecting the present prosperity of Japanese industry. The most important imports are iron ores, iron and steel, copper, lead, tin and aluminium.

Iron Ores, Iron and Steel. The iron and steel industry in Japan witnessed many years of depression until 1931, but with the expansion of armaments, great activity ensued in the following years. As a result of the development of the steel industry, Japan at present approaches to a state of self-sufficiency in steel products, and relative imports

TABLE 409

IMPORTS OF ORES AND METALS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Ores	25,839	14,571	16,479	22,172	27,806	44,542
Iron ores	19,334	12,780	11,878	12,840	19,421	34,547
Metals	224,123	77,055	109,138	212,345	280,488	340,458
Iron	60,087	20,103	30,238	72,733	100,430	144,361
Steel products	102,805	29,867	36,016	64,789	72,117	63,804
Aluminium	11,402	3,312	7,794	10,233	12,576	18,362
Copper	6,089	845	901	9,628	28,389	37,959
Lead	15,166	8,187	10,070	12,012	17,977	20,490
Tin	9,243	3,538	5,966	10,674	15,338	15,601
Zinc	10,027	3,857	6,099	9,350	9,458	12,254
Nickel	1,434	1,414	5,734	11,344	8,871	11,128
Metal manufactures	19,769	10,196	6,413	5,652	7,722	9,555
Total	269,731	101,822	132,030	240,169	316,016	394,555
Ratio to total imports (%)	*12·2*	*8·2*	*9·2*	*12·5*	*13·8*	*16·0*

registered a sharp decline. Although these imports increased again in the past two years, the ratio of imports to domestic production was only 11·2% in 1934. However, the imports of pig iron have increased in recent years as domestic production was unable to meet the demand from steel producers.

Resources of iron ore in Japan are very poor, and large supplies must be imported annually. These imports have more or less risen since 1933, but not wholly proportionate to the increase of pig iron production, evidencing an advance, though small, in the domestic ore output.

Iron ores of good quality at a comparatively low cost are imported chiefly from the Straits Settlements and China. This helped greatly the development of Japan's iron and steel industry. Although yet small, imports from Australia in the past few years have shown a marked advance.

The principal sources of pig iron are Manchoukuo and British India. In addition to pig iron, scrap is now in great demand, the source of which at present is the United States.

Steel products are supplied by many countries, chief among which are the United States, Germany and Belgium, with a share of more than 20% each. Imports from Great Britain come next, but are now less than 10%.

TABLE 410

IMPORTS OF IRON ORE, IRON AND STEEL BY COUNTRIES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Iron ore						
Straits Settlements	10,396	8,274	7,638	8,573	8,506	...
China	8,550	4,191	3,726	3,966	6,390	...
Australia	371	128	170	211	1,107	...
Total (incl. other countries)	19,334	12,780	11,878	12,840	19,421	34,547
Volume (1,000 piculs)	*32,413*	*25,832*	*24,707*	*25,394*	*35,532*	*56,735*
Pig iron						
Manchoukuo (incl. Kwantung L. T.)	6,515	7,281	8,882	18,162	18,981	18,825
British India	16,949	3,626	3,028	5,803	7,292	12,728
Total (incl. other countries)	28,435	11,229	12,174	25,252	26,528	41,180
Volume (1,000 piculs)	*10,901*	*6,657*	*7,407*	*10,681*	*10,240*	*16,032*
Scrap iron						
U.S.A.	8,282	824	4,673	16,673	45,564	...
British India	4,840	2,671	2,857	7,923	4,575	...
Great Britain	680	1,290	3,390	4,447	3,876	...
Australia	473	35	693	1,411	2,223	...
Total (incl. other countries)	18,345	7,321	16,304	38,645	65,730	84,225
Volume (1,000 piculs)	*8,274*	*4,927*	*9,318*	*16,883*	*23,550*	*28,201*
Steel products						
U.S.A.	30,436	9,074	7,649	11,288	22,409	...
Germany	31,869	8,937	10,853	20,427	18,361	...
Belgium	5,800	1,765	2,426	8,720	9,846	...
Great Britain	22,616	6,555	9,766	12,526	7,319	...
Sweden	2,077	989	1,957	3,855	4,693	...
Austria	678	503	881	1,749	2,561	...
France	6,280	1,078	913	1,336	1,437	...
Total (incl. other countries)	102,805	29,867	36,016	64,789	72,117	63,804
Volume (1,000 piculs)	*13,002*	*4,389*	*3,793*	*6,664*	*6,176*	*5,266*

(3) Other Industrial Raw Materials.

Imports of raw materials other than fibres and metals have also shown a marked revival since 1931, but the increase was far less than in the latter two groups. This is largely due to the development of the fertilizer industry in Japan, which led to a diminution in imports

of oil cake and sulphate of ammonia. Excluding these two items, the rate of increase in the other raw materials was almost equivalent to that in fibre and metal imports.

The most important industrial raw materials imported were crude oil, heavy oil, crude rubber, coal, pulp, timber, oil seeds and hides and leather. Except timber, the imports show a marked increase, reflecting the active state of Japanese industries.

TABLE 411

IMPORTS OF INDUSTRIAL RAW MATERIALS OTHER THAN FIBRES AND METALS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Total imports of other industrial raw materials.	599,198	342,790	345,322	455,548	554,474	640,350
Ratio to total imports (%) .	*27·0*	*27·7*	*24·1*	*23·8*	*24·3*	*25·9*
Crude and heavy oils .	46,603	44,064	54,887	68,347	82,483	106,826
Crude rubber . . .	33,886	13,183	15,989	29,685	57,338	51,636
Coal	42,979	28,269	27,358	36,657	47,193	48,970
Oil cake	75,919	44,349	34,599	41,181	42,052	38,678
Wood and timber . .	88,838	43,380	35,029	40,584	40,183	49,775
Fodder (including bran)	24,645	19,594	26,061	26,815	39,959	28,231
Oil yielding materials .	30,778	14,549	14,772	23,293	25,257	43,088
Phosphorite . . .	13,455	7,213	11,097	15,374	16,677	20,060
Sulphate of ammonia, crude	48,086	15,861	7,035	9,421	13,807	21,069
Pulp	13,485	11,840	15,329	27,066	44,256	55,101
Hides and leather . .	20,103	11,608	11,514	17,478	21,150	26,300

Crude and Heavy Oils. Japanese production of crude oil is only about 2 million hectolitres and a large part of domestic requirements must be imported. Consumption of mineral oils shows an increasing tendency on account of the wider use of motor cars and internal combustion engines. Accordingly, the imports of mineral oils are bound to expand in the future, which will inevitably increase dependency upon foreign products.

Except 1930 and 1931, the value of mineral oil imports increased annually, and in 1935 amounted to ¥ 152,647,000, an increase of 64.3% compared with the value for 1929. In volume, imports kept on increasing without any recession owing to the sharp advance in crude and heavy oils. Imports of refined oil showed a slight rise in quantity, but a decrease in value.

The increase in the import of crude and heavy oils is the result of the development of the petroleum refining industry in Japan and the wider use of Diesel engines.

The greater part of the crude and heavy oils is imported from the United States. The Netherlands East Indies and British North Borneo are minor sources. A small quantity is imported from Manchoukuo where these oils are produced from oil shale.

TABLE 412

IMPORTS OF MINERAL OIL

	1929	1931	1932	1933	1934	1935
Value (1,000 yen)						
Crude and heavy oils	46,603	44,064	54,887	68,347	82,483	106,826
Other mineral oil .	46,324	41,724	43,701	40,513	41,544	45,821
Total . . .	92,928	85,788	98,588	108,859	124,027	152,647
Quantity (1,000 gal.)						
Crude and heavy oils	419,817	453,608	568,665	613,009	743,985	918,737
Other mineral oil .	106,792	127,489	139,644	141,507	175,164	192,380
Total . . .	526,609	581,097	708,309	754,516	919,149	1,111,117

IMPORTS OF CRUDE AND HEAVY OILS BY COUNTRIES

	Value (1,000 yen)			Quantity (1,000 gal.)		
	1931	1934	1935	1931	1934	1935
U. S. A.	24,972	54,475	81,336	264,202	490,343	689,672
Asiatic Russia. . .	8,033	8,079	68	79,090	71,030	612
Netherlands East Indies	3,740	7,537	11,864	41,494	70,526	106,874
British North Borneo .	1,925	4,446	5,465	17,769	38,808	49,156
Manchoukuo . . .	1,068	1,355	1,311	9,512	13,002	14,131

Crude Rubber. Imports increased sharply as a result of the great develpment of the Japanese rubber industry, following the reimposition of the gold embargo.

The annual imports were already 40 million yen in 1926, but declined in the following years. The past few years witnessed a revival, imports in 1934 amounting to 57 million yen. The volume of imports showed a sharp increase excepting a slight recession in 1930 and 1931. This tendency is still maintained in 1935.

Imports are in the main from the Straits Settlements and the Netherlands East Indies. Only small quantities are imported from British India and French Indo-China.

TABLE 413

IMPORTS OF CRUDE RUBBER

	1926	1931	1932	1933	1934	1935
Value (1,000 yen) . .	40,010	13,183	15,989	29,685	57,338	51,636
Quantity (piculs) . .	306,923	737,435	952,325	1,165,497	1,197,051	994,692

IMPORTS OF CRUDE RUBBER BY COUNTRIES

	Value (in 1,000 yen)			Quantity (in piculs)		
	1932	1934	1935	1932	1934	1935
Straits Settlements . .	10,060	37,818	24,125	607,124	808,793	461,389
Netherlands East Indies	4,996	14,384	11,661	305,590	281,005	220,435
French Indo-China .	273	95	1,771	18,711	2,857	33,897
British India . . .	294	479	187	17,821	13,206	3,752
Total (incl. other countries)	15,989	57,338	51,636	952,325	1,197,051	994,692

Oil Seed. The Japanese vegetable oil industry has developed to a marked extent since 1925. Though production figures showed some recession up to 1931, there has been a great expansion in the following years owing to the activity of the home and export trade. With the exception of rape seed, the raw materials are pro-

TABLE 414

IMPORTS OF RAW MATERIALS FOR OIL EXTRACTION

	Value (1,000 yen)				Quantity (1,000 piculs)			
	1929	1932	1934	1935	1929	1932	1934	1935
Rape and mustard seed .	11,200	1,738	5,591	8,928	1,248	236	802	1,111
Seed of perilla ocimoides	1,804	2,347	4,687	11,228	142	378	430	1,070
Sesame seed	3,761	3,684	3,027	4,565	332	318	341	384
Cotton seed	6,381	2,348	3,001	6,188	1,631	779	1,011	1,655
Linseed	2,956	676	2,906	3,416	265	111	328	362
Castor seed	1,933	1,781	2,538	3,362	203	230	325	344
Hemp seed	2,111	485	1,026	1,605	299	108	184	251
Other oil seeds . . .	6	894	1,032	1,473	1	287	299	288
Copra	627	819	1,449	2,322	48	98	246	259
Total	30,778	14,772	25,257	43,088	4,170	2,546	3,966	5,725
Principal sources . .								
China	19,951	6,873	11,215	17,631	3,013	1,196	1,890	2,535
Manchoukuo and Kwantung L. T. . .	6,703	4,265	10,483	18,723	777	646	1,392	2,282
Netherlands East Indies .	817	2,327	2,075	3,685	75	489	441	538

duced to only a slight extent in Japan. Even these seeds meet only one-third of domestic requirements, the greater part being imported.

The principal sources are Manchoukuo and China with a combined percentage of almost 90% of the total imports. Imports from China are chiefly rape seed, linseed and cotton seed, while Manchoukuo chiefly supplies sesame seed, seed of perilla ocimoides, linseed, etc., including almost every description except rape seed. Copra is imported chiefly from the Philippines and the Netherlands East Indies.

Pulp. The import increase in this raw material has been very pronounced in view of the development of the rayon industry. Figures for 1935 correspond to 4·6 times the value and 3·4 times the volume of 1928. Although domestic output is increasing, it is far from meeting the expanding demand.

The principal source of pulp for the paper industry is the United States, while imports from Norway are chiefly for rayon production.

TABLE 415

IMPORTS OF PULP

	1929	1931	1932	1933	1934	1935
Volume (in tons) (*a*)						
Pulp for paper . .	59,747	84,440	69,965	112,019	122,387	143,534
Pulp for rayon . .	20,663	16,195	31,203	47,955	102,932	126,319
Total . . .	80,410	100,635	101,168	159,974	225,319	269,853
Value (in 1,000 yen) . .						
U. S. A.	2,318	2,419	3,952	7,802	16,321	22,812
Norway . . .	3,287	2,014	4,115	7,578	10,464	13,201
Sweden	1,482	1,220	1,792	3,572	7,438	7,735
Canada	4,626	5,200	3,144	6,043	7,245	5,991
Total (incl. other countries) .	13,485	11,840	15,329	27,066	44,256	55,101

(*a*) Figures until 1934 represent estimates by the Japan Paper Manufacturers' Association.

(4) Machinery, Machine tools, Vessels and Vehicles

Imports increased annually up to 1929 owing to the development of Japanese industry, the total value in 1929 reaching 187 million yen. There was a sharp decline in the following years reflecting the economic depression, but the annual figure, though still less than in 1929, again showed an expansion until 1935. It must, however, be considered that the import figures are automatically swell-

ed by the price advance of imported articles due to the depreciation of the yen. It is doubtful whether imported machinery has made any progress after 1931, as the expansion of this branch of industry, combined with the very low Japanese exchange rate, must tend to check imports.

TABLE 416

IMPORTS OF MACHINERY, TOOLS, ETC.

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Clocks and watches	6,988	2,679	2,997	2,245	2,796	4,213
Scientific apparatus	16,280	8,330	8,834	10,651	8,666	12,264
Fire-arms	1,968	779	5,827	6,452	1,031	1,117
Vehicles and vessels	40,502	17,832	15,706	14,569	33,075	36,382
Motor cars and parts	33,608	16,329	14,821	13,871	32,302	32,589
Machinery	121,095	50,910	60,573	72,658	98,022	105,008
Total	186,833	80,530	93,937	106,575	143,590	158,984
Ratio to total imports (%)	8·3	6·5	6·6	5·6	6·3	6·4

Machinery. The imports of general machinery, the principal item under this heading, experienced a heavy decline for a time to about 51 million yen in 1931. The figures again increased in the following years, and in 1935 reached 105 million yen, or more than double the total of 1931, but the value is yet far below the peak of 121 million yen reached in 1929. The sharp increase in the imports of machine tools reflect the inability of domestic manufactures to meet the growing demand. With the development of domestic output, the imports of these machines are likely to decrease. Cotton spinning machines were formerly imported, and, indeed, represented the most important item in machinery imports. In spite of the great expansion in the past few years of spindles and other equipments, imports registered a heavy decrease after 1932, owing to the depreciation of Japanese currency on the one hand, and the great technical progress achieved by Japanese manufacturers on the other. A similar trend is to be found as regards electrical machinery.

The United States ranks first as a source for machinery with a share of 37%, these imports including machine tools, internal combustion engines, sewing machines, electrical machinery, etc. Next comes Germany, imports from which country consist chiefly of machine tools, spinning machines, electrical machinery, pumps, etc. Unlike imports from other countries, shipments from Germany tend to in-

crease, the figures for 1934 exceeding even those of 1929. Great Britain now ranks after Germany on account of the diminution in the imports of spinning machines.

TABLE 417

IMPORTS OF PRINCIPAL MACHINERY

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Internal combustion engines	18,113	10,930	12,471	16,148	20,778	15,559
Dynamos, electric motors and transformers	7,486	2,162	1,755	1,799	1,309	2,332
Sewing machines and parts thereof	9,502	2,735	3,266	2,184	5,866	6,473
Machine tools	5,624	3,070	5,808	16,247	21,433	18,296
Spinning machines	14,487	3,512	7,998	3,520	6,395	4,613
Knitting machines	222	146	75	82	1,773	1,645
Card clothing	1,574	1,226	2,032	2,441	2,574	3,869
Felt rollers for paper manufacturing	2,206	987	1,183	1,341	1,410	1,250
Gas compressors	2,540	643	810	669	1,742	1,053
Hydraulic presses	133	107	7	5	54	1,481
Total (incl. other machines)	121,095	50,910	60,573	72,658	98,022	105,008
Principal sources						
U. S. A.	41,821	16,252	17,769	22,254	35,532	38,902
Germany	21,042	10,969	10,422	16,964	24,900	29,883
Great Britain	34,323	12,268	12,585	12,336	15,905	21,860
Sweden	2,232	1,253	1,885	3,722	5,396	5,951
Switzerland	3,876	1,643	2,337	2,169	3,596	2,732
France	4,250	1,790	4,494	3,507	3,289	2,980

Motor Cars. The demand for motor cars is increasing by several thousand every year, and the number at the end of October, 1934 was 104,932. Despite every assistance given by the Government authorities in the form of subsidies and protective duties on imports, the motor car industry in Japan is still far behind the chief producing countries, and the present demand cannot by a long way be met by domestic manufactures. The import value of motor cars and parts amounted to 34 million yen in 1929, but in the following years the figures rapidly declined. The value for 1934, however, showed a sudden expansion, but the high peak of 1929 was not yet exceeded in 1935.

The imports of complete cars registered a peak in 1928, but have since decreased to about one-eighth in 1935. This fact indicates that

the motor car industry in Japan has now attained to the first stage of self-sufficiency, at which the imports of complete cars are checked, and instead, the imported parts are assembled at home.

More than 90% of both motor cars and parts are imported from the United States. This is chiefly due to the fact that such firms as Ford and General Motors have established assembling plants in Japan and are, therefore, able to offer lower prices. Great Britain and Germany rank next, but imports are negligible when compared with cars of American make.

TABLE 418

IMPORTS OF MOTOR CARS AND PARTS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Motor cars	9,546	3,378	2,894	1,864	3,357	3,202
Motor car parts	24,063	12,951	11,927	12,007	28,945	29,387
Total	33,608	16,329	14,821	13,871	32,302	32,589
Principal sources						
U. S. A.	31,047	15,817	13,838	13,288	31,553	31,255
Great Britain	527	162	470	453	402	406
Germany	75	74	394	93	105	270

(5) Foodstuffs

With the peak reached in 1919, imports declined until 1931, since when there was again an increase. The rate of improvement has, however, been slight, and the tendency points to a further decline on account of the advance in domestic production. It should be noted that the increased imports of salt are due to a demand for industrial purposes.

Beans and Peas. These are the chief among foodstuffs, amounting in 1935 to 72 million yen, 75% of which were soya beans for the manufacture of *miso*, soy and for oil extraction. The import value of soya beans in 1935 was 93·3% higher than in 1931, but 10·5% lower than in 1929. The volume of imports gradually decreased from 1930 to 1933, but experienced a rapid revival in 1934 and 1935 with a volume only slightly less than in 1929. The widening disparity between the value and volume of imports was due to the sharp price fluctuation.

About 90%, chiefly soya beans, are imported from Manchoukuo. Manchoukuo also supplies red beans, while imports from China consist chiefly in ground nuts and peas.

TABLE 419

IMPORTS OF FOODSTUFFS

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Foodstuffs	271,156	158,612	160,671	173,185	174,448	192,605
Ratio to total imports (%)	*12·2*	*12·8*	*11·2*	*9·0*	*7·6*	*7·8*
Beans and peas	78,746	37,349	42,070	50,345	51,968	71,649
Wheat	70,896	32,936	49,572	44,384	40,749	43,199
Salt	4,415	4,280	5,556	11,709	14,839	14,540
Sugar	31,160	15,603	3,332	12,794	9,679	12,701
Indian corn	3,672	3,048	2,415	103	2	7,599
Meat	7,878	9,548	4,999	5,537	7,382	6,936

TABLE 420

IMPORTS OF BEANS AND PEAS

	1929	1931	1932	1933	1934	1935
Value (1,000 yen)						
Soya beans	60,092	27,818	31,240	38,035	41,028	53,781
Small beans	10,102	4,978	6,557	7,120	5,980	10,320
Total (incl. other beans)	78,746	37,349	42,070	50,345	51,968	71,649
Quantity (1,000 piculs)						
Soya beans	9,463	9,152	7,801	7,244	9,128	8,702
Small beans	1,401	1,566	1,317	1,238	1,245	1,688
Total (incl. other beans)	11,970	11,798	9,911	9,363	11,222	11,455

IMPORTS OF BEANS AND PEAS BY PRINCIPAL SOURCES

	Value (1,000 yen)			Quantity (1,000 piculs)		
	1932	1934	1935	1932	1934	1935
Manchoukuo (incl. Kwantung L.T.)	37,540	47,735	64,378	9,062	10,488	10,404
China	2,904	2,644	4,429	413	408	596
British India	1,301	1,371	2,295	360	281	363

Wheat. The annual wheat production in Japan was, formerly, about 5 million to 6 million *koku*, and could hardly meet the rapidly increasing demand by the domestic flour milling industry. The imports of wheat reached a peak in 1926 with a total value of 93 million yen, but the volume, at 12,443,000 piculs, was higher in 1932. The decline of Japanese flour exports to China, in turn, caused a reduc-

tion of imported wheat. Later, a new outlet for wheat flour was found in Manchoukuo, and imports of wheat revived. In view of the encouragement given by the Ministry of Agriculture and Forestry, wheat production is now increasing year after year, and it is expected that self-sufficiency, with a corresponding reduction in wheat imports, will be attained in the near future.(1)

The principal source of wheat imports is Australia, which represented more than 70% of the total in 1935. Canada and Argentine rank next.

TABLE 421

IMPORTS OF WHEAT BY PRINCIPAL SOURCES

(in 1,000 yen)

	1926	1931	1932	1933	1934	1935
Australia	35,103	22,466	40,058	33,887	22,033	30,936
U. S. A.	25,293	2,523	751	238	9,869	284
Canada	32,834	7,938	8,762	10,243	8,120	6,258
Argentine	—	7	0	8	626	2,574
Total (incl. other countries)	93,346	32,936	49,572	44,384	40,749	43,199
Volume (1,000 piculs)	*11,717*	*12,040*	*12,443*	*8,520*	*8,155*	*7,417*

(1) As to the demand and supply of wheat in Japan, refer to chapter XXII, Table 289.

CHAPTER XXXI

EXPORTS AND IMPORTS BY DESTINATIONS AND SOURCES; COMPETITIVE CONDITIONS IN IMPORTANT MARKETS

1. East Asia

(1) General Survey.

East Asia is one of the most important customers of Japanese goods, and an important source of raw materials. East Asia, as understood in this survey, comprises Manchoukuo, the Kwantung Leased Territory, China, and Hong Kong. For convenience sake, Kwantung will be dealt with in conjunction with Manchoukuo.

East Asia is also one of Japan's oldest markets, and as such has not shown in recent years the same great expansion in trade as new markets, notably West Asia, Africa, Central and South America. As a matter of fact, the trade with East Asia has, for some time, been rather stagnant, although very recently there has been some activity due mainly to the increased demand from Manchoukuo and improved relations with China. A survey of Japanese foreign trade during the past few years reveals that trade was much depressed from 1929 up to 1934, when exports recovered the 1929 level, although imports continued inactive. There has been a marked decline in both exports and imports to and from China, the recovery since 1933 being very small. On the other hand, Japan's trade with Manchoukuo and Kwantung has shown a sharp upward tendency, more than counterbalancing the decrease recorded in the trade with Chinese markets.

The balance of trade with East Asia has always been favourable to Japan, the year 1931 showing the smallest excess of exports over imports. There has, since then, been a continued increase, the excess reaching 272 million yen in 1935.

The recovery of the export trade with East Asia has been very slow, but the enormous area and a population of about 460 millions, of which the greater part is agricultural, still remains one of the

TABLE 422

JAPANESE TRADE WITH EAST ASIA

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Manchoukuo	64,772	11,874	25,947	82,071	107,151	126,046
Kwantung L. T.	124,476	65,542	120,584	221,068	295,868	300,269
China	281,880	143,877	129,479	108,253	117,063	148,788
Hong Kong	61,065	36,754	18,041	23,419	33,497	49,732
Total	532,194	258,047	294,051	434,812	553,579	624,835
Ratio to total exports (%)	*24.8*	*22.5*	*20.9*	*23.4*	*25.5*	*25.0*
Imports						
Manchoukuo	50,577	41,948	51,570	147,898	164,211	191,005
Kwantung L. T.	166,322	90,165	76,719	20,161	27,280	25,517
China	159,399	103,749	77,175	113,357	119,574	133,818
Hong Kong	608	499	977	2,093	1,481	2,836
Total	376,905	236,361	206,441	283,510	312,546	353,176
Ratio to total imports (%)	*17.0*	*19.1*	*14.4*	*14.8*	*13.7*	*14.3*
Balance	+155,288	+ 21,686	+ 87,610	+151,302	+241,033	+271,659

best potential export markets. Exports to East Asia consist mainly of manufactured goods, such as textile manufactures and machinery, semi-manufactures such as rayon and cotton yarn, iron and steel, and provisions, such as sugar, flour, beer and canned goods. In recent years there has been an increase in the export of production goods such as iron, steel and machinery, due mainly to extensive building in Manchoukuo and the growth of industries in Chinese cities. The future progress of this class of exports may, if it develops, contribute considerably to the expansion of the Japanese heavy industries.

Imports are, for the most part, confined to raw materials, materials for industrial purposes, which have gone through simple processes of manufacture, and foodstuffs. Although the region constitutes one of the main sources of the Japanese supply of materials, resources are far from being fully exploited. The dependence of Japanese industry on this source will become even greater in the future as agricultural and mineral resources are developed.

The very recent improvement in trade with East Asia is principally due to Japanese investments in Manchoukuo and the abatement of the anti-Japanese boycott movement in China. The entire disappearance of this movement consequent upon an improvement in

TABLE 423

JAPANESE EXPORTS TO AND IMPORTS FROM EAST ASIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Flour	25,313	9,345	20,347	34,458	27,764	31,030
Refined sugar	28,732	14,517	7,468	13,913	12,949	17,113
Aquatic products	16,908	6,303	5,216	6,282	9,796	13,290
Wood and timber	7,571	3,690	3,473	6,715	9,444	8,959
Coal	16,780	10,678	8,299	9,705	5,677	5,311
Iron	4,282	5,138	10,223	30,891	45,952	47,567
Copper	3,060	1,199	1,678	4,733	5,074	6,773
Cotton yarn	9,452	1,233	3,199	4,174	4,453	6,310
Rayon yarn	176	1,766	3,164	6,973	10,931	8,432
Cotton tissues	186,260	59,011	60,285	71,728	79,810	72,659
Silk and rayon tissues	10,982	3,102	1,683	4,934	12,849	21,306
Woollen tissues	3,506	1,169	3,529	9,009	13,595	(a)13,169
Machinery and tools	11,224	11,289	8,305	21,206	52,614	55,891
Scientific instruments	3,161	2,637	3,037	6,540	10,888	12,518
Insulated electric wire	3,062	2,026	1,579	3,955	6,471	9,274
Ironware	6,693	3,434	4,448	9,479	14,511	13,951
Paper	22,201	17,409	9,569	12,851	16,189	17,931
Total (incl. other articles)	532,194	258,047	294,051	434,812	553,579	624,835
Imports						
Beans and peas	75,590	36,299	40,445	48,436	50,379	68,807
Meat	6,089	8,358	4,032	4,946	6,056	4,706
Salt	3,618	3,598	3,534	4,400	6,581	6,043
Oil seeds	26,654	12,056	11,138	18,868	21,698	36,354
Animal hair	2,189	1,008	1,081	3,173	5,066	6,018
Raw cotton	33,641	17,367	18,886	24,348	15,694	21,599
Hemp, flax, etc	8,043	4,586	5,776	6,964	10,369	7,768
Iron ore	8,551	4,192	4,772	3,970	6,425	10,917
Coal	33,991	21,885	21,900	28,651	37,403	38,538
Wheat bran	12,377	7,927	6,132	6,054	8,880	7,488
Oil cake	73,562	43,094	31,714	39,628	40,800	37,338
Hides and leather	7,127	3,939	2,955	5,767	6,184	6,233
Chemicals and pharmaceutical products	3,913	2,723	2,056	3,094	2,961	9,408
Pig iron	9,310	7,281	11,124	18,162	18,981	18,825
Tin (ingots and slabs)	3,701	1,047	1,582	3,517	4,013	5,590
Total (incl. other articles)	376,905	236,361	206,441	283,510	312,546	353,176

(a) Excludes Hong Kong.

political relations would naturally increase the trade between the two countries.

(2) Manchoukuo.

Japanese economic interests in Manchuria were firmly established by taking over the Russian properties in that country after the close of the Russo-Japanese War. Save for some setbacks, the relationship both economical and political, has since been close, and was further strengthened by the foundation of the State of Manchoukuo. Reflecting this situation, trade with Manchuria has been steadily on the increase. Imports from Manchoukuo (Kwantung included) in 1935 showed an advance of 63.9% compared with 1931, while exports registered more than a fivefold increase, representing 17·1% of the total Japanese export trade in the same year.

TABLE 424

JAPANESE TRADE WITH MANCHOUKUO (incl. Kwantung Leased Territory)

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Balance
		%		%	
1929	189,248	8·8	216,899	9·8	- 27,651
1931	77,416	6·7	132,112	10·7	- 54,697
1932	146,531	10·4	128,289	9·0	+ 18,242
1933	303,140	16·3	168,059	8·8	+135,080
1934	403,020	18·6	191,491	8·4	+211,528
1935	426,315	17·1	216,522	8·8	+209,792

Both in exports and imports, China ranks next to Japan in trade with Manchoukuo, although a gradual decrease has been noticeable since the Manchurian incident. In 1935, China accounted for only 5·3% of the total imports of Manchoukuo, and 15·5% of the total exports. In view of the prevalence of smuggling between the two countries, the actual figures would be certainly much greater. Besides Japan and China, the United States, British India and Great Britain are among the principal exporting countries; the actual amount is small, but there has been evidence of an increase in imports from these countries. As regards exports, Germany follows China very closely, being the principal European market for soya beans.

Japanese exports to Manchoukuo were formerly almost confined to textiles and provisions. However, after the foundation of the new State, building materials were largely exported. The most important line is still cotton tissues which attained the largest value in 1934. In the last few years, machinery, iron and steel have

shown a sharp advance due to new building works carried out as a consequence of the foundation of the new State. Flour is the most important article among provisions, but exports appear to be on the

TABLE 425

JAPANESE EXPORTS TO AND IMPORTS FROM MANCHOUKUO (incl. Kwantung L. T.) BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues	56,884	9,716	19,371	40,448	59,470	50,944
Machinery and tools	6,068	4,380	4,348	16,136	42,766	40,386
Iron and steel	2,859	2,735	8,521	28,206	40,695	39,309
Flour	15,919	3,295	14,192	31,113	27,641	30,764
Ironware	3,595	1,485	2,893	7,518	11,990	10,957
Paper	4,451	2,244	3,922	7,416	8,785	9,690
Rayon yarn	—	—	324	6,487	8,587	5,629
Rayon tissues	—	224	621	2,926	8,268	11,983
Wood and timber	2,722	573	752	3,584	6,497	5,841
Refined sugar	(a)6,975	(a)2,674	4,752	7,648	5,866	6,722
Footwear	—	—	2,633	7,152	5,187	...
Cement	358	115	553	2,030	4,288	2,067
Cotton yarn	3,087	544	1,605	3,715	4,145	5,168
Copper	1,691	563	1,424	4,179	4,052	4,548
Woollen tissues	2,057	780	3,097	7,305	9,821	10,126
Silk tissues	3,762	372	574	1,310	3,081	4,150
Total (incl. other articles)	189,248	77,416	146,531	303,140	403,020	426,315
Imports						
Beans and peas	70,705	33,870	37,540	45,444	47,735	64,378
Oil cake	64,920	38,274	28,608	33,699	34,563	31,240
Coal	26,670	17,982	19,181	24,546	30,585	30,928
Pig iron	9,219	7,281	8,882	18,162	18,981	18,825
Fodder	1,987	1,454	3,942	7,230	14,779	...
Oil seeds	6,925	2,842	4,265	9,390	10,483	18,723
Cotton yarn	435	4,558	3,348	5,248	5,119	...
Salt	1,648	2,501	2,222	2,826	4,195	3,610
Kaoliang	2,973	1,654	2,960	822	2,009	...
Dolomite and magnesite	642	329	695	1,346	1,624	...
Paraffin	—	1,200	1,534	1,711	1,428	...
Crude and heavy oils	—	1,068	1,373	1,729	1,355	1,311
Talc and soapstone	264	214	705	1,265	1,131	...
Total (incl. other articles)	216,899	132,112	128,289	168,059	191,491	216,522

(a) Includes rock sugar.

decline. There has been a continuous increase in rayon tissues as well as woollen and worsted tissues.

Among Japanese imports from Manchoukuo soya beans represent more than a quarter of the total, or almost a half, if bean cake be included. Coal, pig iron and various oil seeds are also important import articles. A gradual increase in the import of raw materials from Manchoukuo is anticipated in view of the development of the Japanese chemical and heavy industries.

The principal imports of Manchoukuo are textiles, foodstuffs, such as flour and sugar, building materials including iron and steel, rolling stock and machinery. The last item has shown a great advance in recent years, registering, in 1934, an increase of 3·7 times as compared with 1932, while the import of other articles increased only in the proportion of 50·5% during the same period. The greater part of building materials is supplied by Japan, showing that the recent enormous increase in imports is mainly due to the rapid progress of construction works financed by Japanese investments. It may be inferred that the increase in imports of other consumption goods is also partly a result of the temporary expansion of purchasing power accompanying the progress of construction works. This upward tendency in the import trade may, therefore, be regarded as temporary, particularly in view of the rise of domestic manufacture of building materials.

TABLE 426

IMPORTS OF BUILDING MATERIALS IN MANCHOUKUO

(in 1,000 yuan)

	1932	1933	1934	Increase compared with 1932	1935	Increase compared with 1934
Total imports . .	337,673	515,832	593,562	75·8%	604,149	1·8%
Building materials .	37,978	88,205	142,629	275·6%	143,851	0·9%
Other articles . .	299,695	427,628	450,933	50·5%	460,299	2·1%

The chief building materials are iron and steel manufactures. Only a very insignificant amount of these are produced in Kwantung, practically all requirements being imported, shipments from Japan accounting for about 80% of the total imports. Other minor sources are Germany, Great Britain and the United States. There is no doubt that this large demand for steel will continue for some time to come, but the fact that Manchoukuo abounds in raw material for steel manufacture and that the products of the Showa Steel

TABLE 427

PRINCIPAL ARTICLES IMPORTED TO MANCHOUKUO BY PRINCIPAL SOURCES

(in 1,000 yuan)

	1932	1933	1934	1935
Cotton yarn	12,642	20,927	12,533	7,938
Japan	3,623	7,599	5,055	5,357
China	8,849	12,938	7,055	2,538
Cotton tissues	42,015	69,305	68,053	60,340
Japan	30,493	57,925	61,087	57,528
Chosen	267	584	1,295	1,431
China	10,115	10,091	5,222	1,258
Gunny bags	26,465	16,992	16,134	14,641
Japan	5,039	3,557	4,947	3,617
British India	15,355	9,718	9,566	10,537
Woollen and worsted tissues	6,476	7,831	9,551	11,343
Japan	3,803	5,791	7,667	9,285
Silk and rayon tissues	4,551	8,128	11,111	19,709
Japan	2,277	4,262	9,609	19,261
Iron and steel	21,863	39,997	58,227	51,540
Japan	17,823	30,783	46,793	42,164
Great Britain	656	666	1,045	1,078
Germany	1,945	4,336	5,609	5,203
U. S. A.	101	1,303	2,078	1,243
Belgium	722	943	494	1,237
Machinery and tools	6,006	9,544	28,056	34,613
Japan	4,058	7,647	21,467	25,653
Great Britain	661	187	1,763	2,277
Germany	463	327	1,991	2,922
U. S. A.	564	284	1,130	1,701
Vehicles and vessels	5,386	22,699	30,946	39,844
Japan	3,327	17,609	25,700	35,923
U. S. A.	1,626	4,305	3,295	2,618
Flour	32,259	58,679	57,059	53,989
Japan	19,404	32,571	27,127	32,766
Australia	1,824	5,794	20,488	19,884
Sugar	14,983	16,029	11,565	12,974
Japan	9,251	10,173	7,856	9,176
Chosen	3,781	3,793	2,119	2,591
Paper	7,651	10,013	12,139	12,959
Japan	4,339	6,297	9,193	10,589
China	2,462	2,960	2,075	1,220
Wood	3,718	9,638	17,499	14,310
Japan	1,194	4,124	7,636	6,515
Chosen	1,532	3,682	4,145	3,622
U. S. A.	146	669	4,937	3,283
Cement	1,005	6,328	7,901	3,543
Japan	566	3,538	5,389	2,929

Not including re-imports.

Foundry have been marketed from the beginning of 1935, appears to indicate that imports will be substantially reduced in the future.

The cotton spinning industry in Manchoukuo is still in its infancy, the total output in 1932 being returned at 8,885,000 yen, according to investigations conducted by the South Manchuria Railway Company. The country is, therefore, compelled to import most cotton tissues. As the sharp import increase up to 1933 was, to some extent, due to the prevalence of smuggling to China during the period of trade suspension, the later decline in imports does not necessarily point to a decreased demand for this article in Manchoukuo. About 90% is imported from Japan and Chosen, imports from Japan not having diminished at all.

(3) China.

Until about ten years ago, the position of China in Japanese foreign trade was very important; she offered an excellent market for Japanese goods, only second to the United States, and constituted one of the leading sources for the supply of raw materials. Violent anti-Japanese movements have played havoc with this trade, which has continued to dwindle since 1926. The Manchurian incident gave a fresh impetus to the boycott movement, with the result that trade in 1932 reached the lowest point. With the independence of Manchoukuo, Chinese territory was curtailed, affecting the statistical figures to a certain extent. But even when this is taken into account, there can be no doubt that Japanese exports to China proper have shown a pronounced decline, which is the more striking when considered in the light of Japanese commercial progress elsewhere. Quite recently, trade has revived as a result of improved political relations, but the recovery is still insignificant. Statistics for 1935 show that imports from China accounted for only 5·4% of the total imports, while exports still maintained a low level, showing a decline from 13·1% in 1929 to 5·4% in 1934 and 6·0% in 1935. Japanese trade with China, formerly, resulted in a favourable balance, but since 1933 there has been a slight excess of imports.

During the past few years there has been a marked increase in the Chinese demand for Japanese machinery, particularly spinning machines, electrical machinery and apparatus, this group constituting the most important item in Japanese exports to China in 1935. Cotton tissues, which formerly held the leading position, ranked second in 1935. Sugar was most severely affected by the anti-Japanese boycott, and a sharp reduction in exports was registered until 1932, but there was a progressive improvement in later years.

Raw materials, particularly raw cotton, oil seed and mineral ore represent the leading articles in Japanese imports from China.

TABLE 428

JAPANESE TRADE WITH CHINA (excl. Manchuria)

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Balance
		%		%	
1929	281,880	13·1	159,399	7·2	+ 122,481
1931	143,877	12·5	103,749	8·4	+ 40,128
1932	129,479	9·2	77,175	5·4	+ 52,303
1933	108,253	5·8	113,357	5·9	- 5,104
1934	117,063	5·4	119,574	5·2	- 2,511
1935	148,788	6·0	133,818	5·4	+ 14,971

TABLE 429

JAPANESE EXPORTS TO AND IMPORTS FROM CHINA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Machinery and tools	4,940	6,731	3,849	4,951	9,691	15,310
Cotton tissues	108,591	39,530	37,159	25,605	13,029	11,912
Refined sugar	(a)20,797	10,951	2,655	6,158	6,990	9,763
Chemicals and explosives(b)	5,482	4,615	3,631	5,646	8,684	9,228
Iron and steel	1,387	2,156	1,677	2,619	4,957	7,498
Paper	16,008	13,669	5,122	4,786	6,153	6,572
Aquatic products	8,613	2,624	2,532	2,279	4,432	5,985
Clothing and accessories	11,979	4,508	1,812	2,856	3,570	3,330
Woollen tissues	*	258	431	1,687	2,975	3,043
Wood and timber	4,046	2,277	2,362	2,702	2,704	2,987
Coal-tar dyes	233	472	1,317	1,905	2,719	2,914
Rayon yarn	*	*	2,833	442	905	2,293
Ironware	2,286	1,544	1,429	1,694	2,012	2,282
Insulated electric wire	1,216	1,145	525	1,155	1,711	2,253
Copper	1,232	557	243	547	990	2,182
Scientific instruments	994	704	266	564	1,251	2,081
Bicycles and parts	*	*	1,174	1,848	3,115	...
Woollen yarns	*	*	679	1,097	3,103	...
Total (incl. other articles)	281,880	143,877	129,479	108,253	117,063	148,788

TABLE 429—*Continued*

	1929	1931	1932	1933	1934	1935
Imports						
Raw cotton	33,606	17,366	18,886	24,348	15,693	20,705
Oil seeds	*	8,454	6,873	9,478	11,215	17,631
Mineral ores	*	4,870	4,581	4,301	6,804	11,839
Coal	7,322	3,903	2,719	4,104	6,818	7,610
Hemp, jute, etc.	8,014	4,425	5,684	6,630	9,856	7,120
Wheat bran	7,857	6,966	5,190	6,027	8,712	7,088
Oil cake	8,642	4,820	3,106	5,929	6,237	6,097
Bristles	2,121	977	1,002	3,021	4,534	5,362
Hides and leather	6,311	3,037	2,351	4,901	5,472	5,126
Beans and peas	4,885	2,429	2,904	2,992	2,644	4,429
Meat	5,607	7,441	2,549	3,965	5,010	4,026
Waste fibres	2,236	2,446	1,773	3,513	2,841	3,813
Tin	3,657	788	908	1,777	2,731	3,194
Salt	1,970	1,096	1,312	1,584	2,386	2,433
Total (incl. other articles)	159,399	103,749	77,175	113,357	119,574	133,818

(*a*) Includes rock sugar. (*b*) Includes pharmaceutical products. * Unavailable.

TABLE 430

PRINCIPAL ARTICLES IMPORTED TO CHINA BY SOURCES

(in Silver $ 1,000)

	1932	1933	1934	1935
Machinery and tools	53,911	44,178	60,083	66,656
Japan	8,425	6,718	9,333	13,590
Germany	9,925	8,808	9,988	16,698
Great Britain	19,774	16,240	20,077	14,797
U. S. A.	7,992	7,035	9,241	9,917
Iron and steel	77,406	81,844	86,297	75,594
Japan	10,649	6,384	8,574	11,108
Germany	12,775	13,237	11,184	17,476
Great Britain	29,649	27,211	20,753	16,005
Belgium and Luxemburg	9,790	16,724	17,628	10,836
U. S. A.	7,174	10,631	14,561	10,353
Dyestuffs	40,347	40,228	39,050	38,164
Japan	4,190	3,712	4,682	5,289
Germany	15,998	15,782	18,624	17,913
U. S. A.	7,948	9,664	7,668	6,988
Great Britain	3,784	3,617	2,770	3,125
Cotton tissues	113,909	58,329	26,857	21,408
Japan	70,456	33,247	15,221	15,427
Great Britain	37,139	19,951	10,071	5,300

TABLE 430—*Continued*

	1932	1933	1934	1935
Chemicals	55,075	51,793	41,773	38,041
Japan	6,456	6,642	8,454	8,348
Germany	17,744	16,312	11,489	11,975
Great Britain	15,993	14,702	9,012	7,969
Paper	54,282	45,033	37,352	39,095
Japan	8,641	4,820	6,653	6,758
Germany	9,455	6,417	3,939	6,282
Canada	1,592	2,991	3,922	5,568
Wood and timber	32,226	37,375	34,205	35,470
Japan	3,733	2,811	3,037	2,683
U. S. A.	9,851	12,445	11,778	12,386
Canada	3,981	7,547	7,795	9,311

(4) Hong Kong

Hong Kong plays an important rôle in the East Asiatic trade as a transit port to South China. Japanese exports to Hong Kong have shown a declining tendency during the past few years, the total in 1932 being about one-third of that in 1929. Although there has been some improvement since, total exports in 1935 have yet

TABLE 431

JAPANESE TRADE WITH HONG KONG

(in 1,000 yen)

	1929	1933	1934	1935
Exports				
Cotton tissues	20,785	5,675	7,311	9,802
Rayon tissues	(a) 3,752	441	930	4,339
Coal	4,211	5,227	3,638	4,079
Aquatic products	6,053	1,437	2,792	3,968
Vegetables, fruit, etc.	1,438	553	1,291	2,234
Paper	1,742	650	1,251	1,669
Matches	2,397	155	955	1,566
Total (incl. other articles)	61,065	23,419	33,497	49,732
Imports				
Tin (ingots and slabs)	44	1,739	1,281	2,395
Packing mats	33	—	68	207
Total (incl. other articles)	608	2,093	1,481	2,836
Balance	+ 60,457	+ 21,326	+ 32,016	+ 46,896

(a) Includes silk tissues.

failed to reach the level of 1929. Meanwhile Japanese imports from Hong Kong have been more satisfactory.

Japanese exports consisted mostly of textiles, particularly cotton goods. These are mostly re-exported to China, especially to the district around the Kwangchow Bay. Exports of rayon are modest, but Japanese goods almost monopolize the market. Japanese exports of fishery products, for re-export to South China, have grown sharply in 1935 to the detriment of shipments from French Indo-China. Japanese coal predominates on the Hong Kong market. Very little coal is re-exported, the bulk being used in Hong Kong factories.

2. South Asia

(1) General Survey.

South Asia, for the purpose of this survey, includes British India, Ceylon, the Netherlands East Indies, French Indo-China, the Straits Settlements, British Malaya, Siam, British Borneo, and the Philippines. With the exception of Siam, these regions are European and American colonies, and maintain close relations with their home countries. During the World War, commercial relations with Europe were temporarily closed, offering Japan an opportunity to develop her trade rapidly with these countries. With the end of the War, Japanese trade was unable to maintain the gains made, particularly after the advent of the world depression. The anti-Japanese movement in China, however, stimulated exporters to develop again closer trade relations with South Asia, the expansion of exports being greatly facilitated by the decline in Japanese currency. It is interesting to note that the importance of South Asia as a market for Japanese goods has increased in direct contrast to the decline in shipments to China, though the relative rate somewhat dwindled in 1935.

The rapid development of the Japanese export trade with South Asia was only partly made at the expense of competing countries. It appears that a new market for cheap goods has been created, which, in view of the low purchasing power of the native population, did not exist before.

The balance of Japanese trade with South Asia has been favourable since 1932, a reversal of the trend which existed in former years, the countries of South Asia constituting one of the main sources of raw materials for Japanese industry.

Of the principal exports, more than half are textiles, particularly

TABLE 432

JAPANESE TRADE WITH SOUTH ASIA

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
British India } Ceylon	198,057	110,367	192,492	205,155	238,220 19,792	275,637 11,887
Straits Settlements	27,928	19,120	25,549	46,133	63,320	48,536
Other British Malaya	*	*	*	*	*	2,413
British Borneo	*	54	51	138	300	545
Netherlands East Indies	87,125	63,450	100,251	157,488	158,451	143,041
French Indo-China	2,695	1,710	2,344	3,680	2,654	4,021
Philippines	30,597	20,425	22,362	24,051	36,461	48,058
Siam	10,633	4,722	8,581	18,124	28,048	40,258
Total	357,036	219,848	351,631	454,768	547,246	574,398
Ratio to total exports (%)	*16.6*	*19.2*	*24.9*	*24.1*	*25.2*	*(a)22.9*
Imports						
British India } Ceylon	288,120	133,165	116,865	204,738	289,672 2,288	305,646 2,779
Straits Settlements	41,634	21,858	25,338	38,772	63,320	40,648
Other British Malaya	*	*	*	*	*	28,495
British Borneo	*	3,096	3,623	5,772	7,304	9,832
Netherlands East Indies	77,346	46,081	40,409	55,710	63,464	78,187
French Indo-China	9,591	6,381	5,692	9,910	10,621	15,011
Philippines	18,044	8,988	9,764	14,185	18,891	23,949
Siam	20,812	6,792	11,198	12,256	1,540	5,458
Total	455,546	226,361	212,889	341,342	457,100	510,003
Ratio to total imports (%)	*20.6*	*18.3*	*14.9*	*17.8*	*20.0*	*(a)19.5*
Balance	−98,510	−6,513	+138,742	+113,426	+90,146	+64,395

(a) Other British Malaya excluded from the ratio for 1935. * Unavailable

cotton goods. Rayon, silk and wollen textiles are also in good demand. Altogether this market is very receptive for every description of Japanese textiles. In regard to exports, a progressive increase in the products of heavy industries is noteworthy.

The bulk of imports consists of raw materials. With the exception of petroleum products, imports of manufactured goods are insignificant. Raw cotton is the most important raw material, which is chiefly supplied by British India. The principal suppliers of the next ranking article, crude rubber, are the Netherlands East Indies and British Malaya. The Japanese demand for rubber is expected to increase as the manufacturing industry develops. The imports

TABLE 433

JAPANESE EXPORTS TO AND IMPORTS FROM SOUTH ASIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Coal	6,171	3,822	4,457	4,013	4,147	4,086
Cotton yarn	14,996	6,301	16,167	9,194	13,468	26,281
Rayon yarn	1	165	1,578	1,476	8,718	7,593
Brass	2,573	1,180	3,033	4,019	5,161	5,505
Iron and steel	408	1,820	1,489	3,060	4,957	11,141
Woollen and worsted yarns	—	3	308	1,481	4,879	...
Silk yarn	716	315	2,962	1,824	4,476	...
Cotton tissues	166,695	88,346	148,333	180,960	198,418	189,484
Silk and rayon tissues	45,913	36,993	53,566	56,258	70,353	69,170
Vehicles and parts (incl. rubber tyres)	5,951	4,654	6,560	14,148	19,019	...
Knitted goods	16,571	7,570	13,303	17,836	18,899	17,803
Ironware	6,075	3,874	7,488	12,889	15,176	14,624
Woollen and worsted tissues	443	109	695	2,415	10,805	6,134
Glass and glassware	7,764	4,256	6,023	9,449	10,387	11,161
Pottery and porcelain	9,194	3,814	6,999	9,997	9,181	8,015
Boots and shoes	3,106	6,710	6,731	7,071	5,948	...
Toys	2,756	1,752	3,159	6,780	5,443	4,457
Cotton blankets	1,691	755	1,222	2,322	3,488	4,372
Machinery and tools	911	755	1,199	2,761	3,256	4,262
Total (incl. other articles)	357,036	219,848	351,631	454,768	547,246	574,398
Imports						
Sugar	30,396	15,588	3,134	12,621	9,671	12,576
Raw cotton	231,518	113,509	92,167	169,213	253,307	260,150
Crude rubber	33,496	13,015	15,623	29,218	54,720	37,744
Hemp, jute, etc.	17,745	7,336	9,114	12,514	13,731	...
Crude and heavy oils	10,274	5,665	6,783	10,144	11,983	17,329
Mineral ores	11,952	8,565	8,577	10,516	11,270	3,805
Wood and timber	5,063	3,480	3,626	6,147	8,791	11,381
Coal	7,317	5,121	4,296	6,038	7,106	9,793
Oil yielding materials	3,987	2,319	3,495	3,544	3,339	4,130
Tin (ingots and slabs)	5,267	2,478	4,370	7,055	10,832	9,973
Pig iron	16,950	3,626	3,028	5,803	7,303	12,728
Scrap iron	6,321	3,326	3,600	9,523	6,936	...
Lead (ingots and slabs)	1,052	1,137	1,869	2,022	3,051	4,635
Mineral oils	17,956	13,987	15,721	16,539	19,779	...
Total (incl. other articles)	455,546	226,361	212,889	341,342	457,100	510,003

of hemp, on the other hand, are likely to remain stationary, except in time of emergency. Imports of crude and heavy oils come next to raw cotton and crude rubber, and are likely to expand although not at the same pace as in the past. The most important mineral imported from South Asia is iron ore, while imports of pig iron are bound to decrease with the development of the Japanese iron and steel industry, though a very small increase was witnessed in 1935. The import of sugar, which once ranked next to raw cotton, has declined sharply. As Japan is now self-sufficient, the demand for this article will necessarily be limited to the extent to which her exports of refined sugar to Asiatic countries can recover.

Reviewing the import situation, it will be found that the best prospects for future development are centred on mineral ores. Among agricultural products, there is none that is of special significance, except raw cotton, hemp and crude rubber. The import of sugar, copra, quinine, kapok, pepper, tea and coffee can only be developed to a limited extent, if at all. This fact may be regarded as an obstacle to reciprocal trade relations with South Asia.

(2) British India.

British India has the most intimate trade relations with Japan among the countries of South Asia, being the largest supplier chiefly of raw materials. Although yielding first place to the United States after the War, British India still supplied about 12·5% of the total Japanese imports in 1935. Japanese exports to British India used to be on a much lower scale than imports, but in recent years, particularly since the reimposition of the gold embargo in 1931, a sharp advance developed which made that country the third best customer next to the United States and Manchoukuo. In 1935, Japanese exports to British India revealed an increase of 45·2% compared with the year 1929, the ratio to total exports rising from 9·2% to 11·5% during the same period. The balance of trade was formerly unfavourable to Japan, but this tendency was reversed in 1932. Quota barriers against Japanese goods again rendered the balance unfavourable to Japan in 1934.

The chief item of Japanese exports to British India, cotton textiles, have declined in export value since 1929, but rayon, silk, and woollen textiles increased considerably, the former rising from 12·5% to 14·1%, and the latter from 0·2% to 1·7%. Exports of articles other than textiles are insignificant in respect of value, but shipments of pottery, toys, electric bulbs, buttons, ironware and machinery are gradually increasing, and indicate the direction of the future develop-

TABLE 434

JAPANESE TRADE WITH BRITISH INDIA (incl. Ceylon)

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Balance
		%		%	
1929	198,057	9·2	288,120	13·0	− 90,063
1931	110,367	9·6	133,165	10·8	− 22,798
1932	192,492	13·7	116,865	8·2	+ 75,626
1933	205,155	11·0	204,738	10·7	+ 417
1934	258,012	11·9	291,960	12·8	− 33,947
1935	287,524	11·5	308,425	12·5	− 20,901

ment of the Japanese export trade with British India.

In regard to Japanese imports from British India, raw cotton accounts for more than 80% (84·0% in 1935) of the total trade. Other articles worth mentioning are pig iron, scrap iron, jute, shellac, lead and mineral ores. Lead and mineral ores show a marked upward tendency, but any future increase is unlikely to affect the position of raw cotton as the mainstay of British Indian exports to Japan.

Cotton manufactures are the most important articles for the Indian market, the production of Indian factories being as yet unable to meet the entire domestic demand.

Over 90% of the cotton tissues imports of British India are supplied by Great Britain and Japan, but the share of Lancashire goods has steadily declined during the past decade. The slight improvement during the past two years is due to the increase in tariff rates on Japanese goods which, moreover, can only be imported up to an annual quota fixed by the Indo-Japanese Commercial Convention.

Next in importance to cotton goods, the Indian demand for rayon tissues has been increasing remarkably in recent years. Great Britain, Japan and Italy account for the bulk of imports. Japanese goods have, on account of low prices, forged ahead vigorously since 1930, as against a simultaneous sharp decline in British and Italian supplies, and in 1934-35, imports from Japan represented about 92.8% of the total imports of this article.

The advance of Japanese rayon yarn is also noteworthy and has largely been effected at the expense of British and Italian products. The share in 1934–35 represented about 53·5% of the total imports, exceeding shipments from Italy.

The advance of Japanese woollen textiles is hardly less remarkable. In 1934–35, Japan supplied more than 6·9 million yards in quantity, outstripping Great Britain.

TABLE 435

JAPANESE EXPORTS TO AND IMPORTS FROM BRITISH INDIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues	109,139	49,866	80,654	71,433	74,133	86,153
Rayon tissues	24,717	21,525	22,554	17,654	23,094	22,455
Silk tissues			10,403	15,259	21,231	18,074
Cotton yarn	13,448	5,592	14,343	7,605	11,113	20,093
Knitted goods	9,929	3,901	6,699	9,628	9,328	7,510
Woollen and worsted tissues	376	63	592	1,647	8,388	4,921
Rayon yarn	—	154	1,556	1,355	8,367	7,593
Glass and glassware	4,086	2,239	4,106	5,507	5,819	6,226
Ironware	2,304	1,762	3,322	5,151	5,247	5,466
Brass	2,516	1,151	2,990	3,885	4,926	5,505
Woollen and worsted yarns	—	3	306	1,360	4,607	...
Spun silk yarn	339	255	2,673	1,576	4,314	...
Pottery and porcelain	2,559	1,392	3,463	3,965	3,624	3,529
Toys	1,413	711	1,466	3,809	3,487	2,751
Articles for personal adornment	3,054	1,143	2,043	2,432	3,311	3,764
Copper	588	140	1,295	1,635	3,002	...
Machinery and tools	582	471	900	2,105	2,293	3,071
Bicycles and parts	442	996	2,050	2,112	2,264	...
Iron	6	22	252	819	1,454	3,126
Total (incl. other articles)	198,057	110,367	192,492	205,155	258,012	287,524
Imports						
Raw cotton	231,108	113,262	91,747	168,797	252,435	259,037
Other vegetable fibres	4,848	1,955	3,669	5,400	4,884	4,655
Pig iron	16,950	3,626	3,028	5,803	7,292	12,728
Scrap iron	4,840	2,671	2,857	7,923	4,575	...
Shellac	2,412	1,177	992	1,603	3,282	...
Lead (ingots and slabs)	1,026	1,132	1,867	2,012	3,049	4,635
Hides and leather	2,616	1,769	1,581	2,241	2,996	2,981
Mineral ores	8	108	1,107	1,612	2,356	3,637
Beans and peas	2,455	811	1,301	1,434	1,371	2,295
Oil cake	2,109	789	2,048	1,184	1,033	822
Total (incl. other articles)	288,120	133,165	116,865	204,738	291,960	308,425

Figures include Ceylon, with the exception of 1935, which only includes cotton tissues destined for Ceylon.

TABLE 436

QUANTITATIVE RATIO OF JAPANESE AND BRITISH COTTON TISSUES IMPORTED TO BRITISH INDIA

(%)

	1927–28	1931–32	1932–33	1933–34	1934–35
Japanese cotton tissues . .	16·4	43·8	47·3	43·9	39·6
British cotton tissues . . .	78·2	49·4	48·7	53·5	58·5

TABLE 437

INDIAN IMPORTS OF TEXTILE GOODS BY PRINCIPAL COUNTRIES

(in 1,000 rupees)

	1927–28	1931–32	1932–33	1933–34	1934–35
Cotton tissues	551,324	146,705	212,591	134,917	169,238
Great Britain	427,423	79,593	120,966	87,465	111,389
Netherlands	9,170	2,064	1,425	452	619
Switzerland	7,515	2,408	3,974	320	2,774
Italy	9,254	2,907	2,108	166	592
Japan	82,475	54,520	78,539	44,313	51,958
Cotton yarn	67,899	29,888	37,882	25,750	30,983
Great Britain	30,949	12,182	13,180	9,578	10,048
China	11,514	9,201	8,414	6,466	(a) 9,235
Japan	22,360	8,282	16,071	9,567	11,595
Rayon tissues (incl. mixtures) .	38,643	25,177	31,018	17,390	23,297
Great Britain . . .	9,907	961	1,707	1,415	1,647
Italy	9,131	1,604	2,185	1,632	903
Switzerland	8,885	758	438	1,112	...
Japan	1,026	20,860	25,244	12,423	20,334
Rayon yarn	14,921	8,225	9,257	8,199	11,768
Great Britain	4,684	1,058	1,435	1,290	693
Italy	6,624	4,129	4,781	3,757	4,625
Japan	—	440	1,376	2,002	6,165
Woollen and worsted tissues .	32,848	6,875	16,113	13,027	13,982
Great Britain	16,216	2,478	5,248	5,744	4,654
Germany	3,594	415	876	648	765
France	6,060	1,610	3,430	1,743	423
Italy	3,700	1,515	4,214	2,262	353
Japan	1,082	73	778	1,547	7,306

According to *Annual Statement of the Sea-borne Trade of British India with the British Empire and Foreign Countries.* (a) Incl. Hong Kong.

(3) Netherlands East Indies.

This market is only second in importance to British India from the viewpoint of Japanese export trade to South Asia. There has been a tremendous increase in export shipments since 1928, whilst imports have been actually declining on account of the great reduc-

tion in sugar shipments. The balance of trade, which had been unfavourable to Japan up to 1928, has since been reversed. However, Japanese exports are at present showing a declining tendency, due to quotas which cover practically all important Japanese articles.

TABLE 438

JAPANESE TRADE WITH THE NETHERLANDS EAST INDIES

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Balance
		%		%	
1928	73,414	3·7	112,917	5·1	− 39,503
1929	87,125	4·1	77,346	3·5	+ 9,780
1932	100,251	7·1	40,409	2·8	+ 59,842
1933	157,488	8·5	55,710	2·9	+ 101,778
1934	158,451	7·3	63,464	2·8	+ 94,986
1935	143,041	5·7	78,187	3·2	+ 64,855

Japan takes the largest share in the import trade of the Netherlands East Indies, accounting for 31·6% in 1934 and 29·9% in 1935. Imports from the Netherlands, which were largest up to 1930, have since diminished considerably. Other important suppliers are Singapore, Great Britain, Germany, and the United States, the share of Singapore representing, of course, transit trade. Imports from the Netherlands and Great Britain have been adversely affected by the rapid advance of Japanese goods, but this development has been checked by the quota system recently introduced.

TABLE 439

IMPORTS FROM JAPAN, NETHERLANDS AND GREAT BRITAIN

(Ratios to total: %)

	1929	1932	1933	1934	1935
Japan . .	10·6	21·2	31·0	31·6	29·9
Netherlands.	19·6	15·8	12·4	12·9	13·2
Great Britain	10·8	9·6	9·6	9·8	8·3

Japanese exports to the Netherlands East Indies consist largely of textile goods, particularly cotton and rayon tissues. The export of these two articles has been steadily on the increase in recent years, the former accounting for 52·3% of the total Japanese exports to the Netherlands East Indies in 1934. As these articles were

placed under the quota system, this position could not be maintained in 1935.

The chief item in Japanese imports from the Netherlands East Indies is mineral oils, particularly crude and heavy oils. Imports of crude rubber, which were insignificant in 1929, have since greatly advanced, and at present figure next to mineral oils in importance. Sugar, which used to be the principal import article, has shown a gradual decline, and this tendency is expected to continue unless Japanese exports of refined sugar to China revive.

TABLE 440

JAPANESE EXPORTS TO AND IMPORTS FROM THE NETHERLANDS EAST INDIES BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues	42,283	28,279	50,229	78,273	82,829	66,578
Rayon tissues	6,402	8,910	13,644	14,973	13,068	12,684
Silk tissues			774	916	1,014	1,362
Vehicles and parts	3,623	2,257	2,833	6,456	9,141	...
Ironware	1,735	842	2,575	4,366	5,055	3,719
Knitted goods	2,699	1,570	2,525	4,235	4,339	4,118
Pottery and porcelain	4,928	1,712	2,414	3,729	3,169	2,120
Glass and glassware	1,932	1,149	1,070	2,069	1,932	1,983
Cotton yarn	771	358	1,445	1,236	1,695	4,503
Iron and steel	134	1,392	939	1,389	1,653	3,626
Woollen and worsted tissues	19	23	75	568	1,586	1,213
Canned and bottled foodstuffs	153	204	486	1,213	1,385	...
Boots and shoes	898	744	810	1,980	1,349	...
Lamps	1,107	590	767	1,707	1,337	1,191
Total (incl. other articles)	87,125	63,450	100,251	157,488	158,451	143,041
Imports						
Mineral oils (not incl. heavy and crude oils)	17,956	13,266	14,864	15,831	18,718	24,648
Heavy and crude oils	10,274	3,740	4,386	5,989	7,537	11,864
Crude rubber	1,881	3,207	4,996	7,269	14,384	11,661
Sugar	30,355	15,588	3,134	12,621	9,658	12,576
Wood and timber	1,151	761	681	1,610	2,152	2,120
Oil yielding materials	817	1,406	2,327	2,249	2,075	3,685
Scrap iron	1,086	532	455	1,045	1,523	...
Total (incl. other articles)	77,346	46,081	40,409	55,710	63,464	78,187

In spite of the general decline in the import volume of cotton textiles since 1929, Japanese goods increased by 91·1% up to 1933. This marked advance is due to low prices and the shifting of the demand from bleached to unbleached textiles, in which Japan has practically attained a monopoly. The advance of Japanese textile goods has been made not only at the expense of Dutch and British goods, but also by extending the market already cultivated by these two countries.

Japan has also greatly increased her sales of rayon tissues to the Netherlands East Indies, outstripping Great Britain in 1929. In 1933 she accounted for 92·3% of the total imports of this article. Japanese goods having been placed under a quota system in 1935, the future development of this export trade will be greatly curtailed.

TABLE 441

IMPORTS OF COTTON AND RAYON TISSUES BY PRINCIPAL COUNTRIES

(in 1,000 guilders)

	Cotton tissues			Rayon tissues		
	1929	1933	1934	1929	1933	1934
Japan	47,294	47,719	36,625	3,449	8,036	5,239
Netherlands . . .	46,386	4,514	5,819	586	285	105
Great Britain . . .	41,223	4,182	1,414	1,295	339	95
Total (incl. other countries)	172,136	64,158	47,895	11,503	9,353	5,670

(4) Straits Settlements.

Commercially, British Malaya includes the Straits Settlements, which, up to the year 1934, has solely figured in Japanese trade statistics.

Japanese trade with the Straits Settlements reached the peak figures in 1925 and 1929, but in the following years both exports and imports diminished rapidly. Recovery set in from 1932, and in 1934 exports and imports had increased to the highest level ever attained. A decline was, however, experienced in 1935.

Japanese exports to the Straits Settlements consist mainly of textiles, cotton goods, in particular, accounting for 38·2% of the total exports in 1933. The upward tendency has been checked to some extent by the enforcement of a quota system, but Japanese cotton goods still maintain their predominance in this market. The exports of rayon and silk textiles have also shown a steady advance.

The principal suppliers of cotton textiles are Japan and Great

TABLE 442

JAPANESE TRADE WITH THE STRAITS SETTLEMENTS

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Balance
		%		%	
1929	27,928	1·3	41,634	1·9	- 13,706
1931	19,120	1·7	21,858	1·8	- 2,738
1932	25,549	1.8	25,338	1.8	+ 211
1933	46,133	2·5	38,772	2·0	+ 7,362
1934	63,320	2·9	63,320	2·8	- 0·1
1935	48,536	1·9	40,648	1·6	+ 7,888
	(50,949)	*(2·0)*	*(69,143)*	*(2·8)*	- *(18,193)*

Figures in brackets for 1935 include British Malaya.

TABLE 443

JAPANESE EXPORTS TO AND IMPORTS FROM THE STRAITS SETTLEMENTS BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues	5,798	5,213	11,229	17,608	17,395	(a) 8,951
Vehicles and parts	1,489	878	780	2,793	4,639	...
Rayon tissues	6,068	2,645	2,143	3,294	3,542	1,844
Silk tissues			784	1,129	3,396	3,105
Aquatic products	251	562	193	893	2,640	2,208
Coal	3,311	1,849	2,432	2,183	2,503	2,320
Ironware	519	227	345	1,187	2,246	1,744
Vegetables	100	313	154	515	1,455	...
Knitted goods	434	86	233	771	1,321	1,441
Total (incl. other articles)	27,928	19,120	25,549	46,133	63,320	(a)50,949
Imports						
Crude rubber	22,802	9,273	10,060	20,499	37,818	24,125
Tin (ingots and slabs)	4,333	2,085	3,794	5,330	10,613	9,895
Ores	11,288	8,433	7,284	8,820	8,743	159
Total (incl. other articles)	41,634	21,858	25,338	38,772	63,320	(a)69,143

(a) Incl. British Malaya.

Britain. Great Britain which, in 1929, supplied more than half the total demand dropped below Japan in the following year. The imports of Japanese cotton textiles have increased annually and attained 68·1% in 1933. The enforcement of the quota system since May, 1934 is expected to check the advance of Japanese cotton goods,

although they still retained their predominance in 1934 with a share of 68·7% of total textile imports, while Great Britain accounted for only 20·1% in the same year, the supplies from other countries being insignificant.

The bulk of Japanese imports consists of crude rubber, tin, and ores, which together account for more than 90% of the total imports.

(5) Philippine Islands.

Although Japanese commercial relations with the Philippine Islands are of old standing, there has been no great development in trade. The ratio of exports to the Philippines to Japanese total exports is insignificant, reaching only 1·9%. Imports are even smaller, the balance of trade showing a favourable surplus to Japan.

TABLE 444

JAPANESE TRADE WITH THE PHILIPPINE ISLANDS

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Export surplus
		%		%	
1927	32,834	1·6	17,841	0·8	14,993
1931	20,425	1·8	8,988	0·7	11,438
1932	22,362	1·6	9,764	0·7	12,598
1933	24,051	1·3	14,185	0·7	9,866
1934	36,461	1·7	18,891	0·8	17,570
1935	48,058	1·9	23,949	1·0	24,110

Cotton tissues are the chief article exported to the Philippines, followed by knitted goods, rayon and silk tissues. These textiles accounted together for 51·4% of the export trade.

The principal imports from the Philippines are hemp, timber and tobacco.

Cotton goods, the principal article, are supplied by the United States, Japan, Great Britain, and China, but the only serious competition to Japanese goods is from the United States which formerly practically monopolized the market. In the year 1934, cotton goods imports from Japan exceeded those from the United States in volume though not in value, the Japanese advance covering plain, bleached and finished tissues, the latter item being doubled in a single year. Endeavours to check the importation of Japanese cotton goods in that market led to the formation in Japan of the Japan-Philippines Cotton Tissue Exporters' Association, which exercises strict control over the exports to that country. In October, 1935,

TABLE 445

JAPANESE EXPORTS TO AND IMPORTS FROM THE PHILIPPINES BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues	5,629	4,162	2,769	5,780	13,206	14,492
Knitted goods	3,349	1,959	3,745	2,671	3,432	4,734
Rayon tissues	6,659	3,064	1,601	971	1,956	4,951
Silk tissues			309	86	135	164
Coal	2,354	1,584	1,569	1,652	1,447	1,683
Vegetables	1,138	1,058	983	815	1,506	...
Total (incl. other articles)	30,597	20,425	22,362	24,051	36,461	48,058
Imports						
Hemp, jute, etc.	14,449	6,302	6,634	8,864	10,127	(a)13,513
Wood and timber	1,904	1,430	1,660	2,512	4,301	5,095
Tobacco	365	585	515	591	1,197	...
Total (incl. other articles)	18,044	8,988	9,764	14,185	18,891	23,949

(a) Incl. other vegetable fibres.

a provisional agreement was reached between the American and Japanese Governments in regard to the voluntary restriction of cotton tissue exports to the Philippines. An annual quota of 45 million square metres was fixed for the two years beginning August, 1935.

With the exception of cotton and silk textiles, there is little friction between Japanese and American goods on Philippine markets, most American imports such as petroleum, iron and steel manufactures, automobiles, tobacco, electrical machinery, etc., being specialities in which Japan cannot compete.

(6) Siam.

Japanese trade relations with Siam are extremely one-sided, the import trade being insignificant compared with the fairly large value of Japanese exports. Moreover, imports registered a heavy reduction in 1934 due to decreased shipments of rice.

Japan ranked first in Siamese import statistics, with a share, in 1933–34, of 15·8% of the total Siamese imports. The principal articles exported to Siam are textile manufactures, mainly cotton and rayon tissues, but there has also been a notable increase in recent years of iron, steel and their manufactures. Japanese imports from Siam formerly centred on rice, which later entirely disappeared from

trade statistics, timber developing into the chief item of imports. There is a possibility of augmenting the import trade by increasing Japanese purchases of tin and rubber which are indispensable raw materials to Japanese industry and which constitute the chief articles exported from Siam.

Japanese cotton manufactures are predominant on the Siamese market, their share being about 40% in 1933–34, that in rayon tissues being much higher.

In 1934, Japanese iron and steel manufactures, bicycles, paper, beer, etc., obtained a leading position over Siamese imports from other sources.

TABLE 446

JAPANESE TRADE WITH SIAM

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues . .	3,815	796	3,405	6,778	10,818	13,227
Rayon tissues . .	*	374	346	850	2,339	3,768
Ironware . . .	776	380	569	1,190	1,610	2,113
Cotton blankets . .	415	129	306	985	1,175	1,935
Iron and steel . .	239	267	201	441	1,114	3,094
Paper	47	126	379	455	741	512
Glass and glassware .	342	110	128	399	567	712
Total (incl. other articles)	10,633	4,722	8,581	18,124	28,048	40,258
Imports						
Rice	18,611	5,695	10,128	10,882	—	2,986
Wood and timber .	1,851	988	1,000	1,240	1,013	1,624
Total (incl. other articles)	20,812	6,792	11,198	12,256	1,540	5,458
Balance	−10,178	− 2,071	− 2,617	+ 5,868	+26,508	+34,801

* Unavailable.

(7) French Indo-China.

In view of the close political and economic relations of this colony with France, trade relations with foreign countries are greatly restricted, and Japanese trade appears to be particularly handicapped. Discriminative treatment as regards customs duties and other import restrictions have adversely affected Japanese exports, which, in 1931, totalled only ¥1,710,000. A new commercial agreement, made effective on August 26th, 1932, resulted in an advance of Japanese export trade to ¥3,680,000 in 1933. As the Colonial Government has again revised the duties on many articles of foreign

origin, and instituted a quota system for cotton goods of non-French origin, a considerable falling-off was registered in 1934, but the exports for 1935 achieved a new high level.

In contrast with the export trade, imports to Japan gained steadily after 1932, totalling ¥15,011,000 in 1935. The balance of trade, which is adverse to Japan, therefore, tends to increase.

TABLE 447

JAPANESE TRADE WITH FRENCH INDO-CHINA

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Foodstuffs	192	139	82	302	450	...
Wood and timber	98	79	111	196	208	...
Silk and rayon tissues	974	293	877	1,019	318	763
Pottery and porcelain	28	18	36	145	135	245
Glass and glassware	70	15	8	46	144	240
Total (incl. other articles)	2,695	1,710	2,344	3,680	2,654	4,021
Imports						
Rice	20	—	20	57	333	162
Rubber, crude	22	193	273	1,043	1,080	1,771
Lacquer	255	366	557	811	1,094	...
Coal	7,285	5,107	4,296	6,038	7,106	9,793
Total (incl. other articles)	9,591	6,381	5,692	9,910	10,621	15,011
Balance	- 6,896	- 4,671	- 3,348	- 6,230	- 7,967	-10,990

3. WEST ASIA

(1) General Survey

West Asia, as defined here, includes mainly Arabia, Iraq, Syria, Iran, Palestine and Turkey. The whole region is not yet highly developed industrially, and trade is characterized by the import of finished articles and the export of foodstuffs and raw materials. In the imports of finished articles, goods for direct consumption such as cotton tissues and other textile products predominate.

Japanese trade with this region was small until 1930, when the total annual export volume was only about 1·0% of the total Japanese export trade, but it increased rapidly in the following years, reaching a ratio to total Japanese exports of 3·3% in 1935. As a source for raw materials, West Asia continues unimportant, although

the reciprocal trade policy adopted has served to increase imports to a certain extent. There are no particularly important lines of exports to Japan. Foreign trade relations are one-sided, with an abnormal excess of exports in favour of Japan.

TABLE 448

JAPANESE TRADE WITH WEST ASIATIC COUNTRIES

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Exports						
Turkey	3,950	3,790	5,965	2,432	2,194	3,241
Aden	6,136	4,809	8,307	7,193	9,353	13,208
Syria					11,699	12,559
Palestine					6,412	8,400
Iraq					17,165	22,073
Iran	5,043	7,373	10,560	21,773		9,792
Arabia					12,682	4,571
Other countries						8,616
Total	15,128	15,972	24,831	31,398	59,505	82,261
Ratio to total exports (%)	*1·0*	*1·4*	*1·8*	*1·7*	*2·7*	*3·3*
Imports						
Turkey	54	374	139	976	1,973	1,036
Aden	76	22	1	10	27	364
Syria					68	31
Palestine					2	3
Iraq					26	1,258
Iran	229	328	501	2,653		729
Arabia					9,568	434
Other countries						471
Total	360	724	641	3,639	11,665	4,327
Ratio to total imports (%)	*0·02*	*0·06*	*0·04*	*0·2*	*0·5*	*0·2*
Balance	+14,768	+15,248	+24,190	+27,759	+ 47,840	+77,934

The expansion of the Japanese export trade is mainly attributable to low prices, which are particularly important in a market such as the region of Western Asia provides in general. The permanence of this market is, however, jeopardized by the one-sidedness of trade relations, and the fact that most of the countries constituting this market can only pay for imports by exports. Iran, for example, is operating a Government monopoly of foreign trade, and thereby controls imports according to trade receipts, while Turkey is also attempting to check imports by means of strict exchange control

and other measures in the direction of reciprocal trade. The Provisional Japanese-Turkey Reciprocal Trade Agreement, in effect since the beginning of 1935, is a result of this trade policy. Iraq and Syria are apparently planning to readjust their unbalanced trade with Japan by an increase in import tariff rates. It is problematical how far Japan will be able to meet the demand for reciprocal trade.

The increasing industrialization in the countries concerned will naturally affect articles for direct consumption, notably textile goods. These tendencies may influence trade policy to the detriment of Japanese goods.

Cotton tissues predominate in exports, representing over 60% of the total exports to West Asia. Silk and rayon tissues follow, their advance being conspicuous since the reimposition of the gold embargo. General goods show a similar tendency, particularly iron and steel products, and machinery and tools. Coffee, and recently, raw cotton, rubber and iron ore, are the principal imports of some

TABLE 449

JAPANESE EXPORTS TO AND IMPORTS FROM WEST ASIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1930	1931	1932	1933	1934	1935
Exports						
Cotton yarn	460	115	624	557	867	...
Cotton tissues	10,924	13,269	19,562	21,594	37,268	...
Silk and rayon tissues	233	683	1,313	7,951	8,469	...
Dresses and underwear	288	278	613	1,323	2,268	...
Footwear	22	173	119	253	377	...
Pottery and porcelain	82	119	221	290	550	...
Glass and glassware	33	17	120	186	311	...
Toys	46	44	85	208	303	...
Ironware	22	84	164	413	318	...
Machinery and tools	4	3	2	162	492	...
Total (incl. other articles)	15,128	15,972	24,831	31,398	59,505	82,261
Imports						
Coffee	239	234	370	341	422	...
Raw cotton	—	—	—	3,033	4,779	...
Rubber and resin	13	68	89	113	2,513	...
Iron ore	—	—	—	—	3,067	...
Total (incl. other articles)	360	724	641	3,639	11,665	4,327

permanency from West Asia. It is, however, evident that a larger import of coffee cannot be looked for, while the purchase of cotton and other articles is apparently the result of artificial trade readjustment policy.

(2) Principal Markets.

Iraq. Japanese exports to Iraq, the biggest market for Japanese goods in Western Asia, totalled ¥ 22,073,000 in 1935, and continue to increase. Imports from that country are extremely small, totalling ¥ 1,258,000 in the same year.

The principal export items include cotton tissues (¥ 13,610,000 in 1935), and silk and rayon tissues (¥ 3,100,000 in 1934). The value of other export goods such as knitted goods, pottery and glass products ranged from ¥ 100,000 to ¥ 400,000, and ironware, machinery and tools totalled about ¥ 140,000.

Syria and Lebanon. Japanese exports in 1935 totalled ¥ 12,559,000, a fairly large figure which contrasts with imports amounting to only ¥ 31,000 in that year. The principal items in the export trade are cotton tissues (¥ 7,205,000 in 1935), and silk and rayon tissues (¥ 980,000 in 1934), these two articles representing about 80% of the total export trade to Syria. Minor exports are knitted goods (¥ 550,000 in 1934), ironware, machinery and tools (¥ 180,000 in 1934), pottery and toys.

Japan leads other countries in the supply of cotton tissues and other textile products, the expansion in trade having taken place at the expense of British and other manufactures.

Wool, wheat, fruit, vegetables, and hides and leather are the principal export items of Syria, but none of these are imported to Japan, and the development of such a trade in the future is unlikely.

TABLE 450

COTTON TISSUES AND COTTON HOSIERY IMPORTED INTO SYRIA

(in Syrian £ 1,000)

	Cotton tissues				Cotton hosiery		
	Total	Japan	Great Britain	Italy	Total	Japan	Palestine
1931	5,975	2,353	1,974	894	196	103	11
1932	3,438	1,926	774	402	162	84	24
1933	3,190	2,189	533	267	236	154	32

Syria and Lebanon are under the mandate of France, and impose a double tariff upon imports from countries outside the League of Nations. The import tariff upon Japanese goods was to be raised in conformity therewith after March 27th, 1935, when Japan's withdrawal from the League of Nations officially took effect. By negotiations, however, the elevation of tariff rates was postponed.

Palestine. Japanese exports to Palestine during 1935 totalled ¥ 8,400,000, while imports from that country were only ¥ 3,000. Leading export items are cotton, silk and rayon tissues, whose combined exports during 1934 amounted to ¥ 4,240,000. Pottery, toys, ironware, machinery and tools, ranked next, with figures of from ¥ 100,000 to ¥ 200,000. Japan divides the market with Great Britain in cotton tissues, and almost monopolizes the market in white shirting and coarse cloth.

As oranges account for more than 80% of exports from Palestine, there is practically no export from Palestine to Japan, and prospects of future development are highly problematical.

Turkey. Trade relations with Turkey are also extremely unbalanced, imports scarcely totalling one-third of Japanese exports to that country. The adoption by Turkey of a reciprocal trade policy has, therefore, led to a decline in Japanese exports to Turkey after 1932.

TABLE 451

JAPANESE TRADE WITH TURKEY

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues	2,210	3,507	5,574	2,024	1,393	3,131
Cotton yarn	5	28	253	249	442	···
Pottery and porcelain	25	38	20	37	22	···
Total (incl. other articles)	2,551	3,790	5,965	2,432	2,194	3,241
Imports						
Raw cotton	—	—	—	972	1,928	646
Tobacco	16	120	118	1	14	···
Total (incl. other articles)	202	374	139	976	1,973	1,036
Balance	+ 2,349	+ 3,416	+ 5,826	+ 1,456	+ 221	+ 2,206

The signing of the Provisional Japanese-Turkey Reciprocal Trade Agreement in July, 1934, and its operation since January, 1935, has

again revived the trade between the two countries. Trade volume is, however, not very important, cotton goods constituting the greatest part of Japanese exports to Turkey. A few other articles appear to be advancing in recent years, but are too small in value to deserve special mention. The advance in imports from Turkey is mainly due to the Provisional Reciprocal Trade Agreement, the purchase of raw cotton being the main factor.

In view of the development of domestic industries and the control of imports since 1929, the trade of most of the principal exporting countries to Turkey has been cut by one half or two-thirds. The advance of Japanese goods is particularly noteworthy under these circumstances. However, under the Five-Years Industrialization Plan launched by the Turkish Government in 1934, the largest appropriation has been allotted to the cotton and other textile industries. This effectively dims any hopes for the future development of Japanese exports to that country.

Iran. Trade with Iran is very small, and has only been given an individual classification in Japanese foreign trade returns since 1935. Japanese exports to Iran totalled ¥ 9,592,000 and imports, ¥ 729,000 during that year. Since the enforcement of the Trade Monopoly Law in February, 1931, Iran's foreign trade has been placed under strict Government control.

More than 80% of Japanese exports are cotton goods. The expansion of this trade appears to have been made at the expense of Russian and British goods. Although this market may witness a further development of Japanese trade, the trade in cotton goods cannot be viewed with excessive optimism, in view of the official projects for the expansion of cotton spinning and weaving factories in Iran and the advance of Italian cotton products in that market.

TABLE 452

IRAN'S IMPORTS OF COTTON TISSUES

(in 1,000 Rials)

	U.S.S.R.	Japan	Great Britain	Italy	British India	Total (incl. other countries)
1931-32	124,719	19,139	42,194	9,750	32,760	231,204
1932-33	71,339	32,908	32,665	14,187	12,918	168,727
1933-34	36,633	65,371	23,503	3,000	10,933	143,191

4. Oceania

(1) General Survey.

Commercial intercourse with a region embracing such countries as Australia and New Zealand, with their wealth of raw materials, is a great asset to a nation like Japan which is in need of large supplies for her growing industry. It is, therefore, easy to understand that the industrial expansion of Japan has fostered trade relations by increasing the demand for raw materials in Japan from Australia and New Zealand. Australia now supplies the greater part of wool. The ratio of imports from Oceania to the total import trade of Japan has risen from only 3·1% in 1913 to 6·2% in 1929 and to 10·1% in 1935.

In respect of the export trade, however, the situation is different. Both Australia and New Zealand, as members of the British Empire and parties to the Ottawa Agreement, impose discriminatory treatments on imports from non-British countries. Besides, in view of the high standard of living, cheap cotton goods, which form the most important item of Japan's export trade, do not hold the same position as in other colonial countries, being replaced by raw silk, silk fabrics, pottery, toys, shoes, and other miscellaneous articles generally shipped to highly developed countries. Exports to Australia and New

TABLE 453

JAPANESE TRADE WITH OCEANIA

(in 1,000 yen)

	1913	1929	1931	1932	1933	1934	1935
Exports							
Australia .	8,638	44,075	18,406	36,895	51,416	64,462	74,793
New Zealand	*	4,095	1,967	2,993	6,453	8,588	11,305
Other Islands	1,656	402	595	713	1,027	1,309	2,153
Total . .	10,294	48,572	20,968	40,601	58,896	74,359	88,251
Ratio to total exports (%) .	*1·6*	*2·3*	*1·8*	*2·9*	*3·2*	*3·4*	*3·5*
Imports							
Australia .	14,943	132,601	113,337	134,277	204,583	197,758	235,128
New Zealand	*	677	1,440	1,471	2,400	11,594	6,364
Other Islands	7,389	5,177	2,437	3,641	4,269	4,790	7,137
Total . .	22,332	138,455	117,214	139,389	211,255	214,142	248,629
Ratio to total imports (%) .	*3·1*	*6·2*	*9·5*	*9·7*	*11·0*	*9·4*	*10·1*
Balance . .	-12,038	-89,883	-96,246	-98,788	-152,358	-139,783	-160,378

Not including Hawaii. * Unavailable.

Zealand, because of the non-existence of a large market for cotton goods, have therefore not increased to the same extent as imports. The export trade to other Oceanic regions, on the other hand, has increased more than three times since 1929, cotton tissues representing the largest part. However, the total trade was only about 2 million yen in 1935.

The balance of trade is very unfavourable to Japan, particularly in regard to Australia which ranks next to the United States as a supplier of raw materials to Japan, the excess of imports from that

TABLE 454

JAPANESE EXPORTS TO AND IMPORTS FROM AUSTRALIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934	1935
Exports							
Canned and bottled foodstuffs	1,054	810	44	215	328	797	881
Raw silk	2,352	2,783	1,929	3,165	3,297	4,017	4,233
Cotton tissues	2,927	2,442	2,857	4,875	10,003	14,784	17,176
Silk tissues	23,268	13,615	8,733	13,724	10,799	8,840	6,691
Rayon tissues		175	589	2,899	9,135	16,937	22,806
Cotton towels	218	228	172	383	656	720	526
Buttons	797	37	506	521	493	315	229
Paper and manufactures thereof	359	181	70	284	319	367	521
Pottery and porcelain	48	52	157	238	256	217	2,805
Glass and glassware	1,159	770	666	1,768	2,707	2,331	1,048
Wood and timber	615	304	81	358	756	832	454
Lamps	2,190	1,816	70	162	211	381	316
Toys	141	125	160	433	607	560	652
Total (incl. other articles)	474	350	208	861	1,812	1,766	2,010
	44,075	25,486	18,406	36,895	51,416	64,462	74,793
Imports							
Wheat	15,408	8,690	22,466	40,058	33,887	22,033	30,931
Meat	1,069	806	379	448	276	277	515
Condensed milk	1,251	890	744	826	212	459	..
Hides and leather	348	302	319	193	558	907	2,295
Shells	1,630	1,073	797	913	1,550	1,994	...
Beef tallow	4,483	3,469	2,383	2,437	3,251	2,588	2,201
Wool	99,059	72,336	83,295	84,246	156,514	159,241	182,007
Scrap iron	473	87	35	693	1,410	2,223	...
Lead	1,343	582	195	323	250	580	461
Zinc	3,219	1,983	1,199	1,595	2,103	2,293	2,729
Total (incl. other articles)	132,601	94,308	113,337	134,277	204,586	197,758	235,128
Balance	−88,526	−68,822	−94,931	−97,382	−153,170	−133,296	−160,335

country amounting to more than 100 million yen. Commercial negotiations recently started with a view to increasing Australian purchases of Japanese goods are therefore followed with keen attention by the business people in Japan.

(2) Australia.

Increasing wool imports have greatly enhanced the position of Australia in the import trade of Japan. The relative position of Australia in the import trade of Japan advanced from 6% in 1929 to about 10% in recent years. Japanese exports have also greatly expanded in the course of the last four years, amounting to 75 million yen or 3·5% of total exports.

Cotton, silk and rayon tissues head the list of articles exported from Japan, while in the import trade wool stands foremost representing from 80 to 90% of total imports from Australia. Japanese goods entering Australia are handicapped by competition from British manufactures which enjoy preferential treatment as regards customs duties. This explains the heavy annual excess of

TABLE 455

COMPETITIVE POSITION IN THE AUSTRALIAN MARKET

(in 1,000 pounds sterling)

	1929–30	1930–31	1931–32	1932–33	1933–34
Cotton tissues	6,743	3,857	3,859	4,362	3,932
Great Britain	6,092	3,339	3,359	3,382	3,239
Japan	252	205	279	326	457
Silk tissues	3,429	1,685	1,332	1,199	757
Japan	2,372	1,217	1,048	1,048	665
Great Britain	181	146	117	75	32
Rayon tissues	1,835	1,302	1,133	1,561	1,772
Japan	—	40	131	427	854
Great Britain	962	596	436	662	705
Hats and caps	683·5	121·4	93·2	124·6	146·8
Great Britain	284·8	45·8	19·3	26·6	50·3
Japan	40·5	4·8	20·4	43·0	28·4
Italy	145·9	16·4	11·6	15·8	18·5
Pottery and porcelain	795·8	424·3	279·0	427·3	438·4
Great Britain	593·2	290·4	166·3	252·3	273·6
Japan	77·5	62·0	92·0	151·3	139·7
Glassware	499·3	211·1	93·3	179·4	229·9
Great Britain	156·0	72·7	32·0	73·7	86·0
Japan	45·3	12·6	8·3	27·5	39·8
Czechoslovakia	76·0	29·5	9·3	28·1	34·6
Germany	80·1	25·5	14·3	18·1	24·9

imports, which show an increasing trend in spite of a fair advance in Japanese exports.

The position of Japan in cotton tissues is still greatly inferior to Great Britain, but is gradually advancing against a declining tendency in British goods. In silk tissues the import of Japanese products has considerably decreased in recent years, but the predominant position held by Japan in the field is not imperilled. The remarkable advance of Japanese rayon manufactures compensates for the loss in silk tissues. In the year 1933–34, imports from Japan surpassed those from France, Italy and even Great Britain, which used to be the largest supplier.

(3) New Zealand.

Japanese export trade with New Zealand was extremely depressed in 1930 and 1931, but recovered again since 1932, the total in 1935 being nearly three times that of 1929. Imports began to increase in 1931, one year ahead of exports, and expanded sharply to ¥11,594,000 in 1934, a fivefold increase over the previous year. This conspicuous advance was rather abnormal and should be attributed to the unusually large stock of wool laid in by Japanese manufacturers, resulting in a reactionary decrease of imports in 1935. The annual trade balance was usually in favour of Japan, but due to large imports of wool, the balance was exceptionally adverse in 1934.

Textile goods constitute the largest part of Japanese exports to New Zealand. Silk tissues, which at one time represented more than one half of the total, decreased from 1931, being partly replaced by rayon manufactures, which at present lead all items of textile goods. Other exports are sulphur, boots and shoes, pottery, timber, toys, etc., all items, particularly sulphur, showing a big increase in recent years.

Up to 1930 caseine and butter were the chief items in the import trade, but in view of the great expansion of the Japanese woollen industry, wool now exceeds by far all other lines. In 1934 and 1935 New Zealand ranked second, next to Australia, as a supplier of wool to Japan.

There has been a heavy decline in total New Zealand imports during the period from 1929 to 1934 which has adversely affected the trade of all countries. Imports from Japan alone have proved an exception, the value of Japanese goods imported in 1934 exceeding that of 1929.

British influence predominates in the foreign trade of New Zealand, nearly half of the total import being supplied by Great Britain.

TABLE 456

JAPANESE EXPORTS TO AND IMPORTS FROM NEW ZEALAND BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934	1935
Exports							
Sulphur	310	—	432	339	217	1,219	...
Cotton tissues	162	142	94	181	562	742	1,291
Silk tissues	2,233	1,820	523	540	525	730	755
Rayon tissues	—	43	81	324	808	1,480	2,682
Underwear	139	119	96	181	362	250	...
Hats and caps	53	44	23	49	135	176	...
Boots and shoes	5	14	42	213	783	574	...
Pottery and porcelain	81	63	72	171	442	363	371
Glass and glassware	26	24	19	95	193	174	290
Wood and timber	221	284	77	161	209	350	...
Toys	53	57	50	155	405	292	345
Total (incl. other articles)	4,095	3,227	1,967	2,993	6,453	8,588	11,305
Imports							
Hides and leather	6	—	23	58	195	290	...
Caseine	261	211	269	150	437	589	...
Wool	225	37	1,067	1,189	792	9,904	4,007
Scrap iron	—	—	—	—	891	520	...
Total (incl. other articles)	677	389	1,440	1,471	2,400	11,594	6,364

TABLE 457

POSITION OF PRINCIPAL JAPANESE EXPORTS IN THE NEW ZEALAND MARKET

(in £ 1,000)

	1929	1930	1931	1932	1933	1934
Cotton tissues (incl. linen and canvas)	2,012	1,873	1,161	1,508	1,641	1,703
Great Britain	1,757	1,627	1,047	1,414	1,499	1,521
Japan	58	56	23	26	63	89
Silk and rayon tissues	1,212	1,021	610	1,066	1,066	1,319
Great Britain	438	364	235	303	304	371
Japan	378	303	149	230	231	294

In pounds sterling, but after 1932 in New Zealand currency.

Silk and rayon tissues are mostly supplied by Japan and Great Britain. In consequence of the decline of French manufactures which

have gradually disappeared from the market in recent years, Japanese and British imports almost monopolize the market. In cotton goods the position of British manufactures remains unchallenged, such progress as has been made by Japanese goods being rather at the expense of Germany. Although comparatively limited in amount, the increase of shoes and pottery is notable in contrast to the decrease of similar imports from Great Britain, Canada and other sources.

5. Europe

(1) General Survey.

The development of Japanese trade with Europe presents remarkable peculiarities both in exports and imports. Even in the days when raw silk and other raw materials and semi-manufactures composed the major portion of the Japanese export trade, Europe was not the largest buyer of Japanese goods, nor is that continent an important market now when Japan has developed into a great manufacturing nation and attained a position enabling her to compete on the world market as an exporter of finished goods. European exports to Japan consist mainly of wholly manufactured goods, but these exports, so far as consumption goods, notably textile fabrics, are concerned, are fast decreasing and, in some instances, entirely disappearing. The importance of supplies from European countries lies in their character of capital goods, such as machinery, steel, etc., but even these imports are gradually declining as a result of the development of the Japanese manufacturing industry.

Such being the case, the importance of Europe in the external trade of Japan appears to be waning. Exports from Japan to Europe decreased in 1935 to 11·4% of the total export trade, compared with 23·9% in the period before the World War, while imports from Europe declined from 30·3% to 14·3%. The recent activity in the export trade can hardly be regarded as indicating a change in this tendency of European trade.

Strictly speaking, trade with Europe should not be treated collectively, because of the inclusion of economic units essentially different from the general industrial character of the continent. The Scandinavian countries, Soviet Russia and the countries of Eastern Europe, largely export raw materials. However, Japanese trade with Europe is largely with leading industrial countries which collectively account for about 80% of the total trade between Japan and Europe.

Analysis of Exports and Imports. Diversification according to country of destination constitutes one of the features of the export trade with Europe. Foodstuffs and raw materials represent about 24 and 35%, respectively, of the total, while finished articles represent only 41%. Exports largely belong to categories of merchandise which are comparatively unimportant in Japan's foreign trade, such as rice, beans, peppermint oil, waste cotton, waste yarn, floss silk, etc. The export of textiles, which plays such a leading rôle elsewhere, is insignificant. On the other hand, the increase in canned and bottled provisions in 1934 is noteworthy.

TABLE 458

JAPANESE EXPORTS TO AND IMPORTS FROM EUROPE BY PRINCIPAL ARTICLES

	1929		1934		European share to total (%)	
	Value (¥ 1,000)	Ratio (%)	Value (¥ 1,000)	Ratio (%)	1929	1934
Exports						
Rice, beans, isinglass and tea	10,630	6·7	17,088	7·2	32·9	60·0
Canned and bottled foodstuffs	9,333	5·8	29,764	12·6	36·3	59·2
Oils, fats and waxes	11,148	7·0	8,864	3·7	52·7	39·4
Textile raw materials and semi-manufactures	29,241	18·3	41,888	17·7	3·7	14·2
Raw silk	*17,374*	*10·9*	*35,980*	*15·2*	*2,2*	*12·5*
Other raw materials and semi-manufactures(*a*)	9,831	6·2	17,423	7·4	23·4	30·0
Cotton, silk and rayon tissues	24,062	15·1	25,161	10·6	4·3	3·7
Silk and cotton manufactures	11,862	7·4	17,904	7·6	20·0	18·4
Miscellaneous articles (*b*)	16,174	10·1	30,198	12·7	15·4	21·3
Metal manufactures, machinery and tools	4,981	3·1	7,391	3·1	7·9	4·2
Total (incl. other articles)	159,731	100·0	236,945	100·0	7·4	10·9
Imports						
Oils, fats and waxes	9,370	2·1	15,348	4·7	8·4	11·2
Chemicals and pharmaceutical products	78,462	17·7	51,466	15·8	48·5	35·7
Dyestuffs and paint	11,771	2·7	11,250	3·4	54·9	60·6
Pulp	5,598	1·3	20,689	6·3	44·4	46·7
Paper	9,478	2·1	6,576	2·0	73·9	48·2
Woollen yarns and tissues	38,620	8·7	6,895	2·1	99·8	99·8
Iron and steel	83,304	18·8	62,729	19·2	51·2	36·4
Aluminium, nickel and quicksilver	8,072	1·8	9,811	3·0	54·6	40·8
Metal manufactures	10,236	2·3	5,127	1·6	51·8	66·4
Machinery and tools	91,496	20·8	65,199	20·0	49·2	45·4
Total (incl. other articles)	442,515	100·0	326,403	100·0	20·0	14·3

(*a*) Camphor, menthol crystal, timber, plaits and manure. (*b*) Hats, caps, boots, shoes, buttons, pottery and porcelain, electric bulbs, celluloid and mfs., brushes and toys.

Imports from Europe show less variation, machinery, steel manufactures and chemical products representing over one half of the total. Among other merchandise imported from Europe, woollen

yarns and tissues show a marked decrease in recent years, and can no longer be counted as principal items. This will serve as an instance to illustrate the decline of the import trade with European countries in the external trade of this country. An analysis of principal imports from Europe is given in Table 458.

Distribution of Trade. The greatest customer of Japanese goods is Great Britain, which in 1935 purchased Japanese merchandise to the extent of 119 million yen or 41·8% of the total amount of exports to Europe. Next in order come France with 42 million yen or 14·9%, Germany with 27 million yen or 9·4%, the Netherlands with 18 million yen or 6·4%, and Soviet Russia with 28 million yen or 9·9%. Exports to Great Britain, Germany, the Netherlands, Belgium and Italy, have increased greatly in recent years, while shipments to other countries do not yet reach 10 million yen a year.

In the import trade, Germany is the most important supplier with a total of 121 million yen, corresponding to 34·1% of the total import from Europe. Next to Germany ranks Great Britain with 82 million yen or 23·2%. Imports from Great Britain and France have been stationary of late, while shipments from Germany, Belgium, Sweden and Norway have increased considerably since 1932. Imports from Soviet Russia, which attained to 40 million yen in 1934, decreased sharply to 18 million yen in 1935.

Japan's balance of trade with Europe is unfavourable, but the excess of imports which amounted to about 283 million yen in 1929 has been reduced to 69 million yen in 1935. Only the trade accounts with France, the Netherlands and Italy are usually in favour of Japan, but a similar development appears to be taking place in trade relations with Great Britain, which since 1933 have registered a balance in favour of Japan. Trade with Soviet Russia also showed a favourable balance in 1935.

(2) Trade with Leading Industrial Countries in West Europe.

The mainstay of Japan's trade with Europe is the trade with leading industrial nations, chiefly Great Britain, France, Germany, Belgium, Italy, Switzerland, Austria, Czechoslovakia and the Netherlands. Japanese exports to these nine countries consist chiefly of raw silk, canned foods and silk tissues. There has been in recent years an increase in raw silk, canned foods and miscellaneous articles, while textile fabrics registered a decrease compared with 1929. Generally speaking, articles which show an advancing tendency belong to the category of foodstuffs, raw materials and semi-finished goods. Manufactured articles appear to be on the decline,

TABLE 459

JAPANESE TRADE WITH EUROPE

(in 1,000 yen)

	1913	1929	1931	1933	1934	1935
Exports						
Great Britain	32,870	63,183	53,166	87,849	109,270	119,458
France	60,230	44,495	16,100	38,736	38,319	42,468
Germany	13,132	13,447	8,424	12,412	19,677	26,766
Belgium	3,706	2,890	2,452	7,739	9,675	15,393
Italy	29,417	6,109	3,216	6,168	9,579	6,989
Switzerland	322	648	473	323	307	471
Austria	938	62	85	93	198	308
Czechoslovakia	*	15	56	26	41	78
Netherlands	669	6,918	10,136	12,325	17,883	18,316
Sweden	74	865	1,240	3,259	6,113	6,785
Norway	4	366	309	1,609	2,828	4,482
Denmark	333	1,034	1,115	1,413	1,262	1,359
U.S.S.R.	9,169	17,337	17,076	13,665	13,005	28,319
Other countries	447	2,363	1,415	6,119	8,787	14,579
Total	151,313	159,731	115,262	191,736	236,945	285,771
Ratio to total exports (%)	*23·9*	*7·4*	*10·0*	*10·3*	*10·9*	*11·4*
Imports						
Great Britain	122,737	153,046	63,335	82,559	70,037	82,160
France	5,829	26,185	12,399	21,746	18,300	19,809
Germany	68,395	157,274	73,251	95,798	109,584	120,818
Belgium	9,448	15,828	4,726	14,693	17,227	24,562
Italy	1,078	7,550	4,262	6,036	3,461	5,832
Switzerland	1,795	17,570	10,411	9,185	10,925	13,456
Austria	3,890	1,719	934	2,474	3,542	4,409
Czechoslovakia	*	1,961	2,948	1,703	1,756	2,331
Netherlands	810	5,462	2,885	3,718	3,652	5,873
Sweden	5,090	11,025	8,581	16,086	21,140	23,074
Norway	627	4,681	3,293	11,624	14,280	19,941
Denmark	204	6,050	536	504	1,657	522
U.S.S.R.	791	25,956	34,652	36,760	40,809	17,904
Other countries	321	8,207	8,044	9,991	10,034	13,950
Total	221,015	442,515	230,255	312,879	326,403	354,642
Ratio to total imports (%)	*30·3*	*20·0*	*18·6*	*16·3*	*14·3*	*14·3*
Balance	-69,702	-282,784	-114,993	-121,142	-89,458	-68,871

* Unavailable.

not the least on account of the protection accorded to this group of commodities through restriction on imports and quotas in various countries.

The sales volume of vegetable oils, fish oil, etc. though not great at present, appears to be susceptible of development in the industrial countries of Europe.

More than 60% of the total imports from the chief industrial countries of Europe represent machinery, iron and steel, chemicals, and dyestuffs. The importation of these is, however, on the decline, except manufacturing machines and synthetic dyes. The imports of paper, sheet glass, and metal manufactures tend to disappear on account of the development of Japanese industries.

Great Britain. Great Britain is the largest customer of Japanese goods and still occupies a very important position in the entire trade of Japan, ranking seventh both in exports and imports. The balance of trade, which was formerly unfavourable to Japan turned favourable since 1933.

Leading articles exported to Great Britain are canned and bottled foodstuffs, raw silk and silk tissues, exports showing an increase compared with 1929, particularly canned and bottled foodstuffs, raw silk and miscellaneous goods. The British market ranks first as regards beans and timber, canned provisions, and celluloid manufactures. The principal goods imported from Great Britain are machinery, steel products, tissues, scrap iron, caustic soda and sulphate of ammonia. Excepting scrap iron, imports have shown a tendency to decrease in recent years.

France. Prior to the World War, France was the largest customer for Japanese goods in Europe but trade has since declined in absolute and relative figures. The decline was even greater in imports from France, and there has been a growing excess of exports in favour of Japan.

Raw silk and silk tissues are the principal commodities exported to France, raw silk, in particular, covering about 50% of total exports.

In imports, machinery, chemicals and steel products are the leading articles, but the position of France in the total import trade of these goods is comparatively unimportant excepting in spinning machines, in which France heads the list of import sources.

Germany. Exports to Germany have shown a continued recovery since 1932, but the total, 27 million yen in 1935, is far smaller than the aggregate import from that country, which attained 121 million yen. The unfavourable trade balance, although still high at 94 million

TABLE 460

JAPANESE EXPORTS TO AND IMPORTS FROM GREAT BRITAIN BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1933	1934	1935
Exports					
Beans and peas	5,420	2,874	5,481	6,223	4,231
Canned and bottled foodstuffs	5,523	4,636	13,136	24,712	20,488
Vegetable oils	2,114	846	511	891	1,196
Raw silk	4,121	6,161	14,655	14,237	21,451
Cotton and cotton yarn, waste	1,277	488	1,178	1,852	...
Wood and timber	2,346	1,381	3,838	5,089	5,629
Cotton tissues	865	295	2,657	751	2,286
Silk tissues	10,322	4,218	7,619	10,588	12,063
Rayon tissues		21	1,106	961	717
Knitted goods	7,082	5,489	6,561	7,672	7,345
Miscellaneous goods	6,705	8,318	15,316	13,431	...
Pottery and porcelain	517	697	1,296	1,161	1,187
Celluloid manufactures	216	358	1,399	1,847	...
Buttons	814	937	1,556	1,796	1,624
Electric bulbs	413	719	1,966	1,621	...
Toys	1,364	2,100	4,054	4,605	4,877
Total (incl. other articles)	63,183	53,166	87,849	109,270	119,458
Imports					
Caustic soda and soda ash	3,769	2,372	1,903	2,164	3,470
Sulphate of ammonia	17,666	3,788	1,828	1,833	300
Cotton yarn	953	890	1,553	1,637	...
Woollen and worsted yarns	3,368	2,264	2,168	1,669	1,922
Woollen and worsted tissues	15,034	7,885	6,834	5,042	6,536
Iron and steel	24,546	8,093	16,841	11,717	(a)11,730
Nickel	979	984	5,754	4,153	...
Metal manufactures	3,933	1,986	1,862	1,720	...
Machinery and tools	34,303	12,266	12,322	14,254	21,830
Total (incl. other articles)	153,046	63,335	82,559	70,037	82,160

(a) Not incl. nails, rivets, etc.

yen, showed a marked decrease compared with the figure of 144 million yen in 1929.

Principal commodities exported to Germany are fish meal, fish and whale oil, cotton tissues, etc. In imports, the leading items are machinery, steel products and chemical products, these goods representing about three-fourth of the total imports. As to the relative position in imports of these commodities, Germany ranked first as a source of chemicals (21·8%), and dyestuffs and paint (40·3%).

TABLE 461

JAPANESE EXPORTS TO AND IMPORTS FROM FRANCE BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1933	1934	1935
Exports					
Canned and bottled foodstuffs	2,293	3,313	7,305	1,806	2,202
Peppermint oil	691	87	572	505	689
Menthol crystal	1,565	131	1,427	784	804
Raw silk	13,253	1,879	15,378	20,334	23,765
Silk tissues	10,740	1,927	3,277	2,373	1,666
Caps and hats	1,545	1,058	1,992	3,072	...
Total (incl. other articles)	44,495	16,100	38,733	38,319	42,468
Imports					
Alcoholic liquors	1,099	672	663	784	...
Vegetable oils and fats	577	584	775	705	...
Chemicals and pharmaceutical products	2,274	3,163	5,122	4,771	...
Antipyrin and pyramidon	101	327	662	607	...
Synthetic dyestuffs	660	524	580	574	364
Iron and steel	7,372	1,117	3,440	2,284	(a)1,912
Aluminium	1,193	65	362	777	510
Machinery and tools	4,237	1,758	3,507	3,043	2,980
Total (incl. other articles)	26,185	12,399	21,746	18,300	19,809

(a) Not incl. nails, rivets, etc.

Other Industrial Countries. Among other countries, namely, Belgium, Switzerland, Austria, Czechoslovakia, the Netherlands and Italy, the Netherlands ranked first as an export market for Japanese goods, with a total of 18 million yen in 1935, followed by Belgium with 15 million yen and Italy with 7 million yen. Exports to Switzerland, Austria and Czechoslovakia are still insignificant.

Japan's imports from these countries attained a much higher level excepting the Netherlands and Italy. The balance of trade with Belgium, Switzerland, Austria and Czechoslovakia is always adverse and this deficit has tended to increase, especially in the case of Switzerland, whilst a favourable balance was recorded in trade with the Netherlands and Italy.

Principal commodities exported vary greatly according to countries, for instance, canned and bottled foodstuffs and cotton tissues being shipped to Belgium, rice, silk and rayon tissues and toys to the Netherlands, and cotton tissues to Italy. Each of these items

TABLE 462

JAPANESE EXPORTS TO AND IMPORTS FROM GERMANY BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1933	1934	1935
Exports					
Beans and peas	249	263	294	525	1,146
Isinglass	1,108	522	480	538	835
Vegetable oils and fats	637	247	415	636	487
Peppermint oil	967	166	393	543	702
Fish oil and whale oil	691	496	886	1,405	2,589
Cotton and cotton yarn, waste	1,433	246	1,002	1,271	...
Fish meal, oil cake, etc.	156	485	1,425	4,622	...
Cotton tissues	16	40	153	1,248	1,362
Silk tissues	1,224	260	362	706	868
Caps and hats	509	49	188	496	...
Total (incl. other articles)	13,447	8,424	12,412	19,677	26,766
Imports					
Hops	604	232	1,240	2,449	...
Sulphate of ammonia	23,275	10,985	6,943	11,680	12,986
Potassium chloride	350	309	9	1,066	...
Potassium sulphate	6,108	3,484	3,169	5,592	...
Coal-tar distillates	1,639	1,786	2,621	2,158	...
Synthetic dyestuffs	5,356	4,085	5,218	5,980	5,717
Iron and steel	33,425	10,110	25,060	23,702	(a)18,755
Paper	2,756	2,032	2,442	2,655	...
Metal manufactures	5,460	1,783	1,541	2,348	...
Machinery and tools	21,023	11,024	16,946	25,091	29,883
Total (incl. other articles)	157,274	73,251	95,798	109,584	120,818

(a) Not incl. nails, rivets, etc.

accounted for one to three million yen in 1935. Among imports are comprised such articles as chemicals, machinery, iron and steel and other metals.

(3) Trade with Other European States.

Soviet Russia. In view of the political and economic system of Soviet Russia, where trade is entirely under the control of the State, foreign trade is apt to be influenced by political considerations.

Japanese exports to Soviet Russia, which reached the fairly large total of 28 million yen in 1930, declined thereafter, the figure for 1934 being about 13 million yen. Tense political relations follow-

TABLE 463

JAPANESE TRADE WITH OTHER INDUSTRIAL COUNTRIES

(in 1,000 yen)

	1929	1931	1933	1934	1935
Exports					
Belgium-Luxemburg	2,890	2,452	7,739	9,675	15,393
Canned and bottled foodstuffs	375	307	1,033	1,272	2,509
Cotton tissues	85	61	751	1,407	3,186
Boots and shoes	—	152	1,336	590	...
Switzerland	648	473	323	307	471
Raw silk	—	118	154	106	264
Austria	62	85	93	198	308
Silk and rayon tissues	3	7	26	95	...
Czechoslovakia	15	56	26	41	78
Pottery and porcelain	—	14	7	12	...
Netherlands	6,918	10,136	12,325	17,883	18,316
Rice	—	4,291	695	5,593	3,318
Canned and bottled foodstuffs	190	101	302	490	911
Silk and rayon tissues	86	112	728	878	1,684
Pottery and porcelain	1,028	1,201	982	761	499
Toys	155	313	1,212	1,184	1,068
Manure	—	253	562	866	...
Italy	6,109	3,216	6,168	9,579	6,989
Canned and bottled foodstuffs	5	21	280	751	422
Hardened oils	718	497	765	942	...
Waste and floss silk	1,885	86	334	541	428
Raw silk	—	11	1,021	998	130
Cotton tissues	7	25	52	527	1,066
Imports					
Belgium-Luxemburg	15,828	4,726	14,693	17,227	24,562
Sheet glass	3,477	997	1,066	1,660	...
Iron and steel	9,687	2,136	10,686	11,953	(a) 16,903
Zinc	232	68	530	1,020	...
Switzerland	17,570	10,411	9,185	10,925	13,456
Chemicals and pharmaceutical products	1,066	1,343	1,146	1,476	...
Synthetic dyestuffs	1,514	1,432	1,236	1,336	1,790
Aluminium	1,996	719	1,027	557	2,565
Machinery and tools	3,861	1,622	2,169	3,596	2,732
Watches and clocks	5,669	2,168	1,997	2,516	3,113
Austria	1,719	934	2,474	3,542	4,409
Iron and steel	992	449	1,780	2,561	(a) 2,989
Czechoslovakia	1,961	2,948	1,703	1,756	2,331
Woollen and worsted yarns	920	1,690	—	—	...
Iron and steel	256	95	583	728	...
Netherlands	5,462	2,885	3,718	3,652	5,873
Oils, fats and waxes	747	343	415	396	...
Chemicals and pharmaceutical products	693	830	549	427	...
Iron and steel	352	600	733	1,549	...
Italy	7,550	4,262	6,036	3,461	5,832
Chemicals and pharmaceutical products	1,470	717	620	340	...
Iron and steel	46	18	1,097	77	(a) 118
Quicksilver	1,089	466	1,313	1,130	...

(a) Not incl. nails, rivets, etc.

ing the Manchurian incident in 1931 interfered with the export trade, which was also seriously affected by the demand for long-term credits on the part of Soviet Russia. The successful conclusion of negotiations concerning the sale of the former Chinese Eastern Railway in March, 1935 not only improved diplomatic relations, but the agreements include stipulations for the purchase, in lieu of cash payment, of Japanese and Manchurian merchandise, to the extent of ¥ 93,300,000. On this account, Japanese exports to Soviet Russia showed a sharp increase in 1935.

Imports from Soviet Russia also increased since 1933, the balance of trade continuing unfavourable to Japan. In 1935, however, there was an export excess amounting to more than 10 million yen.

TABLE 464

JAPANESE TRADE WITH SOVIET RUSSIA

(in 1,000 yen)

	Exports			Imports			Balance
	European Russia	Asiatic Russia	Total	European Russia	Asiatic Russia	Total	
1929	2,304	15,033	17,337	3,081	22,875	25,956	− 8,619
1930	1,345	26,973	28,318	2,583	37,218	39,801	−11,483
1932	1,379	13,065	14,444	1,357	31,079	32,436	−17,992
1933	1,574	12,090	13,665	5,717	31,042	36,760	−23,094
1934	1,639	11,367	13,005	8,056	32,753	40,809	−27,803
1935	2,138	26,181	28,319	14,503	3,401	17,904	+10,415

Asiatic Russia participates with about 80–90% in the Japanese export trade with Soviet Russia. Japanese exports to the European part of the Soviet Union consist mostly of green tea, by far the largest part of the export trade going to Asiatic Russia, including machinery and tools, green tea, fishing nets, timber, metal manufactures, rice, sugar, coal, steel products, etc., machinery and tools being the most important item.

Asiatic Russia is also the source of most of the imports to Japan from that country. Since 1933, shipments from European Russia have, however, increased sharply, this fact accounting for the increase in the total amount of imports. The most important items in imports are salted fish and shellfish, which represent more than 40% of the total import, followed by mineral oil, which is steadily increasing of late. Formerly, mineral oil imported to Japan consisted

chiefly of crude and heavy oils from the Maritime Province, but the importation of Caucasus oil since 1933 has resulted in an increase of manufactured petroleum products.

TABLE 465

JAPANESE EXPORTS TO AND IMPORTS FROM SOVIET RUSSIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1930	1932	1933	1934	1935
Exports					
Rice	741	456	412	484	525(a)
Tea	921	1,332	1,602	1,637	1,583(b)
Coal	339	284	354	577	186(a)
Wood and timber	618	542	774	1,120	509(a)
Fishing nets	5,726	1,586	1,906	1,546	...
Steel products	909	358	393	454	...
Metal manufactures	4,391	1,496	1,268	1,013	...
Machinery and tools	1,809	1,179	1,328	1,129	1,106(a)
Vessels	3,648	2,773	589	785	...
Total (incl. other articles)	28,318	14,444	13,665	13,005	28,319
Imports					
Salted fish and shellfish	17,673	15,293	14,012	18,669	...
Mineral oil	6,371	8,511	10,895	10,029	...
Crude and heavy oils	6,371	8,488	9,432	8,079	101(a)
Other petroleum products	..	23	1,463	1,951	...
Chemicals	567	520	1,448	2,520	...
Coal	1,509	1,144	1,938	2,670	618(a)
Ores other than iron and zinc	185	565	1,092	1,464	...
Platinum	827	1,003	2,704	2,453	...
Wood and timber	9,052	3,531	2,597	624	1,410(a)
Total (incl. other articles)	39,801	32,436	36,760	40,809	17,904

(a) Asiatic Russia only. (b) European Russia only.

Scandinavian Countries. The value of trade between Japan and the Scandinavian countries (Sweden, Norway and Denmark) has steadily increased since the World War, rising from ¥ 5,900,000 in imports and ¥ 410,000 in exports of the pre-war period to a value of ¥ 43,537,000 and ¥ 12,625,000 respectively in 1935. Imports thus continue to exceed exports, the excess reaching about ¥ 30,912,000 in 1935. The expansion of Japanese trade with Scandinavia is confined to Sweden and Norway, trade with Denmark scarcely exceeding one million yen in recent years. The principal articles exported from Japan

TABLE 466

JAPANESE EXPORTS TO AND IMPORTS FROM SCANDINAVIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1933	1934	1935
Exports					
Canned and bottled foodstuffs	379	179	206	100	...
Fish and whale oils	255	57	108	463	...
Sweden	253	34	100	463	...
Cotton and cotton yarn, waste	86	53	136	186	...
Manure	—	32	34	151	...
Textile fabrics	59	258	706	1,644	...
Sweden	38	183	371	1,000	...
Norway	—	69	265	610	...
Knitted goods	5	146	897	2,054	...
Sweden	4	67	762	1,786	..
Total (incl. other articles)	2,265	2,662	6,281	10,204	12,625
Imports					
Chemicals and pharmaceutical products	1,019	464	1,229	1,125	...
Sweden	798	448	1,038	1,059	...
Pulp	4,806	3,238	11,150	17,902	...
Sweden	1,482	1,220	3,572	7,438	7,735
Norway	3,287	2,013	7,578	10,464	13,201
Aluminium	107	9	255	864	...
Norway	107	—	220	861	3,005
Nickel	—	31	2,730	2,445	...
Norway	—	31	2,730	2,445	...
Paper	3,171	5,070	2,113	1,780	...
Sweden	2,517	3,950	1,909	1,480	...
Norway	639	1,108	201	299	...
Steel products	2,150	990	3,936	4,799	...
Sweden	2,077	989	3,855	4,693	...
Machinery and tools	7,565	1,601	3,958	6,509	...
Sweden	2,221	1,236	3,722	5,396	5,951
Denmark	5,300	362	185	1,104	...
Total (incl. other articles)	21,756	12,408	28,214	37,077	43,537

were limited in 1929 to provisions, pottery, fish oil, buttons, toys, etc., each amounting to more than ¥ 100,000. Later, however, exports increased both in kind and volume, there being a sharp expansion in textile goods and miscellaneous articles. These two groups represented about 60% of the total Japanese exports to Scandinavia in 1934. Imports from Scandinavia show a large supply of pulp, which in 1934 amounted to 18 million yen. Imports of machinery,

steel products, aluminium and nickel have lately shown a marked advance.

Other European Countries. Other European countries in trade relation with Japan worth mentioning are Spain, Greece, Gibraltar, Finland and Malta which are fairly large buyers of Japanese goods, while Spain, Finland and Portugal figure largely in the import trade. Imports from Poland totalled upward of 5 million yen during the period from 1927 to 1931, and even reached to 8·2 million yen at one time, but have since decreased to a very insignificant figure.

TABLE 467

JAPANESE TRADE WITH OTHER EUROPEAN COUNTRIES

(in 1,000 yen)

	Spain	Portugal	Poland	Greece	Others[a]	Total
Exports						
1929	1,259	17	14	*	1,073	2,363
1931	683	59	16	359	297	1,415
1932	910	344	19	330	636	2,239
1933	1,844	530	44	1,095	2,606	6,119
1934	1,749	572	212	1,059	5,194	8,787
1935	3,546	1,062	955	1,128	7,888[b]	14,579
Imports						
1929	749	718	5,487	*	1,254	8,207
1931	925	873	4,999	68	1,179	8,044
1932	2,273	1,303	1,638	119	1,649	6,983
1933	3,629	1,515	947	215	3,686	9,991
1934	2,852	1,449	268	325	5,140	10,034
1935	4,548	1,474	1,287	670	5,971[c]	13,950

(*a*) Finland, Irish Free State, Malta, Gibraltar, Balkan and Baltic States. (*b*) Exports to Gibraltar in 1935 ¥1,924,000, Finland ¥1,798,000 and Malta ¥1,576,000. (*c*) Imports from Finland in 1935 ¥5,053,000. * Unavailable.

The chief exports are textile goods, which in 1934 were cotton and rayon tissues and fishing nets.

On the import side, woollen yarn headed the list in 1929 with 5 million yen, the article coming from Poland almost exclusively. In later years, imports of this article have gradually declined, and instead, pulp, cork bark, quicksilver, steel products and potassium chloride have risen to prominence as leading items.

6. North America

(1) United States of America.

Commercial relations with the United States date back to the days when Japan first opened her doors to foreign commerce. Trade has since developed rapidly, and now constitutes the mainstay of Japanese foreign commerce. Before the World War, Japanese exports to the United States were valued at only 184 million yen, but in 1919 these increased to 828 million yen. Later, there was a sharp but temporary setback, followed by an even greater expansion, which in 1925 carried the level of exports to over 1,000 million yen. After some years of depression, a peak was again reached in 1929 with 914 million yen, in spite of the general price decline. Exports to the United States accounted for about 40% of the total Japanese overseas trade for many years prior to 1932, but the American share has declined sharply to about 20% in recent years.

TABLE 468

Japanese Trade with the United States

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Balance
		%		%	
1888	22,618	34·4	5,649	8·6	+ 16,969
1913	184,473	29·2	122,408	16·8	+ 62,065
1919	828,097	39·5	766,381	35·3	+ 61,716
1925	1,006,252	43·6	664,992	25·9	+ 341,260
1926	860,880	42·1	680,185	28·6	+ 180,695
1927	833,804	41·9	673,685	30·9	+ 160,119
1928	826,141	41·9	625,536	28·5	+ 200,605
1929	914,084	42·5	654,058	29·5	+ 260,026
1930	506,220	34·4	442,882	28·7	+ 63,338
1931	425,330	37·1	342,289	27·7	+ 83,041
1932	445,147	31·6	509,873	35·6	- 64,726
1933	492,237	26·5	620,788	32·4	- 128,551
1934	398,928	18·4	769,359	33·7	- 370,431
1935	535,389	21·4	809,645	32·7	- 274,256

Imports from the United States also expanded rapidly both in absolute and relative value, and in recent years represented about 25% to 30% of the total import trade of Japan. The balance of trade was formerly favourable to Japan, but a reversal of this tendency manifested itself after the reimposition of the gold embargo, the decline in Japanese exchange rates naturally resulting in higher

TABLE 469

JAPANESE EXPORTS TO AND IMPORTS FROM THE UNITED STATES BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1913	1929	1931	1932	1933	1934	1935
Exports							
Tea	8,848	8,124	5,273	4,751	5,083	4,629	4,481
Canned and bottled foodstuffs	1,699	11,585	7,808	8,049	17,834	11,182	16,813
Volume (1,000 piculs)	*	*144*	*119*	*144*	*268*	*161*	*244*
Pyrethrum	8	3,504	1,179	4,349	5,499	6,791	5,809
Raw silk	125,754	755,378	342,479	360,149	355,806	239,568	328,911
Volume (1,000 piculs)	*133·1*	*555·9*	*536·7*	*513·0*	*437·4*	*425·9*	*446·6*
Vegetable oils	313	3,357	2,591	2,501	5,909	8,891	27,473
Volume (1,000 piculs)	*17*	*113*	*142*	*137*	*238*	*383*	*1,067*
Plaits	6,769	1,355	623	633	3,303	4,947	1,832
Silk tissues	5,183	14,699	4,520	3,807	5,558	5,258	6,778
Carpets and matting	424	2,906	2,645	2,862	5,365	5,040	...
Rags	—	8,308	3,753	3,030	3,525	4,838	...
Hats and caps	3,716	7,197	6,134	3,032	4,141	4,521	3,507
Pottery and porcelain	3,130	14,500	6,634	6,441	10,180	14,314	15,776
Toys	829	4,632	2,922	4,987	6,976	9,604	11,494
Electric bulbs	*	2,846	2,911	4,470	3,065	2,964	..
Total (incl. other articles)	184,473	914,084	425,330	445,147	492,237	398,928	535,389
Imports							
Raw cotton	64,220	276,357	153,700	320,752	381,655	400,919	371,952
Volume (1,000 piculs)	*1,720*	*4,485*	*5,321*	*9,102*	*7,435*	*6,487*	*5,758*
Wood and timber	1,259	67,393	26,174	20,223	23,737	20,967	28,227
Hides and leather	1,697	6,817	3,683	4,374	5,084	7,031	7,654
Pulp	114	2,317	2,418	3,951	7,801	16,321	22,812
Crude and heavy oils	—	26,091	24,972	32,146	39,783	54,475	81,336
Volume (million gallon)	—	*254*	*264*	*324*	*337*	*490*	*690*
Other mineral oils	8,254	24,423	24,104	24,906	19,523	17,215	(*a*) 6,280
Copper	6	4,354	634	668	8,989	27,412	(*b*)35,850
Lead	38	4,479	2,511	3,275	4,013	6,827	(*c*) 4,815
Scrap iron	—	8,282	824	4,673	16,673	45,564	
Steel sheets	1,988	18,031	4,576	3,230	7,118	15,866	88,991
Other iron and steel products	4,530	13,617	3,145	3,778	3,902	6,484	
Motor car and parts	487	31,044	15,816	13,836	13,287	31,553	31,255
Machinery and tools	9,056	41,803	16,209	17,749	22,238	35,520	38,902
Total (incl. other articles)	122,408	654,058	342,289	509,873	620,788	769,359	809,645

(*a*) With gravity not exceeding 0.8762. (*b*) (*c*) Ingots and slabs only. * Unavailable.

prices for imported articles, particularly raw materials.

Trade relations with the United States are well defined, centring on a few staple products peculiar to this trade. Japanese exports consist largely of raw silk and other articles, the export of which is almost exclusively confined to the American market. Imports consist mainly of raw cotton, petroleum, iron, and other raw materials essential to Japanese industry.

Raw silk accounts for about 60% of the total Japanese export to the United States, and the rise and fall of this article has always been the determinant factor in the trend of this trade.

In 1913, the year immediately before the outbreak of the World War, the value of Japanese imports from the United States totalled only 122 million yen. By 1919 the total had risen to more than 700 million yen. The highest level was reached later in 1920 with 873 million yen, since when the level of 600 million yen was maintained up to 1929. During this period, there have been some changes in the constitution of the trade, reflecting the industrial development of Japan.

The import of raw cotton occupies a place similar to that of raw silk in the Japanese export trade to the United States, accounting in 1929 for 42·3% of the total imports. Since 1932, when the gold embargo was reimposed, the value of imports from the United States has expanded at even a greater rate than in 1919 and 1920, the post-war prosperity years, the ratio of such imports to total Japanese imports rising from 27·7% in 1931 to 32·7% in 1935. With the recent advance of Japanese cotton textiles in foreign markets, the imports of raw cotton from the United States, the largest supplier of this commodity, have naturally increased considerably as shown in the following table, which illustrates the proportion of American cotton to the total volume of raw cotton consumed in Japan:—

1929	1930	1931	1932	1933	1934	1935
41·6%	40·6%	47·7%	71·4%	59·5%	47·9%	46·9%

In view of the great activity of the Japanese armament industry, the import of scrap iron, copper, steel sheets, iron and steel products has increased tremendously, while crude and heavy oils, machinery, motor cars and parts doubled in value. Unlike the increase in raw cotton, the advance in some of these commodities, notably machinery, is rather temporary in nature, the present expansion reflecting special circumstances. It is nevertheless clear that the position of the United States in Japanese foreign trade will continue to grow in importance, in view of the nature of the import trade, which consists in raw materials necessary for Japanese industry.

Japanese trade with the United States has on the whole been free from upsetting interference through commercial policy, but occasionally, there have been setbacks. The Hawley-Smoot tariff revision in 1930, embodying an increase of about 20% in customs duties, affected Japanese trade in a very decisive way, about twenty com-

modities being subjected to higher duties. The extent of the loss in trade may be detected in the sudden decline in the exports of pottery, porcelain and canned foodstuffs, which continued for a few years after the enforcement of the Law.

The situation was further aggravated when, due to the economic depression, the United States adopted restrictive measures against Japanese goods by utilizing a flexible provision in the present Tariff Law and applying the Dumping Law of 1921. In 1933, it appeared for a time that the high-tariff movement was losing ground in view of the devaluation of the dollar. But the continued inflow of Japanese goods further stimulated restrictive measures against Japanese rubber shoes, electric bulbs, toys, matches, brushes, carpets, pottery and porcelain, rackets, imitation pearls, canned fish and pencils. In view of this situation, Japanese manufacturers and exporters have combined in order to control exports, and thus eliminate causes for complaint as much as possible.

(2) Hawaii.

Japanese exports to these islands greatly exceed imports. Japan occupies second place, after the United States, as a source of supplies, but imports from Hawaii are negligible.

As nearly 40% of the population is Japanese, exports consist mainly of daily necessaries for Japanese residents. Rice, *miso*,

TABLE 470

JAPANESE TRADE WITH HAWAII

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Aquatic products	816	723	721	560	487	558
Canned and bottled foodstuffs	587	636	869	954	829	951
Alcoholic beverages	—	—	—	288	271	...
Other foodstuffs and beverages	826	596	621	668	565	...
Cotton tissues	148	143	169	172	182	245
Footwear	283	320	358	412	286	...
Manure	555	189	736	480	376	...
Total (incl. other articles)	6,271	5,625	6,676	6,485	5,526	7,242
Imports						
Iron and steel	3	23	—	71	47	...
Total (incl. other articles)	146	269	533	136	154	287
Balance	+ 6,125	+ 5,356	+ 6,143	+ 6,349	+ 5,372	+ 6,955

soy, beans and peas, pickled vegetables, aquatic products, and canned and bottled foodstuffs are naturally the most important. Manure is also an important item on the list of Japanese export articles to the islands. Since 1932, artificial manure has taken the place of bean-cake. Japanese imports from Hawaii include scrap iron and coffee as most important items.

(3) Canada.

Japanese exports have shown a serious decline in recent years, largely as a result of discriminatory tariff legislation. Imports, on the other hand, continued to advance rapidly after the World War, rendering the balance of trade increasingly unfavourable to Japan.

The principal articles exported to Canada are pottery and porcelain, rice, tea, toys, fruit, raw silk, and silk and rayon tissues. Of these, rice, tea, pottery and porcelain, and toys tend to increase, while raw silk, silk and rayon tissues have declined sharply. Canada, however, imports Japanese raw silk to an increasing extent through the United States, and these imports do not figure in Japanese statistics, while they explain the sharp reduction in direct shipments.

TABLE 471

JAPANESE TRADE WITH CANADA

(in 1,000 yen)

	Exports	Ratio to total exports	Imports	Ratio to total imports	Balance
		%		%	
1913	5,090	0·8	1,840	0·3	+ 3,250
1929	27,096	1·3	68,729	3·1	- 41,633
1931	13,067	1·1	35,672	2·9	- 22,605
1933	6,580	0·4	46,891	2·4	- 40,311
1934	8,666	0·4	54,094	2·4	- 45,428
1935	7,977	0·3	52,531	2·1	- 44,554

The exports of silk and rayon tissues also declined sharply, due mainly to the development of the silk industry in Canada and to protective measures adopted by her Government, the decline being notable since 1932.

The bulk of Japanese imports from Canada is accounted for by wheat, timber, pulp, paper, aluminium, lead and zinc. Imports of wheat have shown some decline since 1930, due to the advance of the Australian product, while timber, pulp and paper have, on the whole, maintained an upward tendency, but when compared with the general advance in imports in these articles, the position of Canada is comparatively unimportant. In the supply of print-

ing paper, however, Canada has now attained a dominant position. In 1935, lead imported from Canada accounted for 34% of Japanese total imports of this article; zinc 33% and aluminium 42%.

The importance of Canada in Japanese trade relations is due to her position as a supplier of foodstuffs and raw materials. With the exception of some few special articles, Japanese exports have gradually diminished in recent years. The import value, though not very large, includes such essential articles as lead and zinc.

TABLE 472

JAPANESE EXPORTS TO AND IMPORTS FROM CANADA

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934	1935
Exports							
Rice	479	411	458	463	599	1,195	493
Fruit	673	565	451	374	458	468	...
Tea	1,529	802	674	671	721	876	579
Raw silk	5,692	3,559	2,596	1,164	206	411	70
Silk tissues	9,485	4,216	2,203	283	116	143	227
Rayon tissues	—	1,091	1,323	261	146	158	133
Potterly and porcelain	1,650	1,391	1,139	1,317	1,399	1,508	1,458
Toys	399	400	406	508	410	627	758
Total (incl. other articles)	27,096	17,903	13,067	8,562	6,580	8,666	7,977
Imports							
Wheat	35,273	14,856	7,937	8,762	10,243	8,120	6,258
Wood and timber	5,107	6,729	7,774	7,345	7,621	9,470	8,258
Pulp	4,625	5,459	5,200	3,144	6,043	7,245	5,991
Paper	853	797	1,856	4,213	3,671	5,983	(a) 6,844
Aluminium	56	3,220	730	2,554	2,498	4,049	(b) 6,030
Lead	8,178	5,049	4,240	4,298	5,542	7,406	(c) 6,929
Zinc	3,555	46,259	1,506	2,618	3,957	3,420	(b) 2,814
Total (incl. other articles)	68,729	2,010	35,672	39,504	46,891	54,094	52,531

(a) Printing paper only. (b) Ingots, slabs and grains. (c) Ingots and slabs.

Japan maintains commercial relations with Canada on the basis of the most-favoured-nation clause, and Japanese goods are subject to intermediary tariff rates. However, in recent years restrictive measures have been taken against Japanese goods on the ground of protecting Canadian industries. Not only have tariff rates been

raised frequently, but an exchange dumping duty has been instituted and arbitrary exchange rates have been fixed as a basis for the assessment of tariff rates. In view of this position, and as a result of the sharp decline in exports, the Japanese Government by way of reprisal invoked the Trade Protection Law, imposing an additional import duty on wheat, timber, pulp, etc. As a result of new negotiations, these tariff reprisals have been rescinded and normal trade relations restored at the end of 1935.

7. Central and South America

(1) General Survey.

The principal industries in Central and South America are agriculture, mining, cattle-breeding and forestry. The natural resources of iron, coal, and other deposits remain practically unexploited, and skilled labour being scarce, the manufacturing industry is still in its infancy. North American and European capital predominates even in the existing industries, and consequently holds an important position in the world market for coffee from Brazil, wheat, meat, and wool from Argentine, nitrates from Chile, silver, copper, and lead from Mexico, sugar and tobacco from Cuba. Exports consist largely of raw materials and foodstuffs, while textiles, machinery, fuel, foodstuffs, and manufactured goods are the chief articles imported. The trade balance is generally favourable, though at present not to a sufficient extent to cover interest and redemption of the huge foreign debts contracted by all countries, with the exception of Venezuela. Efforts

TABLE 473

Position of Principal Countries in Central and South American Trade

(%)

	U.S.A.	Great Britain	Germany	France	Belgium	Canada	Italy	Japan
Imports								
1929	35·2	14·4	9·0	4·4	2·0	2·9	3·5	0·5
1932	28·2	14·5	7·7	5·0	2·3	3·4	4·0	0·6
1934	23·9	13·9	7·6	4·7	2·8	2·6	2·3	2·2
Exports								
1929	34·4	20·7	12·1	8·2	2·9	1·7	3·8	0·2
1932	30·5	25·7	10·6	9·6	3·4	2·0	3·6	0·1
1934	20·7	25·4	10·3	7·7	3·9	1·7	2·8	0·4

Figures prepared from *Review of World Trade* (League of Nations.)

are, therefore, made to prevent the outflow of capital by control over exchange and by limiting imports.

The United States has the closest trade relations with Central and South America, Great Britain and Germany ranking next, followed by France, Belgium, the Netherlands, Italy and Canada. On account of the expansion of exports in 1934, Japan has gained a strong foothold in those regions. Imports to Japan from Central and South America are, however, very small.

On account of remoteness and the predominance of American and European influence, Japanese trade with Central and South American countries was until recently very small, accounting for only about 1% of the total value of trade. There has been a notable increase after 1933, exports consisting principally of cotton tissues, rayon textiles and miscellaneous commodities. Exports advanced from 13·5 million yen in 1931 to 104·8 million yen in 1934, an eightfold increase, the ratio to the total value of Japanese foreign trade rising from 1·2% to 4·8% during the same period. This upward tendency was, however, checked in 1935, the ratio for the year registering a decline to 4·4%. There has been, at the same time, a marked increase in imports, the value rising from 5·3 million yen in 1932 to 50·9 million yen in 1935. Nevertheless, the balance of trade continues to be favourable to Japan, the surplus of exports in 1935 being returned at about 58 million yen, a rather important contribution to the Japanese balance of trade.

Of staple articles exported to Central and South America, the most important are cotton and rayon textiles, the former in particular accounting for 55·7% and 39% respectively of the total export to South America and Central America. In 1934, exports of cotton tissues to Central and South America were valued at over 51 million yen, or 10·4% of the total value of Japanese cotton tissues exported during the same year. There was a further increase in 1935. The recent advance of rayon is of special interest, as it was partly effected at the expense of silk textiles. In 1934, exports of rayon tissues to Central and South America accounted for 10·3% of Japanese exports of this commodity. The principal customers are Uruguay, Cuba and Panama. Other important Japanese export articles are silk textiles, cotton yarn, underwear, pottery and porcelain, celluloid manufactures, toys, buttons, socks and stockings and electric bulbs. There is also some demand from Central America for rayon yarns and *kimono*, while South America imports woollen tissues and yarn. The future prospects for trade in cotton and silk knitted goods, bed sheets, automobile tyres, automobile parts, radio apparatus,

TABLE 474

JAPANESE TRADE WITH CENTRAL AND SOUTH AMERICAN COUNTRIES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Peru	2,602	800	841	3,900	6,879	6,961
Chile	2,719	805	287	1,476	7,440	6,647
Argentine	8,580	4,701	7,553	12,262	20,013	28,603
Brazil	1,572	642	1,330	2,766	3,065	5,926
Uruguay	4,467	1,151	423	2,451	6,965	5,676
Venezuela					1,970	3,565
Colombia	3,086	2,126	2,700	7,525	9,005	7,833
Other South American countries					6,120	8,150
Total	23,026	10,225	13,133	30,379	61,457	73,361
Mexico	1,343	666	638	1,492	4,010	5,465
Cuba	1,256	641	962	3,328	9,986	5,048
Salvador		385	394	685	2,289	71
Panama Canal Zone		450	551	1,110	1,827	824
Panama					4,250	6,150
Haiti and Dominican Republic	3,955	1,160	2,585	9,560	8,493	6,804
Other Central American countries					12,440	11,665
Total	6,554	3,302	5,131	16,175	43,295	36,027
Grand total	29,580	13,527	18,264	46,554	104,752	109,388
Ratio to total exports (%)	*1·4*	*1·2*	*1·3*	*2·5*	*4·8*	*4·4*
Imports						
Peru	59	17	41	1,554	1,823	11,415
Chile	10,415	2,943	761	2,963	3,438	4,473
Argentine	3,236	2,901	2,719	6,739	12,128	16,371
Brazil	381	453	754	1,008	3,292	4,006
Uruguay	155	687	174	318	2,631	4,495
Venezuela					36	56
Colombia	18	97	231	291	42	64
Other South American countries					571	2,028
Total	14,263	7,098	4,681	12,872	23,961	42,908
Mexico	701	90	319	189	190	6,444
Cuba	758	17	196	194	33	405
Salvador		—	—	—	2	27
Panama Canal Zone		9	35	9	48	45
Panama					20	89
Haiti and Dominican Republic	103	73	106	46	28	709
Other Central American countries					536	314
Total	1,562	188	656	438	857	8,033
Grand total	15,825	7,286	5,337	13,310	24,818	50,941
Ratio to total imports (%)	*0·7*	*0·6*	*0·4*	*0·7*	*1·1*	*2·1*
Balance						
South America	+ 8,763	+ 3,127	+ 8,452	+17,507	+37,466	+30,453
Central America	+ 4,992	+ 3,114	+ 5,447	+15,737	+42,438	+27,994
Total	+13,755	+ 6,241	+12,927	+33,244	+79,934	+58,447

gramophones and other machines and instruments, cement, etc., appear promising.

TABLE 475

JAPANESE TRADE WITH CENTRAL AND SOUTH AMERICA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1932	1933	1934	
Exports				%
Cotton tissues	4,674	15,099	51,109	48·8
Rayon tissues	1,764	5,895	11,660	11·1
Silk tissues	2,853	4,185	3,476	3·3
Cotton yarn	402	592	3,033	2·9
Underwear	499	1,620	2,771	2·6
Pottery and porcelain	491	1,375	2,660	2·5
Celluloid manufactures	245	951	1,669	1·6
Rayon yarn	100	262	1,626	1·6
Toys	375	932	1,613	1·5
Kimono	357	1,099	1,426	1·4
Buttons	628	812	1,356	1·3
Socks and stockings	367	1,169	1,326	1·3
Electric bulbs	1,013	1,359	1,284	1·2
Pharmaceutical products	386	869	1,074	1·0
Total (incl. other articles)	18,264	46,554	104,752	100·0
Imports				%
Wool	592	3,037	10,155	40·9
Raw cotton	—	803	3,344	13·5
Nitrate of soda	706	2,464	2,273	9·2
Tanning extracts	671	1,529	1,545	6·2
Hides and leather	385	839	948	3·8
Casein	144	684	920	3·7
Scrap iron	64	51	910	3·7
Coffee	485	504	703	2·8
Wheat	—	8	626	2·5
Total (incl. other articles)	5,337	13,310	24,818	100·0

The most important import is wool, which in 1934 accounted for 40·9% of total Japanese imports from Central and South America, and is mostly supplied by Argentine, Chile, and Uruguay. Ginned cotton from Brazil and Chile follows next with 13·5%. The recent sudden advance in this commodity is an outcome of the efforts made to balance the trade between Japan and South American countries. There has been practically no fluctuation of note in the import situa-

tion of nitrate from Chile, tanning extracts and casein from Argentine, coffee from Brazil, hides and leather, animal bones and canned meat from Argentine and Uruguay. Imports of scrap iron from various countries, and of wheat from Argentine recorded a sudden increase, while on the other hand, Cuban sugar lost its place in the list of Japanese import articles in 1934. In general, imports are largely confined to Argentine, Chile, Brazil, Uruguay and Peru, shipments from other Latin American countries being still insignificant.

In view of the unilateral tendency of trade relations, not a few countries here dealt with have endeavoured to check the import of Japanese goods through increased tariff rates or quotas on the basis of trade of several years ago. In Argentine, an exchange tariff, which imposes rates about 20% higher on goods from countries whose total sales exceed purchases, is now in force, while at the same time, efforts are being made to export wool and wheat to Japan by way of compensation.

To cope with the many problems of trade, various control associations have been formed in Japan for the purpose of preventing reckless competition, and promoting the import trade from Central and South American countries.

	Date of establishment
The Eastern Japan-South America Exporters' Association	Aug. 11, 1934
The Western Japan-South America Exporters' Association	Aug. 11, 1934
The Japan-Central and South America Cotton Yarn and Tissue Exporters' Association	Apr. 20, 1935
The Japan Federation of Silk and Rayon Tissue Exporters' Associations	Aug. 24, 1933
The Federation of Japan-Central and South America General Goods Exporters' Associations	July 10, 1935

These associations exercise control over export prices and collect charges as a contribution for compensatory imports from Central and South America.

Japanese trade with Central and South America, being of recent development, lacks as yet sufficient banking facilities, a branch of the Yokohama Specie Bank in Rio de Janciro being the only one in existence. This deficiency in banking facilities renders the future prospects of development somewhat precarious.

(2) South American Countries.

Argentine. Japan's largest customer among the countries of Central and South America accounted in 1935 for an export value of about 29 million yen. Exports, though considerable even in the past, have

recently advanced greatly, the figure for 1935 registering an increase of more than 40% over the previous year. Imports also advanced sharply in 1934 and 1935, but are still negligible in total value. The principal Argentine export articles to Japan include wool, quebracho extract, hides and leather, canned meat and animal bones. As a measure of trade readjustment, Japan increased her wool purchases in 1934, but because of inferior quality and comparatively high price, there was a decline in the import of this article in the succeeding year, whilst wheat and linseed showed a pronounced increase.

TABLE 476

JAPANESE TRADE WITH ARGENTINE BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1932	1933	1934	1935
Exports				
Cotton tissues	3,295	6,616	13,956	20,126
Silk tissues	2,134	2,425	1,369	1,310
Pottery and porcelain	150	396	628	767
Buttons	269	292	484	479
Pharmaceutical products	74	329	468	...
Electric bulbs	668	388	455	...
Celluloid manufactures	134	269	371	...
Woollen and worsted yarns	—	301	337	...
Toys	92	85	192	535
Rayon tissues	34	35	44	280
Total (incl. other articles)	7,553	12,262	20,013	28,603
Imports				
Wool	481	2,427	7,553	612
Quebracho extracts	671	1,508	1,395	...
Casein	144	679	910	...
Wheat	—	8	626	2,574
Hides and leather	343	647	369	1,036
Canned and bottled foodstuffs	359	156	326	...
Animal bones	70	159	257	...
Linseed	—	867	186	1,652
Total (incl. other articles)	2,719	6,739	12,128	16,371

Argentine's imports from Japan consist mainly of cotton tissues, which have now gained a position only next to British and Italian goods. There was a decline in 1934 in the export of silk textiles, the value dropping to only 1·4 million yen, but Japan still maintains

a superior position compared with France. Other articles include pottery and porcelain, pharmaceutical products, celluloid manufactures and woollen yarns. Japanese buttons and electric bulbs dominate the Argentine. The Exchange Tariff Act of March 28th, 1935, which provides for an increase of about 20% in tariff rates on Japanese goods, has put Japan at a great disadvantage, although cheap prices still give Japanese goods an advantage compared with competing countries.

Brazil. Japan's trade with Brazil was very small until quite recently, with a total of annual imports and exports valued at about 2 or 3 million yen. In 1935, there was a sharp increase to about 10 million yen, but even this total is insignificant, representing only about 0·2% of Japanese foreign trade.

Exports from Japan consist largely of articles such as pottery and porcelain, celluloid manufactures, electric bulbs and toys, the sales of cotton and rayon tissues being very small. Coffee has been the most important of the articles imported from Brazil, but in 1934 purchases of ginned cotton to the value of 2 million yen were made.

TABLE 477

JAPANESE TRADE WITH BRAZIL BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1932	1933	1934	1935
Exports				
Pottery and porcelain	150	396	628	672
Celluloid and manufactures thereof	41	135	299	...
Electric bulbs	191	527	247	...
Toys	88	270	227	316
Buttons	153	210	188	192
Woollen and worsted yarns	—	—	162	...
Machinery and tools	70	104	150	204
Total (incl. other articles)	1,330	2,766	3,065	5,926
Imports				
Raw cotton	—	60	1,962	...
Coffee	459	458	592	...
Tanning extracts	—	—	150	...
Total (incl. other articles)	754	1,008	3,292	4,006

Chile. Chile's representative industries are the mining of nitrate, copper, gold, silver and iron in the North, and agriculture and stock-

breeding in the South. After 1929, when imports of nitrate reached the highest level, there was a gradual decline in Japanese trade until 1932, since when there has been a marked recovery, with increased purchases of nitrate on the one hand and a sharp increase in the export of cotton tissues on the other. The balance of trade was formerly adverse to Japan, but this position was reversed in 1934.

TABLE 478

JAPANESE TRADE WITH CHILE BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1932	1933	1934	1935
Exports				
Cotton tissues	192	1,224	6,073	5,191
Cotton yarn	9	21	568	...
Electric bulbs	5	54	85	...
Total (incl. other articles)	287	1,476	7,440	6,647
Imports				
Crude nitrate of soda	706	2,464	2,273	2,777
Wool	22	465	934	875
Total (incl. other articles)	761	2,963	3,438	4,473

Japanese imports of Chilean nitrate showed immense activity during the World War, reaching the highest level in 1920 with 24·5 million yen. In the following year, however, there was a sharp reactionary decline to 2·6 million yen, and since then a level of from 5 to 6 million yen was maintained up to 1929, when a sudden rise to nearly 10 million yen was registered. In recent years, however, with the advance of the domestic nitrogen industry, the value has again dropped to approximately 2 million yen.

The Chilean Government, in July, 1933, instituted a quota system which limited the imports of Japanese goods to an amount, allowing the settlement of accounts by export bills of Chilean goods. The devaluation of the peso in 1935, which was accompanied by a reduction of about 33% in tariff rates, further aggravated the situation of Japanese goods, as Japanese cotton tissues and shell buttons were left outside the scope of the tariff reduction.

Colombia. Colombia's imports from Japan were returned in 1934 at 9 million yen, or 4·2 million pesos, showing a nearly fourfold increase compared with the figure of 1·1 million pesos for the preceding year. The most important articles are cotton tissues, which account-

ed for 5·4 million yen. Japan now ranks third among the exporting countries to Colombia, outstripping Great Britain and France, and coming after the United States and Germany. Colombia's chief export article is coffee, followed by petroleum, gold and bananas. Exports to Japan are insignificant, depending largely on coffee, the export value of which totalled only ¥ 34,000. Colombia denounced the commercial treaty with Japan unilaterally to be effective from April, 1935, and provided for a six months' provisional maximum for imports of 700,000 pesos, any excess being permitted up to the level of the export exchange.

TABLE 479

JAPANESE TRADE WITH COLOMBIA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1934	1935		1934	1935
Exports			Buttons . . .	124	···
Cotton tissues . .	5,359	4,620	Woollen and worsted tissues . . .	108	···
Silk tissues . .	531	···	Total (incl. other articles) .	9,005	7,833
Cotton yarn . .	251	···	Imports		
Pottery and porcelain	247	···	Coffee	34	···
Celluloid manufactures . . .	153	···	Total (incl. other articles) .	42	64
Electric bulbs . .	132	···			

Uruguay. Imports of Japanese goods rose sharply from 2·5 million yen in 1933 to 7 million yen in 1934. Rayon tissues accounted for more than half the total exports, followed by cotton and silk tissues. Japanese imports from Uruguay in 1934 consisted of various commodities to the value of 2·6 million yen, a sharp increase over the

TABLE 480

JAPANESE TRADE WITH URUGUAY BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1933	1934	1935		1933	1934	1935
Exports				Imports			
Rayon tissues .	917	3,688	3,909	Wool . .	134	1,496	···
Cotton tissues .	533	2,071	846	Hides and leather .	115	498	···
Silk tissues .	645	649	590	Scrap iron .	6	244	···
Buttons . .	58	86	···				
Total (incl. other articles)	2,451	6,965	5,676	Total (incl. other articles)	318	2,631	4,495

preceding year. Wool accounted for 1·5 million yen, and hides and leather for 0·5 million yen.

Peru. Japanese exports in 1934 were valued at 7 million yen, or twice the amount of the preceding year. Cotton manufactures accounted for nearly half the exports, representing 33·3% of Peru's total imports of cotton textiles, compared with the share of 38·1% for Great Britain. The Peruvian Government in May, 1935 instituted a quota system for cotton tissues which has proved prohibitive for Japanese goods.

TABLE 481

JAPANESE TRADE WITH PERU BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1933	1934	1935		1933	1934	1935
Exports				Woollen and worsted tissues	3	100	...
Cotton tissues	1,014	2,567	2,133	Rayon tissues	36	97	...
Socks and stockings	365	819	...	Total (incl. other articles)	3,900	6,879	6,961
Underwear	195	269	...				
Bed sheets	97	217	...	Imports			
Pharmaceutical products	165	205	...	Raw cotton	707	1,286	...
Silk tissues	132	174	..	Guano, etc.	695	324	...
Toys	55	144	..	Wool	—	137	...
Handkerchiefs	33	128	...	Total (incl. other articles)	1,554	1,823	11,415

Ecuador. Japanese exports to Ecuador advanced sharply from ¥300,000 (estimate) in 1933 to ¥4,590,000 in 1935, attaining a place second only to the United States. The principal export articles were cotton manufactures, miscellaneous articles, fancy articles, tools and implements. Trade relations being very unilateral, a surcharge of 50% of import duties on cotton tissues and 20–30% on miscellaneous goods was levied by Ecuador after May, 1935.

Venezuela. Japanese exports are increasing, the value being registered at ¥3,565,000 in 1935. Cotton tissues accounted for over 2 million yen. Other articles exported are pottery and porcelain, toys, and rayon tissues. There were practically no imports to Japan with the exception of cocoa valued at ¥30,000. No discriminative measures against Japanese goods have yet been enforced. Japanese trade relations with Bolivia, Paraguay, British Guiana, Netherlands Guiana and French Guiana are too modest to deserve special description.

(3) Central American Countries.

Japanese export trade developed remarkably, particularly in cotton and rayon tissues, while imports from these countries are still very small. There has been a pronounced decline in imports from Mexico and Cuba.

The position of Japanese export articles in 1934 was second only to the United States in Haiti, Panama and the Dominican Republic, while great progress appears to have been achieved in other markets.

Cuba. At present, Japanese imports from Cuba are practically nil, the import of sugar which formerly reached a fairly large total having entirely ceased in 1934. On the other hand, there has been a sharp upward tendency in the export of Japanese goods. The most important articles exported are cotton and rayon tissues, followed by cotton yarn, beans and peas, straw plaits, pottery and porcelain, with a total value of nearly 10 million yen in 1934.

TABLE 482

JAPANESE TRADE WITH CUBA BY PRINCIPAL ARTICLES

(in 1,000 yen.)

	1932	1933	1934	1935
Exports				
Rayon tissues	391	1,247	3,571	...
Cotton tissues	71	616	3,084	1,814
Beans and peas	85	253	328	...
Straw plaits	64	242	326	...
Pottery and porcelain	47	97	312	...
Silk tissues	89	78	208	...
Toys	22	91	195	...
Total (incl. other articles)	962	3,328	9,986	5,048
Imports				
Sugar	184	166	—	102
Fibre materials	—	—	19	...
Total (incl. other articles)	196	194	33	405

Probably in view of the one-sided nature of trade relations, Cuba changed her tariff system effective from March, 1935, by classifying the exporting countries into three categories, and levying high tariff rates on goods from countries selling more than they buy. In addition, dumping duties have been charged on Japanese goods from

TABLE 483

JAPANESE TRADE WITH MEXICO BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1932	1933	1934	1935
Exports				
Rayon yarn	81	250	1,563	...
Celluloid manufactures	26	137	349	...
Toys	35	125	224	...
Buttons	33	70	145	...
Pharmaceutical products	112	193	128	...
Total (incl. other articles)	638	1,492	4,010	5,465
Imports				
Vegetable fibres	10	31	60	...
Scrap iron	—	—	47	...
Zinc	8	12	27	...
Total (incl. other articles)	319	189	190	6,444

TABLE 484

JAPANESE TRADE WITH OTHER CENTRAL AMERICAN COUNTRIES

(in 1,000 yen)

	Haiti	Panama	Jamaica	Salvador	Guatemala	Panama Canal Zone	Honduras
Exports in 1934							
Cotton tissues	6,755	866	949	1,467	1,080	470	581
Rayon tissues	278	1,072	512	26	121	276	307
Underwear	211	603	253	4	7	233	24
Cotton yarn	—	—	—	386	632	5	6
Kimono	2	640	89	—	—	355	—
Pottery and porcelain	65	57	42	52	26	33	23
Toys	16	73	12	17	6	7	4
Silk tissues	55	73	54	23	5	34	4
Celluloid manufactures	22	12	10	54	55	12	29
Handkerchiefs	76	21	69	29	54	16	8
Shoes and boots	20	99	336	—	—	70	11
Socks and stockings	221	11	1	78	56	21	22
Bed sheets	30	86	16	—	22	28	20
Hats and caps	22	12	10	54	55	12	29
Total (incl. other articles)	8,493	4,250	2,767	2,289	2,276	1,827	1,167
Exports in 1935	6,804	6,150	1,057	71	995	824	2,269
Total imports 1934	28	20	2	2	47	48	4
1935	709	89	27	27	118	45	—

May of the same year which have thus been put at a great disadvantage.

Mexico. Imports from Mexico have greatly declined, the imports of zinc, which formerly amounted to a considerable amount, having entirely ceased. The recent expansion of exports appears largely due to rayon yarn. The total for 1935 shows an extremely sharp, though as yet unclassified, advance over previous years.

Haiti. There was an extraordinary increase in the exports of Japanese cotton tissues, which accounted for nearly 80% of the total export value in 1934. High tariff rates have, however, been put in effect from April, 1935, to redress the balance of trade.

Panama. There is a fairly large demand for Japanese rayon tissues, cotton tissues, *kimono* and shirts. Trade being mainly of a transit nature, a system of free trade was made effective from June, 1935, under which import and export articles are exempted from customs duties.

8. Africa

(1) General Survey.

Japanese exports to Africa have been rapidly increasing in recent years, the ratio to total exports advancing in 1935 to 7·3%. This compares with only 0·3% in 1913, 2·8% in 1929 and 5·1% in 1931, and well illustrates the growing importance of the continent for Japanese trade.

Leading exports are products of the textile industry headed by cotton tissues. Of the total Japanese exports to Africa in 1934, 44·3% were cotton tissues, the ratio rising to 71·9% if silk and rayon tissues are added. Next in order come underwear, shoes, socks and stockings, pottery and porcelain, enamel wares, etc. These daily necessaries well suit the requirements of the natives on account of their cheapness, as purchasing power is very low.

The dependence of Japan upon imports from Africa is far less pronounced, the ratio to total imports in 1935 being only 2·8%. Leading imports are raw cotton, phosphorite, salt and wool.

The balance of trade is heavily in Japan's favour, and such unilateral trade can hardly claim to rest on a sure basis, as evidenced by the restrictions upon Japanese goods already enforced in various regions.

TABLE 485

JAPANESE TRADE WITH AFRICA

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Egypt	31,352	22,830	41,877	55,608	72,988	53,800
Union of South Africa	13,179	19,283	16,418	26,741	29,540	32,769
East Africa	13,124	10,868	15,760	23,175	37,455	40,160
Other destinations	2,879	5,888	11,640	31,715	42,414	56,799
Total	60,534	58,868	85,695	137,239	182,397	183,528
Ratio to total exports (%)	*2·8*	*5·1*	*6·1*	*7·4*	*8·4*	*7·3*
Imports						
Egypt	25,824	13,568	19,788	26,456	46,259	51,305
Union of South Africa	1,448	1,333	2,636	4,313	8,234	4,762
East Africa	11,406	2,263	3,414	14,357	21,306	8,042
Other destinations	3,860	1,063	1,613	3,281	3,775	5,077
Total	42,537	18,227	27,450	48,407	79,574	69,186
Ratio to total imports (%)	*1·9*	*1·5*	*1·9*	*2·5*	*3·5*	*2·8*
Balance	+17,997	+40,642	+58,245	+88,832	+102,823	+114,342

The largest buyer of Japanese goods is Egypt, with which country trade relations have existed for many years past. Egypt occupies an important position as a buyer of Japanese cotton tissues next to British India, the Netherlands East Indies and Manchoukuo. Regions other than Egypt may fairly be called new markets, expansion having taken place during the past few years.

(2) Egypt and Sudan.

Egypt. Egypt is the biggest market for Japanese goods in Africa. The total value of exports in 1935 reached 54 million yen, a decrease of 26% compared with the previous year. These exports consist mainly of cotton, rayon and silk tissues, etc., cotton tissues constituting 58·9% of total exports in 1935. The principal Japanese imports are raw cotton, phosphorite and salt. The balance of trade has been generally favourable to Japan, but a sharp reversal is noted in 1935.

Under the treaty concluded in March, 1930, Japanese goods were accorded the most-favoured-nation treatment. On July 18th, 1935, the Egyptian Government suddenly abrogated the treaty. Negotiations started for the conclusion of a new treaty were upset in

TABLE 486

JAPANESE TRADE WITH AFRICA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1930	1931	1932	1933	1934
Exports						
Cotton tissues	36,570	32,128	31,296	53,699	76,414	99,069
Silk tissues	9,171	8,501	7,414	6,687	10,257	10,022
Rayon tissues	*	952	4,764	12,229	14,995	22,028
Underwear	5,122	3,358	3,862	4,191	6,870	5,735
Footwear	247	1,564	2,665	1,458	2,681	3,132
Socks and stockings	956	700	681	1,197	2,573	3,084
Pottery and porcelain	486	451	671	973	1,919	2,463
Ironware	356	236	248	408	1,275	1,944
Cotton towels	451	308	372	420	1,129	1,432
Imports						
Raw cotton	31,453	14,835	11,688	15,542	25,765	53,022
Phosphorite	3,616	3,693	1,690	4,246	7,707	5,910
Salt	415	51	309	1,648	5,575	6,497
Wool	22	19	64	1,036	2,558	5,784
Tanning materials and extracts	1,232	1,075	1,191	1,159	1,851	1,734
Soda ash and natural soda	2,184	1,722	1,627	1,150	1,603	1,342

* Unavailable.

TABLE 487

JAPANESE TRADE WITH EGYPT BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues	24,398	14,942	32,048	38,327	46,834	31,683
Silk tissues	2,189	3,036	3,454	3,314	3,601	2,559
Rayon tissues	*	912	5,725	4,385	8,076	5,449
Underwear	1,701	933	1,049	2,094	1,859	...
Socks and stockings	694	372	771	1,320	1,173	...
Leaf tobacco	2	246	695	842	1,003	...
Cotton towels	236	148	195	451	516	290
Pottery and porcelain	101	146	408	438	627	487
Footwear	14	143	177	403	388	...
Imports						
Raw cotton	22,170	11,619	15,300	19,085	39,787	43,009
Volume (1,000 piculs)	*333·6*	*287·2*	*330·4*	*280·5*	*549·6*	*536·9*
Phosphorite	3,002	1,390	3,664	5,961	4,787	6,151
Salt	415	157	459	853	1,547	...

* Unavailable.

September by the Egyptian Government imposing an exchange compensation duty of 40% *ad valorem* on Japanese cotton and rayon manufactures.

In Japan, efforts have been made to adjust the unbalanced trade relations, the Nippon-Egypt Commercial Association being established in 1933. This, coupled with the trend among cotton spinners to turn out finer counts, and the fact that the largest Japanese steamship company, Nippon Yusen Kaisha, made Alexandria a regular port of call in February, 1935 to facilitate the transport of Egyptian cotton, promoted the import of this article, with the result that the trade balance in favour of Japan declined sharply from ¥26,729,000 in 1934 to ¥2,495,000 in 1935.

Anglo-Egyptian Sudan. Principal exports from Japan are again textiles, cotton tissues accounting for ¥7,293,396, rayon tissues for ¥596,276, and silk tissues for ¥529,296, or a combined total of about 89% of the total exports in 1934.

Imports were only ¥1,718,546 in 1935, consisting mainly of palm nuts and gum. The balance of trade shows an excess of receipts for Japan, which augurs ill for the development of trade relations.

JAPANESE TRADE WITH THE SUDAN
(in 1,000 yen)

	Exports	Imports	Excess of exports
1934	9,429	1,316	8,113
1935	13,034	1,719	11,315

According to the Anglo-Egyptian Agreement, Sudanese import duties shall not exceed those in Egypt. As Egyptian import duties on Japanese goods have been raised, the possibility of a similar increase in the Sudan cannot be excluded. Apart from this, the prospects for the future development of trade relations appear to be bright in view of the increasing importance of the Sudan as a future traffic centre.

(3) East Africa.

This region includes, for the purpose of this survey, Eritrea, the French Somali Coast, Italian Somaliland, Kenya, Uganda, Tanganyika, Mozambique, Madagascar, Reunion and Mauritius. Japanese exports to this region in 1935 amounted to ¥40,160,000, and imports to ¥8,042,000. The chief customers are Kenya, Uganda, Tanganyika and Mozambique.

The principal exports are textiles headed by cotton tissues, while imports are mainly raw cotton and salt. The balance of trade is heavily in favour of Japan.

TABLE 488

JAPANESE TRADE WITH EAST AFRICA BY PRINCIPAL ARTICLES

(in 1,000 yen)

	1929	1931	1932	1933	1934
Exports					
Cotton tissues	8,442	6,794	9,776	14,108	22,380
Underwear	1,401	1,019	1,073	1,595	2,018
Rayon tissues	...	706	1,311	1,074	1,659
Silk tissues	974	313	525	492	803
Ironware	117	95	132	463	866
Imports					
Raw cotton	8,745	69	242	6,681	13,235
Salt	...	104	790	4,495	4,835
Soda ash and natural soda	2,107	1,627	1,150	1,603	1,261
Tanning materials and extracts	52	28	504	809	237

Japan's trade position in British East Africa has markedly improved to the detriment of the trade of her rivals. Development has been particularly rapid in cotton tissues. On the other hand, Japanese imports from this region are very meagre, being confined to raw cotton and soda.

TABLE 489

JAPANESE TRADE WITH BRITISH EAST AFRICA AND MOZAMBIQUE

(in 1,000 yen)

	British East Africa[a]		Mozambique	
	1934	1935	1934	1935
Exports	22,329	25,083	8,822	10,752
Imports	15,188	2,955	1,116	118
Excess of exports	7,141	22,128	7,706	10,634

(a) Including Kenya, Uganda and Tanganyika, Zanzibar, Nyasaland and Pemba.

(4) Union of South Africa.

The Union ranks next to Egypt as a customer for Japanese goods. Chief exports are cotton, rayon and silk tissues, as elsewhere in Africa. The only sizeable import item is wool. Tanning materials and extracts are also imported to the extent of over ¥1,000,000 annually. Trade shows a large favourable balance in favour of Japan, which has led to the enforcement of a new tariff system penalizing Japanese goods, particularly cotton tissues, rayon tissues, woollen

and worsted tissues, pottery and porcelain, glassware, slippers, etc.

The development of reciprocal trade is retarded by the fact that it is much cheaper for Japan to import wool from Australia, as South African wool quotations have been high, especially since the conclusion of the agreement with Germany.

TABLE 490

JAPANESE TRADE WITH THE UNION OF SOUTH AFRICA

(in 1,000 yen)

	1929	1931	1932	1933	1934	1935
Exports						
Cotton tissues . .	3,043	5,432	5,321	5,890	4,458	6,337
Silk tissues . . .	5,912	4,016	2,527	4,734	4,651	4,008
Rayon tissues . .	*	2,934	3,123	3,870	6,250	5,149
Underwear . . .	1,375	1,548	1,150	1,606	462	...
Socks and stockings .	167	221	298	984	1,381	...
Pottery and porcelain	208	297	338	908	904	839
Wood and timber .	368	292	290	876	971	816
Imports						
Wool	22	59	1,031	2,529	5,781	...
Tanning materials and extracts . . .	1,033	1,163	655	1,026	1,497	...

* Unavailable.

(5) French Morocco.

Japanese exports in 1935 reached the comparatively high total of 19 million yen, consisting mainly of cotton tissues (¥ 10,316,082), rayon tissues and underwear, while Japanese imports were confined to phosphorite. The balance of trade is very one-sided and heavily in favour of Japan.

JAPANESE TRADE WITH FRENCH MOROCCO

(in 1,000 yen)

	Exports	Imports	Excess of exports
1934	19,076	506	18,570
1935	18,813	640	18,173

Apart from the lack of reciprocity, this market appears to offer good prospects for the development of Japanese trade with the improvement of the standard of living of the native population.

CHAPTER XXXII

JAPANESE FOREIGN TRADE POLICIES

1. General Survey

Trade policies throughout the world since the onset of the economic depression have been characterized by national control of foreign trade with the main object of checking imports. The control of imports arose from the necessity to protect internal markets and the international balance of payments. This last consideration also led to strenuous efforts to promote the export trade, which conflicted with the import control exercised in a very large part of the world. The net result of these two entirely opposing policies was that tariff walls were consistently raised, and international markets narrowed, with a consequent severe contraction of world trade. The suspension of the gold standard, which followed in rapid succession in a number of countries, almost invalidated the increase in customs tariffs, and compelled the adoption of more direct measures such as restriction or downright prohibition of imports, import license systems or the Government control of imports. The failure of the World Economic Conference in 1933 led to the formation of *blocs* and *autarchic* principles which further crippled international trade, and naturally led to individual negotiations between countries as a measure to tide over the present difficulties. Trade treaties changed to compensation systems, as countries with unfavourable trade balances endeavoured to readjust their foreign trade relations. Although the reciprocal and compensation principle removed some obstacles to world trade, it raised new difficulties in the countries still adhering to the gold standard, by fostering trade within circumscribed *blocs*.

The remarkable advance of Japanese foreign trade after the reimposition of the gold embargo was especially noteworthy as it occurred at a time of universal trade contraction. Japanese articles have invaded every corner of the world market under the double advantage of low exchange rates and production costs. It is easy to

understand why import restrictions should be particularly directed against Japanese goods, as evidenced by the successive institution of quotas, surtaxes and other forms of discriminatory treatment in various countries.

The expansion of the Japanese export trade has continued in spite of these numerous obstacles, but the almost universal adoption of the compensation system is expected to add a new force to trade restrictions, particularly in Central America, South America and the African colonies.

The change in commercial policies, which has greatly interfered with international trade during the past few years, has not been without influence on the trade policy of Japan. Poor in natural resources and depending much upon imports, the problem of checking imports in order to protect domestic industries required serious consideration. Trade policy in the past was built on fairly liberal principles. The reactionary period following the World War and the universal debasement of currencies, however, accentuated the protective tendency of the Japanese customs tariff, but rates in most instances continued moderate, for the decline of the yen since the reimposition of the gold embargo was sufficient to check the import of finished articles. Emphasis was rather laid on the protection and promotion of the export trade, and various Government measures tending in this direction were successively passed by Parliament in recent years. In imports, Japanese trade policy has been forced to give consideration to existing restriction on Japanese goods and to the balance of trade with foreign countries. A survey of Japanese foreign trade during the past few years reveals that there has been a substantial excess of exports to countries with liberal trade policies and to new markets, while imports generally exceeded exports in trade with countries adhering to protective policies and import restrictions. This situation finally led to the enactment of the Trade Protection Law, which was recently invoked for the first time against Canada.

2. Tariff System

The Japanese import tariff as altered in 1910, was not subjected to a general revision up to the year 1926. A few minor sectional changes were, however, made during the period 1920–22, and an *ad valorem* duty of 100% was imposed in 1924 on a few items, this duty being commonly known as the luxury tax, the object being to encourage individual economy during a period of financial retrench-

ment. The general tariff revision of 1926 aimed at greater protection of domestic industries, the internal price level being at that time notably higher than international standards. During 1929, the tariff rate on timber was raised, and the luxury duties were abolished and included in the ordinary tariff at much lower rates. The universal trend towards protective trade principles stimulated a general revision which was carried out in June, 1932, the new tariff advancing duties upon wheat and more than twenty other items, with the object of protecting domestic industries. Other commodities, with the single exception of newsprint paper, were also subjected to an increase of 35% in specific duties, while the only reductions were made on timber and four other items.

3. Facilities for Trade Promotion

Facilities for promoting Japanese foreign trade have made remarkable progress in recent years due to the whole-hearted cooperation between the Governmental and civil organizations. The trade intelligence services have been vastly improved through the increase of consulates and the establishment of overseas trade information bureaux and other intelligence organs. The increase in the number of commercial museums, supported by the Japanese Government and civil organizations, has also enhanced the value of foreign trade publicity.

Principal activities for the promotion of foreign trade are as follows:

Export Compensation System.[1] The Export Compensation Law was promulgated in May, 1930 and became effective in August 1st, 1930. The Law authorizes the Government to compensate the losses incurred through the purchase of export bills on shipment to certain undeveloped markets. The markets specified have been successive-

TABLE 491

Compensation Bills and Losses

(in 1,000 yen)

Fiscal year	1930	1931	1932	1933	1934
Compensation bills . .	1,903	4,957	9,425	21,020	27,625
Loss compensated					
Budget maximum . . .	938	1,876	2,814	9,313	9,313
Actual compensation . .	15	33	337	541	...

(1) Cf. Chapter XXIV.

ly extended, and, at present, include almost all parts of the world, excepting old markets such as Great Britain, the United States, British India and the Netherlands East Indies.

The Export Compensation Law has also been enforced in Taiwan since October 10th, 1934. Some municipalities have instituted compensation systems of their own in order to promote the export trade of local industries.

Exporters' Associations.(1) The original purpose of these associations organized under the Exporters' Association Law, was to promote the export trade through joint facilities and measures, including joint consignments and oversea branches. The activities of these associations have in recent years been extended to the control of the export trade.

Export Goods Inspection. According to official regulations enforced since 1928, exports of specified articles are prohibited unless they have previously passed an examination by associations, federations, prefectural authorities or other bodies officially authorized by the Minister of Commerce and Industry. There also exists a Government Inspection System which operates for some articles, notably, raw silk (1926), silk tissues (1928) and rayon tissues (1929).

4. Control of Exports and Imports

In view of the universal tendency towards import restriction, the Japanese Government have been compelled to resort to individual negotiations with countries discriminating against Japanese goods, and this course led automatically to increased Government intervention in the export and import trade.

Indo-Japanese Commercial Convention. The Indo-Japanese Commercial Convention was the first example of individual negotiations which resulted from the advance in Indian tariff rates to check the fast increasing influx of Japanese cotton textiles. Communications between the two Governments concerned led to the opening of trade negotiations in Simla in September, 1933, as a result of which a new Indo-Japanese Commercial Convention was officially signed at London on July 12th, and put in operation on September 14th, 1934. The Convention contains a quantitative agreement, by which Japan is required to purchase one million bales of raw cotton in return for a maximum export quota of 325,000,000 yards of cotton tissues.

(1) Cf. Chapter VIII.

Quantitative Trade Agreements with the United States and Great Britain. As a result of an agreement concluded between the Japanese and American Governments, the annual export quota of pencils to the United States was fixed at 125,000 gross in April, 1934, and that of cotton carpets at 7,970,000 square yards in April and May, 1934, respectively. In October, 1935, another agreement was concluded with the United States regarding cotton tissues exported to the Philippine Islands, by which the Japanese Government voluntarily limited Japanese exports to that destination to within 45,000,000 square metres.

A quantitative agreement was also concluded with Great Britain in May, 1934, regarding Japanese exports of electric bulbs to that country.

Anglo-Japanese and Dutch-Japanese Negotiations. With the Indo-Japanese negotiations in full swing, the President of the Board of Trade of the United Kingdom proposed more comprehensive negotiations between British and Japanese cotton goods manufacturers, which materialized in the form of civil negotiations opened in London on February 14th, 1934. The opinions of the participating parties were, however, completely at variance in regard to whether the possessions, other than the Dominions, should be included in the "agreement zone", and the parley finally failed on March 14th. As the result, following Mr. Runciman's declaration on May 7th, 1934, an import quota system relating to cotton cloth was enforced in British Crown Colonies.

In view of the remarkable advance of Japanese goods in the Netherlands East Indies, which adversely affected the import trade from the Netherlands and Lancashire, emergency import restrictions were enacted in the Netherlands East Indies in 1933. The endeavour of the Netherlands East Indian Government to restrict Japanese imports took still more concrete form in its proposal to commence trade negotiations at Batavia, which opened on June 8th, 1934. In these negotiations the Japanese Government insisted upon the conclusion of a gentlemen's agreement and the rejection of discriminatory treatment, and agreed to take proper measures based upon reciprocal trade if this demand was acceded to. The Netherlands East Indian Government, on the other hand, wished the negotiations to be based upon the quota and barter system. The negotiations became deadlocked in March, 1935, following the rupture of the Dutch-Japanese Shipping Conference, and the two Governments agreed to open discussions again in April, 1935, but no agreement has yet materialized.

Similar trade negotiations are now pending with Australia and Egypt.

Adjustment of Trade Relations with Central and South America, and Africa. Japanese trade with these regions has shown a marked development during the past few years, but the great predominance of exports has given rise to import restrictions on Japanese goods. In view of the demand for compensatory imports, attempts have been made to readjust trade relations through the purchase of wool, wheat and a few other products from Argentine, Uruguay and other South and Central American countries. Exporters' associations were established in rapid succession for the purpose of collecting special control commissions from exporters to those countries, to obtain funds for compensatory imports. However, such "compensation" imports have so far been negligible. In the case of Egypt, strenuous efforts have been made to balance the trade through the import of Egyptian cotton and the inauguration of regular calls at Alexandria by N.Y.K. liners. For the purpose of balancing trade relations with the Union of South Africa, South African wool was partly substituted for Australian wool through the efforts of the Ministry of Foreign Affairs, Japanese woollen manufacturers and exporters to South Africa sharing the loss resulting from the wide margin in prices. This great difference in price has up to now prevented any notable development of imports from South Africa, and trade relations continue to remain one-sided.

5. Trade Protection Law

The trade policy of Japan aims principally at the protection of domestic industries and there has been almost no occasion to resort to the retaliatory tariff system, although it is legally provided for in the Customs Tariff Law. With the world tendency against imports of Japanese goods, Japan was forced to take emergency measures. The Trade Protection Law was enacted in April, 1934, with the purpose of protecting the export trade and adjusting trade balances.

This Law provides that the Government may prohibit or restrict imports of specified articles, and impose additional duties, as a measure to counter discrimination against Japanese trade abroad. The Law, effective for only three years, is also meant to provide a weapon in conducting trade negotiations with foreign Governments.

An Imperial Ordinance relating to the operation of this Law was issued on July 20th, 1935, and announced that Canada was the first country to which it was applied.

CHAPTER XXXIII

ECONOMIC RELATIONS BETWEEN CHINA, MANCHOUKUO AND JAPAN

1. General Survey

Trade relations between Japan, Manchoukuo and China have been greatly disturbed by the political conditions prevailing during the last few years. Japanese exports to China and Manchoukuo principally consist of industrial manufactures, while imports from these two countries are mostly agricultural and mineral raw materials. Soya bean and its products, kaoliang, maize and millet constitute the greater part of Manchurian exports to China, while Chinese exports to Manchoukuo are chiefly cotton yarn, cotton cloth,

TABLE 492

Trade Relations between Japan, Manchoukuo and China

(In % of total foreign trade for 1935)

Trade of Japanese Empire with Manchoukuo and China					
		Manchoukuo and Kwantung L. T.	China	Hong Kong	Total
Japan proper	Exports .	17·1	6·0	2·0	25·0
	Imports .	8·8	5·4	0·1	14·3
Chosen	Exports .	89·4	5·1	0·8	95·3
	Imports .	53·6	16·4	0·01	70·0
Taiwan	Exports .	12·3	35·7	17·9	65·9
	Imports .	52·4	15·5	0·1	67·9
Trade of Manchoukuo and China with Japanese Empire					
		Japan	Chosen and Taiwan	China	Total
Manchoukuo	Exports .	43·6	(a)8·0	15·5	67·1
	Imports .	71·9	(a)3·7	5·3	80·9
China	Exports .	14·2	2·5	—	16·8
	Imports .	15·1	0·8	—	15·9

(a) Excludes Taiwan.

silk cloth, wheat flour, tobacco, paper, tea and other peculiarly Chinese industrial products. Excepting the intimate economic relations between Chosen and Manchoukuo and between Taiwan and China, and the dominant position which Japan holds in Manchoukuo, foreign trade between China, Manchoukuo and Japan at present is not as active as geographic conditions and other factors would warrant. Trade between China and Japan has been disrupted by the Manchurian incident and the consequent boycott, at first boisterous but now silent, against Japanese merchandise. Despite the enormous actual and potential resources of Manchoukuo, Japanese imports of raw materials from that country are not large compared with purchases from other sources.

The great importance, from the Japanese viewpoint, of trade relations between Japan, Manchoukuo and China, will be understood when one considers the poor natural wealth of Japan, and the existence of abundant resources and wide consumption markets in Manchoukuo and China.

2. Fundamental Conditions of Economic Co-operation

Agricultural and Industrial Conditions in China and Manchoukuo.

(1) Manchoukuo. The economic organization of the country is principally based upon agriculture, about 90% of the total population being farmers, and about 80% of the total national income being derived from agricultural pursuits.

TABLE 493

Population and National Income of Manchoukuo

Population in 1930		National Income (in M¥ 1,000)	
Total population[a] .	29,575,000	Total income. . .	1,550,000
	100·0%		*100·0%*
City zones[b] . .	3,031,000	Agricultural income.	1,197,959
	10·2%		*77·3%*
Agricultural villages	26,544,000	Other Income . .	352,041
	89·8%		*22·7%*

(*a*) Population of former Three Eastern Provinces. (*b*) For cities having a population of over 10,000. Taken from estimate by Mr. M. Amano in *Manchoukuo Economic Annual*, and *First Manchoukuo National Annual Report* published by the State Council.

The agricultural development of Manchuria started after the Ching dynasty. Although Manchuria was the birthplace of that dynasty, it has followed a peculiar agricultural transition as a colony of

China proper. The total area of the arable land in Manchuria amounts to 30,704,000 hectares, of which 17,054,000 hectares or about 55·5% are left uncultivated.(1) Small scale agriculture predominates, and the methods of cultivation follow the primitive system. A few contractors adopt mechanical devices in cultivation, but on the whole, no technical progress has been made. The annual production of agricultural products is sufficient to meet the domestic demand, and to provide for large exports annually.

The majority of Manchurian cities and towns are of commercial rather than industrial importance. The principal industries controlled by native capital are the extraction of soya bean oil, the distilling of kaoliang spirit and flour milling. Before the founding of the State of Manchoukuo, native industries were unable to advance beyond the stage of small family enterprises due to the competition of manufactures from China proper, the impossibility of accumulating capital because of heavy legal and illegal taxation by military rulers and the unrestricted issue of inconvertible notes. The rise of modern industries in Manchuria originated in the investment of Japanese capital following the Russo-Japanese War, and a certain industrial development was noted in Manchuria during the World War period. On account of the above factors, combined with bad management, such industry as existed was extremely depressed up to the time of the Manchurian incident. The tranquillization of the country after the establishment of the new State stimulated the industrial development, particularly the building industry, whose extraordinary activity has led outsiders to overestimate the industrialization of the country. Needless to say, agriculture still continues to be the foundation of the Manchurian national economy, and fast as has been the industrial development, no drastic change in the fundamental organization of Manchuria may be looked for in near future.

(2) China. China lacks an authoritative census, but it is generally believed that more than three-quarters of the total population are farmers. About one-half of the total area of China is mountainous and unfit for habitation, and one half of China proper has an annual rainfall of less than 20 inches. As a result, about 80% of the total Chinese population is concentrated upon 17% of the total area, and the density of population in agricultural villages is extremely high. The agricultural policy of successive Chinese Governments has on the whole been negative, and internal disturbances have further aggravated farming conditions.

(1) *Manchurian Industrial Statistics 1932.*

The above comparison gives an inkling of the devastation of Chinese agricultural villages. Annual production is, moreover, subjected to changes by natural factors particularly drought and floods, which increase the difficulties of the agricultural community. From the fact that Chinese imports of agricultural machinery and tools have witnessed a steady increase in recent years, it may be taken that the utilization of agricultural machinery has been gradually widening, but on the whole, agriculture in China is technically primitive. The principal agricultural products of China are rice, millet, maize, wheat, barley, oat, other cereals and seeds, sugar cane, tea, raw cotton and ramie. The production of rice and wheat is not large enough to meet the domestic demand, and not a small quantity of agricultural products is imported every year.

Modern industries have made comparatively slow progress and only in commercial centres. The decline of silver after 1929 stimulated domestic industries only to a limited extent as most industries cater to the domestic market and specialize in the production of daily necessities.

Special mention should be made of the remarkable share of Japanese capital in the industrial development of China. The cotton spinning industry of China is, to a large extent, under the control of Japanese capital. A large number of small factories have been established with Japanese capital in Tientsin, Shanghai and a few other cities for the manufacture of rubber goods, soap, celluloid manufactures, toilet articles, knitted goods and enamelled wares.

Natural Resources in Manchoukuo and China: Manchoukuo and China as Markets. The development of natural resources in China and Manchoukuo is of great importance not only to the well-being of their inhabitants, but has a great bearing upon the welfare of the Japanese people in view of the scarcity of raw materials available in Japan.

(1) Natural Resources of Manchoukuo. The foodstuff resources are sufficient not only to meet domestic requirements, but to supplement the shortage in Japanese resources to some extent. The principal agricultural products exported to Japan include soya bean, kaoliang, millet, maize, green peas, peanuts and buckwheat.

Among potential mineral resources, Manchurian coal, with an estimated reserve of 4,800 million metric tons, is the most important from the viewpoint of Japanese national economy. Manchoukuo is also rich in iron ores, although reserves are apparently not big enough to satisfy the expected expansion of the steel industry

TABLE 494

PRINCIPAL AGRICULTURAL PRODUCTION AND EXPORTS TO JAPAN

(Annual average 1932-34 in 1,000 metric tons)

	Soya beans	Kaoliang	Millet	Maize	Wheat
Production . . .	4,358	3,849	2,660	1,673	1,071
Exports to Japan .	427	92	11	39	0·1

Taken from *Manchurian Economic Annual.*

in Japan. Oil shale, magnesite, alumina, superior fire clay, dolomite, silicon, etc. are some of the other mineral resources of Manchoukuo, which is also especially rich in materials for the iron and ceramic industries.

Manchurian timber is principally produced along the right bank of the Yalu river, in Kirin Province, along the basin of the Sungari river and along the upper bank of the Dzumon river. The average annual output is estimated at about 4,225,000 *koku*. Forestry along the Yalu river is well developed, but the reserves in other parts are as yet poorly exploited and the future development is contingent upon the improvement of means of communication.

MINERAL RESOURCES IN MANCHOUKUO

(In 1,000 metric tons)

Iron ore	1,221,487	Fire clay	90,070
Manganese ore . . .	50	Coal	4,804,000
Copper ore	37	Oil shale	4,400,000
Lead ore	51	Magnesite	383,590
Pyrites	497		

Other Industrial Materials

	koku		tons
Timber reserve . .	15,049,777,000	Salt (annual production) .	450,000

Taken from *Manchurian Industrial Statistics.*

Manchurian raw cotton is of inferior quality, although this may be improved in time. The production of wool is large, but the quality of this commodity, too, is not good enough at present to satisfy the needs of Japanese industry. Hemp is, perhaps, the only textile material which at present shows a promise of future development. The biggest disappointment from the viewpoint of Japanese national economy is the failure to locate oil resources. The distillation of oil shale and the liquefaction of coal fail to provide a very satisfactory alternative.

(2) Natural Resources of China. Under present conditions, Japan can expect little assistance from the agricultural foodstuff resources of China. The total Chinese production in 1934 of wheat, barley, kaoliang, maize, rice and other cereals was about 1,663 million piculs, which was not enough to meet the domestic demand. Exportable agricultural products are beans, tea, eggs, peanuts, wood oil, bristles and raw cotton. The cotton crop has shown a great expansion parallel to the development of the textile industry, reaching 11,202,000 piculs in 1934. Chinese cotton is not of good quality at present, but could be greatly improved under expert guidance. Mineral resources are generally believed to be abundant, coal, in particular, being distributed all over China. The Chinese coal reserves are estimated at 214,383 million tons, of which more than 90% are found in the region connecting the northern part of Shensi, Kansu, Shansi, Szechwan, Yunnan and Kweichow.

The iron ore resources of China are less extensive than is generally believed, the reserves being estimated by the Ministry of Industry at 117,255,000 tons, but the iron content is generally low.

The most important mineral produced in China is antimony ore, her production accounting for 13,485 tons or 70% of the world production of 20,000 tons in 1931. Hunan Province is the principal producing centre, but important deposits also exist in Chekiang, Szechwan, Kwantung and Kwangsi. Manganese ore produced in China has been imported to Japan in large volume for the iron industry. Tungsten is another outstanding mineral product of China, about one-half of the total world output being supplied by China. China also produces lead and zinc, but in unimportant quantities. Chinese oil resources have been tested on many occasions and the results have borne out the presumption that the tales of fabulous oil wealth are at least exaggerated, but oil is produced on a small scale in Shensi Province. The oil resources in Szechwan, Sinkiang and Kansu Provinces are too little known, and depend upon the improvement of transportation facilities for future development.

(3) Manchoukuo and China as Consumption Markets. As already stated, the remarkable advance in Manchurian imports during the past few years was principally due to the boom in the building industry and cannot be considered as indicating an increase in the purchasing power of the Manchurian people. The purchasing power of the farmer, which forms the foundation of the country, has greatly shrunk under the direct and indirect influence of the Manchurian incident, the drastic price decline in Manchurian products, the decrease in crops due to natural factors, the import restrictions

imposed upon Manchurian soya beans in Germany, and last, but not least, the retaliatory measures taken by the Chinese Government against Manchoukuo.

The distress of the rural population is even more acute in China. The Chinese town economy, too, is in a deplorable condition in view of the impoverishment of the domestic market and the breakdown of the financial machinery, due to the aggravation of the international balance of payments and the outflow of silver. The recent decline in imports, although contributing a little to the improvement of the international balance of payments, reflects the exhaustion of the national resources.

(4) Natural Resources of North China: North China as a Market. North China has figured largely in the political news of late. This region is not clearly defined, but is generally considered to include the five provinces, Hopei, Shantung, Shansi, Suiyuan and Chahar, of an area of about one million square kilometres and a population of 85 millions.

North China is rich in iron, coal, salt and raw cotton. The production of cereals is, as a rule, not large enough to meet the local demand. The most important natural resource from the Japanese viewpoint is raw cotton. Hopei and Shantung are noted cotton producing centres in China, the combined production of these two provinces accounting for 42·6% of the total cotton output of China. Cotton cultivation in North China is likely to develop further, as the varieties produced in this region are of superior quality.

On account of poor transportation facilities, trade is less developed in North China than in Central China with its great artery, the Yangtze-kiang. Nevertheless, the region is an important market for Japanese products, taking about 50% of the whole Japanese export to China.

TABLE 495

FOREIGN TRADE OF NORTH CHINA

(in Silver $ 1,000)

	1931	1932	1933	1934
Exports	242,613	163,392	152,271	135,781
Imports	270,396	264,467	204,676	161,776
Excess of imports . .	27,783	101,075	52,404	25,995

TABLE 496

JAPANESE TRADE WITH NORTH CHINA

(In 1,000 yen)

	1931	1932	1933	1934	1935
Exports	51,748	75,525	58,130	55,094	66,183
Imports	47,642	38,833	45,057	46,720	49,290
Excess of exports . .	4,106	36,692	13,073	8,374	16,893

3. PROBLEMS IN MUTUAL TRADE

The economic co-operation of Japan, Manchoukuo and China due to geographical proximity, would be of great advantage to Japan, whose foreign trade has been lately handicapped by import restrictions in world markets. Political factors and unfavourable economic conditions in China have, however, prevented such a development and the vast market constituted by the immense Chinese population has at present only potential importance.

The chronic anti-Japanese movement in China has become particularly acute since the Manchurian incident in 1931. Its extension into an anti-Manchoukuo boycott has, however, led to an economic deadlock not only for Manchoukuo, but also for China, notably in the region usually designated as North China. The anti-Manchoukuo movement in China has found expression in various ways, including (i) collection of double rates on articles transported to Manchoukuo, (ii) prohibition of trade by ships under 100 tons, (iii) import prohibitions by the Kwantung Government upon soya beans, kaoliang, wheat, peanuts, ginseng, timber, dairy products, coal, fishery products, etc., of Manchurian origin. The result of these policies is well illustrated by the drastic decline in Manchurian exports to China, which showed a loss of 73·1% in 1934 compared with 1931. The artificial prevention of trade has caused a great increase in smuggling, but as the principal Manchurian exports to China are foodstuffs, this illicit trade is not great enough to offset the loss in ordinary commercial relations. The increased export trade to Japan has only partially compensated the virtual loss of the Chinese market, which, combined with other factors, has been the cause of the sharp price decline in Manchurian agricultural products. As trade relations were particularly close with North China, this region has also suffered severely from the artificial interruption of trading intercourse.

The recent political agitation in North China is partly due to the development of a situation which threatens the economic existence of both Manchoukuo and North China.

From an economic viewpoint, it is imperatively necessary to restore in some way friendly relations between North China and Manchoukuo, as a first step towards ending the conflict which has been the biggest obstacle in trade between Japan, Manchoukuo and China.

Investments in Manchoukuo and China. Even before the Manchurian incident, Japanese investments in Manchuria represented about 70% of foreign capital investments. The most important objectives were railways and, to a smaller extent, public utilities, agriculture, mining and forestry. At that time, the interest of Japanese capital in manufacturing industries was very slight. After the establishment of the new State, the urgency of new sources of capital grew and in view of the international situation, investments were entirely confined to Japanese capital. The inflow of Japanese capital totalled more than 730 million yen during the past four years, which, combined with Japanese investments before the Manchurian incident, gives a total of 2,350 million yen.

Japanese capital investment in Manchoukuo, besides bringing prosperity to the cities because of a building boom, greatly benefited the Japanese export trade to Manchuria. It is still too early, however, to expect any favourable effects upon general purchasing power which may become apparent in the future.

TABLE 497

JAPANESE CAPITAL INVESTMENT IN MANCHOUKUO

(in 1930)

	Value (¥1,000)	Percentage of total		Value (¥1,000)	Percentage of total
Railways	425,216	26·3	Electricity and gas	37,283	2·3
Ports and harbours	83,201	5·2	Banking	106,705	6·6
Transportation	28,036	1·7	Financing and trust	97,634	6·0
Agriculture, mining and forestry	258,990	16·0	Public utilities	302,569	18·7
Industry	110,121	6·8	Others	49,458	3·1
Commerce	117,753	7·3	Total	1,616,966	100·0%

Prepared by the East Asiatic Economic Investigation Bureau, Tokyo.

Details of Japanese investments in China are unknown, but according to an estimate by Prof. C. F. Remer, foreign investments in China amounted to 3,242·5 million U.S. dollars in 1931, of which

the share of Great Britain was 36·7%, Japan, 35·1%, Soviet Russia, 8·4% and the United States, 6·1%. The total Japanese investment in China at the end of 1930 was estimated to amount to about 1,100 million yen. No Japanese loans have been concluded since then, but considerable sums have been invested in the spinning industry managed by Japanese, and in other small industries during the past five years.(1)

Tariff Policy. The tariff system of Manchoukuo, at the time of the foundation of the new State, was based on that in operation in China proper, but a revision was made in June, 1933, in order to suit the existing conditions of Manchoukuo, by which rates upon daily necessities, which were so high as to curtail consumption, and rates upon industrial and building materials were lowered. Another tariff revision on a wider scale was made in November, 1934, with the object of correcting the illbalanced specific and *ad valorem* duties resulting from sharp fluctuations in commodity prices and exchange rates. A still more fundamental revision is expected to be made in future.

Since the conclusion of the Anglo-Chinese Treaty in 1842, the tariff system in China was completely under the control of foreign powers, but in consequence of successful diplomatic negotiations, an independent tariff was realized in 1928. The conclusion of the tariff agreement with Japan in 1930 gave the finishing touch to the independence of the Chinese tariff system. In January, 1931, the Chinese Government increased tariff rates upon all articles, and in May, 1933, upon the expiration of the Sino-Japanese Tariff Agreement, a provisional new import tariff was enacted. The object of the new tariff was to increase revenue and protect domestic industries. Tariff rates upon cotton cloth and marine products, previously protected by the Sino-Japanese Reciprocal Tariff, were almost doubled and rates upon rayon, coal, electric bulbs and other goods largely imported from Japan were also raised substantially. The last tariff revision was made in July, 1934, as a consequence of which, rates on some items of cotton cloth, marine products, paper, etc. were somewhat lowered.

The tariff system of Manchoukuo is at present not restricted by treaties with foreign countries except Japan, whilst China adheres to the most-favoured-nation clause which makes it impossible for that nation to give preference to any one country.

(1) As to Japanese capital investment in China, refer to Chapter VI, Table 57.

Monetary Problems. The monetary system of Manchuria under former military governments was extremely chaotic, with many different currencies in circulation, including Government notes, private notes, copper notes, silver and copper coins, gold notes of the Bank of Chosen, and silver notes of the Yokohama Specie Bank. The Currency Law enacted in June, 1932, conferred exclusive power on the Government to mint and issue currency through the medium of the Manchurian Central Bank. The new monetary unit, the Manchoukuo yuan, was theoretically fixed at 23·91 grams of pure silver, but notes are not convertible into silver. Silver coins are no longer in actual circulation, having been replaced with paper notes issued against a silver reserve of 30%. Strenuous and successful efforts have been made to withdraw the old paper currencies from circulation. Bank notes of the Yokohama Specie Bank and the Bank of Chosen are still circulated, but will be withdrawn in the near future. The present monetary system of Manchoukuo is based on a managed currency with a silver reserve, and the country may still be considered to be on a silver standard as far as international relations are concerned.

Although the Chinese Government are making great efforts to unify the national monetary system, the currency situation continues to be extremely complicated, as an enormous amount of money in various forms is still outside the control of the Central Government. The abolition of the tael in April, 1933 did not affect the silver standard, as the contents of the unified dollar was fixed at 23·493448 grams of pure silver. The monetary reform of November 3rd, 1935, however, aimed at a managed currency through the nationalization of silver. As in Manchuria, paper notes are now not convertible into silver, and, therefore, no longer follow the fluctuations of that metal. It is easy to understand that China was impelled to this measure by the American silver policy and the progressive depreciation of gold currencies throughout the world. It is still too early to state with assurance whether the new Chinese monetary policy will be successful, as factors other than economic must be considered in this connection.

The economic vicissitudes of the past few years have brought about a situation, where, in spite of the intervening sharp depreciation of Japanese exchange rates and the erratic movement of silver prices, the monetary units of China, Manchoukuo and Japan are within measurable distance of equalling each other. The Manchurian and Japanese currencies are already practically linked at par, whilst the Chinese unit is only slightly higher, both currencies being at present

anchored to sterling. From the monetary viewpoint, therefore, there appears already a better basis for economic co-operation between the three countries than existed a few years ago.

PART SEVEN

CONCLUSION

CHAPTER XXXIV

CONCLUSION

THE foregoing survey of the economic situation in Japan shows that 1930 and 1931 were the worst years of depression, while uneasiness continued to prevail in the following year, due to the aggravation of international relations consequent on the outbreak of the Manchurian incident and the growing distress in rural districts. Conditions, however, changed entirely after 1932, and industrial development in the following years was extremely rapid, the progress achieved in 1934 and 1935 being perhaps the most remarkable in the history of the country. This industrial development and the consequent advance of foreign trade still continues though at a slower rate of progress. The astounding expansion of Japanese trade at a time when other countries have not yet fully recovered from the world-wide depression, has not unnaturally attracted the attention of foreign observers.

Essential factors which have contributed to this development of Japanese industries are, according to general opinion, currency depreciation, a vast increase in Government expenditure, and a scale of wages which, in spite of a mild type of inflation, has hardly risen. As regards currency depreciation, it should be borne in mind that the yen was probably substantially overvalued, as expressed in purchasing power, during the years prior to the reimposition of the gold embargo, hence part of the subsequent depreciation should be considered as a correction of the previously existing exaggerated price structure. The decline of the yen, therefore, occasioned only a slight reactionary advance in prices of domestic commodities, and, though an important contributing factor, does not fully explain the expansion in competitive power of Japanese industries since 1933, by which time the decline had been brought to a standstill.

The Government emergency relief measures and financial inflation served to furnish an outlet for idle funds, and at the same time

stimulated the national purchasing power. Whilst this development was not confined to Japan, it is noteworthy that the cost of production has been very much lowered in Japanese industry, partly on account of increased labour efficiency, in contrast with the tendency in similarly situated industrial countries which have witnessed a sharp advance in production costs. The general assumption that the cheapness of Japanese goods is entirely due to low wages cannot be maintained in view of the well-known fact that low wages and a low standard of living do not, by themselves, constitute a factor making for the low cost of production. "The important point is the relationship between standard of life and standard of efficiency, and available evidence points to this relationship being affected rather by technical improvements (rationalization) than by inability of the Japanese standard to change".(1)

The economic progress recently achieved would not have been possible but for the greatly strengthened position of Japanese industry since the World War, and the technical and administrative rationalization measures adopted during the years of depression. In this sense, the industrial advance is not a temporary phenomenon based entirely on currency depreciation and financial inflation, but is due to deep-rooted changes in industrial organization.

There are, however, many problems confronting Japanese economy in the future. One of the most urgent is the necessity of supporting the increasing population, which is expanding at a rate of nearly one million per year. Two methods may be suggested for meeting this situation, that is, emigration and absorption in new industries. As to the former, the tendency in many parts of the world to restrict or prohibit Japanese immigration renders this outlet hopeless. It is true that emigration to Manchoukuo offers some possibilities, but not on a scale adequate to solve the population problem. Accordingly, the industrialization of the country and the expansion of overseas trade present themselves as the only solution.

Of the total national production, agriculture now accounts for only about one-fourth, but affords employment for about 47% of the population. The density ratio of the population to cultivated land in Japan is the highest in the world, and agricultural production capacity has almost reached the maximum; therefore it is evident that agriculture cannot be depended upon to absorb the expanding population and to support a future advance in the standard of living. On the contrary, owing to the distress prevailing in the

(1) Prof. T. E. Gregory, *Memorandum on Japanese Competition*, London 1935, p. 15.

agricultural areas, which unhappily continues, there has been for many years a steady exodus of people to the cities. The degree of self-sufficiency in agricultural products is steadily declining due to the advance of industrialization, and about one-fourth of the country's requirements has to be imported. In staple foodstuffs, Japan has managed so far to be self-supporting, but it is probable that increased importation will be necessary in order to support the growing population. In the face of this situation, it is apparent that the promotion of agriculture, and if possible, the augmentation of agricultural products should be one of the first considerations in the formulation of a national policy.

Japan is poorly provided with raw materials and is compelled to import them on an increasing scale. Mineral resources are equally limited in volume if not in variety.

Consumption of raw materials by industries in Japan corresponds to more than 60% of the domestic industrial output, and about 27% of them is supplied from abroad. The total imports of raw materials and semi-finished products increased from about 70% in 1929–1931 to almost 80% of total imports in recent years, and it is essential that this increment be balanced by a corresponding augmentation in the exports of finished articles made from those raw materials. On the average, Japan exports about 15% of her total domestic production, and about 21% of her industrial output of finished articles. Consequently, the future development of industries must be paralleled by an increasing importation of raw materials and an advance in the export of finished products.

Self-sufficiency in raw materials to the greatest possible degree is naturally desirable, but efforts in this direction must be made on a basis compatible with the smooth development of national industries. An economy based on self-sufficiency would be of great value in periods of emergency, but could not survive in Japan in normal times. As an alternative, the enhancement of the human factor in industry, notably the increase of labour efficiency and scientific achievement, becomes of paramount importance. Internationally, Japan must aim at economic development on the basis of international co-operation and reciprocal trade, and remain aloof from the tendency toward economic nationalism now rampant throughout the world.

The question of future capital supply also requires some consideration. A scarcity of capital in the past has often hampered industrial development, and high interest charges on debentures have been a great burden to national industry. Although money rates have gradu-

ally been lowered in recent years, yet the average rate on debentures during 1935 was 4·5%, which is still high compared with those in Great Britain and the United States. The demand for capital is bound to increase concurrently with the expansion of population and industry. The amount of industrial capital which will be required in the future is roughly estimated at a minimum of about 1,200 to 1,500 million yen annually.

The establishment of a concrete policy relating to overseas trade will also require attention. There has been a tendency in some quarters to consider the attainment of an excess of exports as the principal object of foreign trade. It would be more correct to formulate foreign trade policy as an adjunct to the development of national industries, and such a policy would inevitably serve to expand exports. The overseas trade of Japan, in spite of its recent development, accounts for only 3·3% of international trade. The export value per capita of population was about ¥ 36·00, which is extremely low in comparison with those of other leading industrial countries.

Textile manufactures constitute at present the greatest part of the Japanese export trade. The future expansion of this trade, which is indispensable to the Japanese national economy, will depend to a large extent on the ability of Japanese industry to compete in other finished products, particularly machinery and chemical manufactures. Even more than in the past, the direction of Japanese trade expansion is bound to be towards East and South Asia, as these regions are important sources of raw materials and offer the best prospects for reciprocal trade.

LIST OF PRINCIPAL STATISTICAL SOURCES

A = Annual	SM = Semi-monthly
SA = Semi-annual	W = Weekly
Q = Quarterly	D = Daily
M = Monthly	Ir. = Irregular

BUREAU OF STATISTICS, IMPERIAL CABINET:

Statistical Year Book of the Japanese Empire (*Nippon Teikoku Tokei Nenkan*) . . . . . A
Return of Labour Statistics (*Rodo Tokei Yoran*) . . . . . A
Report on Household Budgets (*Kakei Chosa Hokoku*) . . . . . A
Review of Statistics (*Tokei Jiho*) . . . . . Q
Monthly Statistics of Wages and Commodity Prices (*Chingin Bukka Tokei Geppo*) . . . . . M
Various Reports regarding National Census (in 1920, 1925 and 1930) .

BOARD OF NATIONAL RESOURCES, IMPERIAL CABINET:

Statistical Abstract of National Resources of the Japanese Empire (*Teikoku Shigen Soran*), 1935.

MINISTRY OF FINANCE:

Annual Report of the Ministry of Finance (*Okurasho Nempo*) . . . A
Financial and Economic Annual (*Kinyu Jiko Sankosho*) . . . . A
Statistical Abstract of Banking Activities (*Ginko Soran*) . . . . A
Annual Report of the Bureau of Banking (*Ginkokyoku Nempo*) . . A
Assets and Liabilities of Japanese Banks (*Zenkoku Ginko Shisan Fusai Hyo*) . . . . . A
Statistical Annual of the Bureau of Taxation (*Shuzeikyoku Tokei Nempo*) A
Annual Report of the Monopoly Bureau (*Sembaikyoku Nempyo*) . . A
Annual Return of Foreign Trade of Japan (*Nippon Gaikoku Boeki Nempyo*) A
Monthly Return of Foreign Trade of Japan (*Gaikoku Boeki Geppyo*) . M

MINISTRY OF AGRICULTURE AND FORESTRY:

Statistical Year Book of the Ministry of Agriculture and Forestry (*Norinsho Tokeihyo*) . . . . . A
Statistics of Agriculture (*Noji Tokeihyo*). . . . . A
Statistical Abstract of Japanese Agriculture (*Hompo Nogyo Yoran*) . . . . . Every two years
Statistical Return of Cereals (*Kokumotsu Yoran*) . . . . . A
Statistics of Rice (*Kome Tokeihyo*) . . . . . A

Statistics of Wheat, Barley, Rye and Oats (*Mugi Tokeihyo*) . . . A
Statistical Return of Rice (*Beikoku Yoran*) . . . . . A
Statistical Return of Horticulture (*Engei Yoran*) . . . . . A
Statistical Return of Live-Stock Industry (*Hompo Chikusan Yoran*) . . A
Statistical Annual of Silk Industry (*Sanshigyo Yoran*) . . . . . A
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Monthly Report . . . . . M

INDEX

[*Note*.—*T* indicates tables. Italic figures following *T* give table numbers]

Accident insurance, 446
Actual wage earnings, 20–21, *T 12*, 44, 97, 98, *T 63*
Aden, Japanese trade with, 568, *T 448*
Advances, 25, *T 14*, 418–426, *T 324–330*; to manufacturers, 426, *T 331*; to merchants, 427, *T 331*
Africa, Japanese trade with, 609–614
Agar-agar, 191, *T 126*, 193, *T 128*
Agricultural and industrial banks, 412, 420, 423, 424; debentures issued by, 421, *T 327*
Agricultural countries, Japanese trade with, 504, *T 379*
Agricultural depression, 168–169 (chart)
Agricultural Economic Recovery Scheme, 180
Agricultural economy, policies with reference to, 178–179
Agricultural finance, 432–433
Agricultural households, economy, 170–174, *T 113–116*; number of, 152, *T 98*
Agricultural indebtedness, 175
Agricultural products, production of, 14, *T 6*, 152–153, 155–157, *T 100*, 503, *T 369*; foreign trade, 157, 158, *T 101*, 490–492, *T 369*
Agricultural warehouses, 66, 460
Agriculture, 149–182; fundamental conditions, 149, 151; importance, 151–155; mechanization, 154; companies and capital in, 88, 90, *T 53*, *54*
Aluminium, 74, 75, 531, *T 409*
Alunite, 74, 76
Ancestor-worship, 61
Animal fats, 74, 77, *T 42*
Antimony, 74, 75, 513, *T 388*
Aquatic products, foreign trade, 190–194, *T 253–254*; exports, 523; production, 184, *T 118*; *See also* FISHERY
Aquatic resources, 80, 183–184
Arabia, Japanese trade with, 568, *T 448*
Area of Japanese Empire, 54
Argentine, Japanese trade with, 599, *T 474*, 601–603, *T 476*
Arsenic, 74, 76
Artificial fertilizers, *See* FERTILIZERS
Artificial silk, *See* RAYON INDUSTRY
Asahi Glass Co., 347
Asbestos, 74, 76
Asia, Japanese trade with, 542–572; East Asia, 542–553; South Asia, 553–567; West Asia, 567–572
Asphalt, 79
Australia, Japanese trade with, 574–576, *T 454*, *T 455*
Austria, Japanese trade with, 585–586, *T 463*
Automobile insurance, 446
Automobiles, *See* MOTOR CARS

Balance of payments, 8, *T 1*, 485–488, *T 366*
Bank of Chosen, 27, 413, 414, 420, 632
Bank of Japan, 4, 22, 26; note cir-

culation, 27–28, *T 17*, 41, 414; note issue, 8, 9, 10, 22, 26; function of, 413–414; national bond holdings of, 41, 414, *T 323*
Bank of Taiwan, 420
Banking crisis, *See* FINANCIAL CRISIS OF 1927
Banking institutions, *See* FINANCIAL INSTITUTIONS
Banking Law, 21, 22, 409, 412
Banking policy, 433–434; and export trade, 429
Banks, 25, *T 14*, 407–421; Banking funds, 411, 415, 420, *T 321, 324, 327*; debentures, 91, 92, *T 56*; development, 407–409; fusions, 411–413; classification, 416–421; number and capitalization, 413, *T 322*; operations, 410; loss compensation, 427–428
Barley, 55, 160, *T 104*, 376–377
Baryte, 74, 76
Beans, 55, *T 31*, 156, *T 100*, 160–162, *T 104*
Beer industry, 374–377; brewing companies, 379, *T 293*; business results 375–376, *T 294*; development, 378; export of beer, 376, *T 295*; organized control, 121, 377; production and consumption of beer, 374–375, *T 292*; raw materials, 376–377
Belgium, Japanese trade with, 584–585, 586, *T 463*
Bicycles, 308–309, production, 308, *T 237*; exports and imports, 304, *T 235*, 309, *T 237*
Birthrate, 58
Bismuth, 74, 75
Boilers, 319, 320, 321, *T 247, 248, 249* *See also* PRIME MOVERS
Boiler and engine insurance, 446
Bonded warehouses, 456
Brazil, Japanese trade with, 599, *T 474*, 603–604, *T 477*
Brewing industry, 373–377
Bristles, 74, 77
British Empire, Japanese trade with, 503, *T 378*
British India, Japanese trade with, 556–559, *T 434–437*; Indo-Japanese commercial convention, 510, 557, 618
British Malaya, *See* STRAITS SETTLEMENTS
Budget, 33, *T 21*, 34, 37; *See also* PUBLIC FINANCE
Burglary insurance, 447
Business dissolutions, 91, 92, *T 55*
Business results, 8, *T 1*, 142–145; international comparison of, 137–139, *T 88*

Camel hair, import of, 282, *T 207*
Camphor, 74, 77, 78
Canada, Japanese Trade with, 594–597, *T 471, 472*
Cane sugar, *See* SUGAR
Canned foods, 377–381; exports of, 380–381, 523–524, *T 299, 400*; aquatic products, 191–193, *T 126*; labour conditions, 380, *T 298*; production cost of, 379–380
Canned Foods Association of Japan, 379
Canned fruits and vegetables, 156, *T 100*, 378–379, *T 296, 297*, 381, *T 299*; pineapples, 379, *T 297*
Canned salmon, 192, 377, 378, *T 296*
Capital, cost of, 107–109; accumulation of, 85–89; analysis of C. in industrial companies, 139, 140, *T 90*; classified according to business, 88–89, *T 53*; Foreign capital, 9–10, 82–84, *T 48*; in the dependencies, 86, 87–89; of all companies, 10, 85, 86, *T 50, 51*; reductions of, 91, 92, *T 55*; sources of, 81–85
Capital Flight Prevention Law, 10, 23, 30
Capitalization, 9–11, 81–93; according to business, 89, *T 53*; development of, 85, *T 50*; increase of, 89–92, *T 54*
Cargo insurance, 449

Cartels, 45, 116–117, 127–129, cartel agreements, 122, *T 84*, 119, *T 83*; control through 118–123; regulation of, 133
Celluloid, 328, *T 253*, 330, 334–335, *T 261*
Cement industry, 348–355; consumption of, 350–351, *T 270, 271*; control of, 353–355; cost of production, 352–353, *T 273*; export of; 351–352, *T 272*; manufacturers associations, 353–355; production curtailment, 354 *T 274*; production of, 349–350, *T 269*, 354, *T 274*
Census, 11, 58–61
Central America, Japanese trade with 597–601, 607–609; adjustment of trade relations with, 620
Central Bank of Co-operative Societies, 262, 428; funds of, 411, *T 321*
Ceramic industry, 341–361
Ceramic manufactures, export of, 494, *T 371*; 521–522, *T 399*
Charter rates, 474, *T 361*
Chemical industry, 326–340; business results, 326, *T 252*; production, 327–333, *T 253*; raw materials 337–440, *T 263, 264*
Chemical manufactures, export, 334–336, *T 260, 261*, 518–519, *T 394*; import, 336–337, *T 260*, 338–340, *T 262, 263, 264*; output, 327–329, *T 253, 254*
Chile, Japanese trade with, 599, *T 474*, 603–604
China, agricultural and industrial conditions, 624–625; Japanese investments, 92, *T 57*, 630–631; Japanese trade with, 549–552, 627–628, *T 428–430*, 622; monetary problems, 632–633; natural resources, 627; tariff policy, 631
Chinese Eastern Railway, sale of, 587
Chosen, capital invested, 87; external trade 484–485, *T 365*; population, 57; production, 14, *T 6*; trade of Japan proper with, 481–484, *T 364*
Chosen Industrial Bank, 420; debentures issued, 421, *T 327*
Chosen Life Insurance Bureau, 434
Chromium, 74, 75
Cigarettes, imports and exports of, 403, *T 319*; production of, 407, *T 318*
Clay, 74, 76
Clearing of bills, 410–411, *T 320*
Coal, 105, 200, 205–210, *T 132, 135, 137, 143–150*; business results of coal companies, 207–208, *T 148*; cost of production, 206–207, *T 146*; consumption by State railways, 460, *T 347*; foreign trade, 209–210, *T 149, 150*; prices, 207, 208, *T 147*; production, 55, *T 31*, 206, *T 143, 145*; resources 206, *T 144*; self-sufficiency 74, 78, 79, *T 44*
Cocoons, 164–166, *T 100, 108*, 254, 257–268; disposal of, 257–268; number of sericultural households, 255, *T 186*; production, 55, *T 31*, 164–166, *T 108*, 256 *T 187*; prices, 259, *T 188*; production cost, 257–258, *T 188*; *See also* MULBERRY LEAVES
Colonial Rice Import Regulation Law, 178
Colombia, Japanese trade with, 599, *T 474*, 604, 605, 479, *T 477*
Commercial Associations, 46, *T 28*, Law, 46, 118
Commercial conventions, *See* TRADE AGREEMENTS AND CONVENTIONS
Commodity prices, 6–7, 17–21, *T 8*; comparison with world market prices, 17–18, *T 9*; retail, 19–21, *T 12*; wholesale, 18–19, 21, *T 9, 10, 11*
Companies, according to business, 88, 90, *T 54*; dissolutions of, 90–91, *T 55*; debentures, 25, *T 15*, 83, *T 48*, 85, *T 50*, 91, *T 56*, 92; number and paid-up capital of, 85–87, *T 50–52*; by capitalization, 88, *T 52*
Control, 114–129, 131, by Exporters' Associations, 125–127, *T 86*; by Industrial Associations, 125, *T 85*,

131; financial, 417–418; in export trade, 117–118; in industry, 118–127; in small-scale industry, 115–116, 131

Control Commission, 129

Control organs, as specified by the Major Industries Control Law, 119, *T 83*; not under the Major Industries Control Law, 122, *T 84*

Convertible notes, 420; 415, *T 324*

Co-operative mills, in silk-raising industry, 261

Co-operetive societies, growth of, 65–67; important functions of, 66, 67; co-operative credit societies, 429

Co-operative Society Law, 65, 66, 118, 428

Copper, 55, *T 31*, 74, 75, 195, *T 132* 197, *T 134*, 513, *T 388*

Cost of living, 62, 65; of farmers, 68, 99, *T 37*, 172, 173, *T 114, 115*

Cost of production, 5; comparison of cost elements, 94–95, *T 59*; economic factors affecting, 94–113; in Great Britain and U. S. A., 95

Cottage industries, 179

Cotton industry, 234–250; consumption of raw cotton, 236, *T 175*; control in, 246–249; development and present conditions, 234–235; factory equipment of, 235, *T 173*; future prospects of, 249–250; international position of, 235, *T 174*

Cotton spinning industry, characteristics of, 238; companies, mills and operatives, 237–239, *T 176*; curtailment of operations, 246; labour efficiency, 240, *T 178*; organized control in, 119, 246–247; productivity in, 101, *T 67*; production cost, 239–240, *T 178*; scale of enterprises, 237–239, *T 176*; wage cost, 240, *T 178*

Cotton tissues, Anglo-Japanese trade negotiations, 619; Dutch-Japanese trade negotiations, 619; export of, 242–246, *T 181, 182*, 509–511, *T 384*; export to British India 509, *T 384*, 556–557, *T 435, 436, 437*; export to China, 549, *T 429*, 628; export to Manchoukuo, 545, *T 450*, 627; export to the Netherlands East Indies, 560, *T 440*, 562, *T 441*; export to the Philippines, 575, 619; production of, 241–242, *T 180*, 246, *T 181*

Cotton weaving industry, 241–246; establishments and looms in, 242, mills and operatives, 231, *T 171*; *T 179*; production, 231, *T 171*, 241–242, *T 180*; control of, 249–251

Cotton yarn, export and import, 232, 233, 234, *T 172*, 507, *T 381*; production, 239, *T 177*; prices, tion and 241 (chart showing seasonal variation)

Crude oil, import, 37, 533–534, *T 412*; self-sufficiency, 74, 78, 79, *T 44*, *See also* PETROLEUM

Crude rubber, import, 38, 534, *T 413*

Cuba, Japanese trade with, 607–608, *T 482*

Cultivated area, 54, 56 150, *T 96, 97, 99*; rate of augmentation, 56

Culture, 68, level of, 67; expenses for, 69

Currency Law of Manchoukuo, 632

Customs duties, international comparison of, 111, *T 79*; import, 110, 111, *T 79*; rate of, 110

Customs Tariff Law, 620

Customs tariff system, 616–617

Cut tobacco, 407, *T 315, 316*

Cyanamide, 74, 76

Czechoslovakia, Japanese trade with, 584–585, 586, *T 463*

Dairy products, 156, *T 100*, 163–164, *T 106, 107*

Debentures, 82,83, *T 46, 47*, 419, *T 323*; conversion of, 25–26, *T 15*, 107; clas-

sified by rates of interest, 108, *T 75*; issues and redemptions of, 25–26, *T 15*, 91, 92, *T 56*; issued by special banks, 421, *T 327*; yield of, 24, *T 13*, 107, *T 74*, 108, *T 75*
Deflation, 4, 22, 40–41; policy, 18
Denmark, Japanese trade with, 581, *T 459*, 588–590, *T 466*
Deposit Bureau of the Ministry of Finance, 10, 81, 411, 424–426, *T 330*
Depreciation of currency, 4–5, 6–8, 18, 20, 23, 28–32, *T 20*, 40–42, 634
Diesel engine, 303
Discount rate, 8, *T 1*, 22–24, *T 13*, 107, 108, *T 74*, *76*, 417
Dividends, 143–145, *T 94*, *95*
Dolomite, 74, 76
Domestic products, *See* NATIONAL PRODUCTS
Dupion silk, annual output of, 259 *T 189*
Dyeing and finishing industry, 231, *T 171*
Dyestuffs, production, 329–330, *T 255*, 335–336; export, 518, *T 394*; import, 336–337, *T 262*

Earthquake of 1923, 5, 9, 21, 41; relation to marine and fire insurance, 444; Settlement Bill, 413
East Asia, Japanese trade with, 542–553
Economic development, factors affecting, 40–50
Ecuador, Japanese trade with, 599, *T 474*, 606
Education, 44, 67
Egypt, Japanese trade with, 610–612, *T 485–487*
Electrical machinery, 312–314; export and import of, 312, *T 241*, 313, *T 242*, 516, *T 392*; production of, 311, *T 238*, *240*
Electric apparatus, production of, 311, *T 240*
Electric bulbs, 315–316; export and import of, 312, *T 241*, 316, *T 244*, 525–526, *T 402*; organized control, 316; production, 310, *T 238*, 311, *T 240*, 316, *T 244*
Electric cables and wires, 311, *T 240*, 312, *T 241*, 316–317, *T 245*
Electric engineering industry, 296, 310–317; business results, 297, *T 225*; foreign capital in, 84; production and cost factors, 311, *T 239*
Electric meters, 311, 313
Electric motors, 311, 313
Electric power industry, 217–226; power companies 224–226, *T 167*, *169*; power consumption, 106, *T 73*, 222–224, *T 163*, *164*; power consumption by state railways, 460, *T 347*; power generation, 219–220, *T 158*, *161*; power output, 220, *T 160*, *161*; power plants, 220–222, *T 159*; price of, 106; power resources, 65; power transmission, 221–222, *T 162*
Electric Power Association, 219
Electric tools, production of, 312
Electrification, 223, *T 165*, *166*
Emergency Relief, 16, 34–36, *T 22*, 179–180
Employment, 11–13, *T 2–4*, 98–100, *T 63*
Engineering and shipbuilding industry, 294–325; business results, 297, *T 225*; development of, 294–296; factories and workers, 296, *T 222*; production and cost factors, 296, *T 224*; *See also* MACHINES AND TOOLS
Europe, Japanese trade with, 578–590, *T 458*, *459*
Exchange Control Law, 30, 416
Exchange rates, 29–31, 41, *T 19*, *20*
Export, banking policy in support of, 433; by commodities, 505–526, *T 380*; comparison of new and old markets, 503, *T 377*; compensation system, 433, 434; control of, 117, 118, 129, 618–620; relation to industrial production, 492–495, *T 371*, Export Compensation Law, 430

Exporters' Associations, 46; control by, 125–127; function of, 126, 618; legistertion, 46, *T 28*, 117, 118, 125, 126, 433, 618
Export goods inspection, 618
Export industries, regulation of production of, 14
Export Industrial Association, 115
Export raw silk regulation, 118, 264, 268–269

Factory Mortgage Law, 426
Family allowances, 103
Family labour, in cocoon-raising industry, 257; in pottery industry, 357
Family system, 61–62
Fats, *See* OILS AND FATS
Federation of Coal Mine Owners' Associations, 206, 208
Federation of Muslin Weavers' Associations, 288
Female labour, 99 *T 93*; in textile industry, 230; number of spindles and looms per, 100, *T 64*
Ferro-alloys, production and self-sufficiency in, 74, 75
Fertilizers, consumption, 170; exports and imports, 335, *T 261*, 337, *T 262*, 518, *T 394*, 520, *T 396*, output, 331–332, *T 257*, *258*
Fidelity guarantee, 450
Financial accomodation, agricultural, 428–429; trade, 411–412, 430–434; industrial, 426–428; export trade, 433–434
Financial crisis (of 1927), 4, 21, 41, 413, 415, 422, 430, 437
Financial institutions, 409–410; for commerce 409; for foreign trade, 410; for immovables and agriculture, 414; for industry, 409; for medium and small manufacturers and merchants 410; for the colonies, 414; funds of, 411, *T 320*
Finished manufactures, foreign trade in, 500–501, *T 375*
Fire-arms, import, 320, output, 319
Fire insurance, 444, 448, *T 339*
Fish meal, 193, *T 126*, *130*
Fishery, 182–194; coastal, 183, 185, *T 118*, *119*; in foreign waters, 187–190, *T 118*, *121*; number of companies and paid-up capital, 88, 90, *T 53*, *54*; pelagic, 185–187, *T 118*, *120*; persons employed in, 183, production, 182, *T 6*, *118*; *See also* AQUATIC PRODUCTS
Fish oil, 74, 77, 193, *T 126*, *129*
Fixed assets, of industrial companies, 141
Flannel, cotton, 243, *T 180*, wool, 286, *T 213*
Flax, *See* HEMP, etc.
Floating canneries, 187–190, *T 118*, *122*, *123*, 382; in Northern waters 378
Flour milling industry, 161, *T 104*, 367–373; business conditions, 372, *T 295*; imports and exports of flour, 373–375, *T 288*, 524, *T 400*; principal factories, 369; production of, 368, *T 285*, *286*
Fluorite, 74, 76
Foodstuffs, 54–55, 157–164, *T 101*; foreign trade, 496–498, *T 372*, *373*, 523–524, *T 400*, 539–541, *T 419*; manufacturing industry, 362–384
Ford Automobile Company of Japan, 307
Foreign capital, 9–10, 82–84, *T 48*, *49*, 412
Foreign exchange, 28–32, *T 18*, *19*, *20*
Foreign loans, 84, *T 49*
Foreign trade, balance of, 485–488, *T 366*; by agricultural and industrial countries, 504, *T 379*; by commodities, 509–545; by countries, 542; by groups of commodities, 496–501, *T 372*; by political units, 503, *T 378*; of Dependencies, 484–485, *T 365*; with Dependencies, 481–484, *T 364*, index chart, 489; in finished

manufactures, 500–501, *T 375*; in foodstuffs 496–498, *T 373*; in raw materials and semi-manufactures, 499–500, *T 374*; regional distribution of, 501–504, *T 376*; relation to primary production, 490–492, *T 369*; relation to industrial production, 492–495, *T 371*; development of, 479–482, *T 363*, 488–490
Foreign trade policy, 49–50, 615–620; adjustment of trade relations with Central and South America and Africa, 620; customs tariff system, 616–617; economic co-operation of Japan, Manchoukuo and China, 629–633; export compensation system, 617; export goods inspection, 618; Exporters' Associations, 618; promotion of exports, 617–618, 620–621; trade agreements, 618–620
Forestry, production, 14, *T 6*
France, Japanese trade with, 582, 584, *T 461*
Freight rates, 111–113, *T 80, 81*; Shipping, *T 80, 81*; Railways, *T* 82; 478, *T 361*
French Indo-China, Japanese trade with, 566–567, *T 447*
Fruits, production, 155–157, *T 100*; exports and imports, 161–163, *T 105*
Fuel, 103–104; consumption in industrial production, 104, *T 70*
Fuji Cotton Yarn Spinning Co. 238
Fuji silk, 267

Gas, consumption of, 105, *T 71*
Gasoline, degree of self-sufficiency, 74, 79, *T 45*; production, 211, *T 151*, 213, *T 154*; exports and imports, 214, *T 156*
General Motors of Japan, 310
Germany, Japanese trade with, 582–583, 585, *T 462*
Glass and glassware, *T 264, 265*, production, 342–343, *T 265*; imports and exports, 350–353; 522, *T 399*
Glass industry, 341–348, development and importance, 341, 344; imports and exports, 346–348; production, 342–343, *T 265*; cost of production, 345; rationalization and technical progress in 344–345,
Glass insurance, 447
Gold, balance of export and import, 487, *T 366*; production, 55, *T 81*, 195–196, *T 132, 134*; promotion of production, 48
Gold embargo, 3–4, 29; removal of, 4, 13, 28, 32, 40, reimposition of, 3, 4, 7, 8, 11, 16, 18, 20, 21, 22, 26, 29–31
Gold Replenishment Law, 27
Government control, *See* CONTROL
Government Railways, *See* STATE RAILWAYS
Government Rice Purchase Notes, 38, *T 25*
Government Tobacco Monopoly, 400
Great Britain, import duties in, 111, *T 79*; commodity prices, 18, *T 9*; cost of production, 95; freight rates, 112–113, *T 81*; Indian imports of textile goods from, 559, *T 436, 437*; Japanese trade with, 582, 583, *T 460*; rayon production, 273, *T197*, 279, *T 205*; trade negotiations with Japan, 619; wages in, 102, *T* 68
Greece, Japanese trade with, 590, *T 467*
Green tea, production of, 382, 383, *T 300*; export of, 383, *T 301*
Graphite, 74, 76
Gunny bags, 293, *T 222*
Gypsum, 74, 76

Habutae, 267
Haiti, Japanese trade with, 599, *T 474*, 608, *T 484*, 609

Heavy chemicals, 327–329, *T 253, 254*, 334, 335, *T 261, 337, T 267*
Heavy oil, 74, 79, 533–534, *T 112, See also* PETROLEUM
Hemp, Jute, Flax and Ramie, development of industry, 289–292; export and import, 232, *T 172*, 292–293, *T 222*; production, 74, 78, 166, *T 109, 110*, 290–299, *T 219*; production of tissues, 291–292, *T 221*
Hides and leather, 74, 77; import, 533, *T 411*
Hokkaido Colonial Bank, 410, 420, 428, 429; debentures issued, 421
Hong Kong, Japanese trade with, 552–553, *T 431*
Hops, 381
Hours of work, 98–100; international comparison of, 103; output per, 101, *T 66*; per day, 100, *T 65*
Household industries 63, 65
Hull insurance, 448
Hull Insurers' Union, 445
Humidity, 54, 67
Hypothec Bank of Japan, 408, 410, 412, 420, 425, 427, 428, 429; debentures issued by, 421, *T 326*

Illiteracy, 67
Immovables mortgages, financial institutions for, 410; Loss Compensation Law, 180, 429
Imports, by commodities, 526–541, *T 404*; excess of, 480; quota system, 604 (Chile), 572 (Netherlands East Indies), 562 (Straits Settlements), 606 (Peru); tariff system 616–617
Important Products Trade Association Law, 118
Indo-Japanese Commercial Convention, 118, 510, 557, 618
Industrial Association Law, 46, *T 28*, 115, 117, 118, 122, 123, 247, 248, 433, 128
Industrial Associations, 42, 123–125, 131; central bank of, 132; control by, 123, *T 85*; Federation of, 116, 131
Industrial Bank of Chosen, debentures issued by, 424
Industrial Bank of Japan, 408, 409, 410, 426, 428; debentures issued by, 421, *T 327*
Industrial capital, 9, 10
Industrial companies, analysis of capital employed by, 139, 140, *T 90*; assets and liabilities of, 139–141, *T 90–91*; dividends of, 144, *T 94–95*; profit of, 142, *T 94*
Industrial countries, Japanese trade with, 504, *T 379*
Industrial policy, 46–48, 70–71, 114–118
Industrial profits, 136–144
Industrial production, 14, *T 6*, 43, *T 27*, 492–495, *T 371*
Industrial products, foreign trade in, 492–495, *T 371*
Industrialization, 5, 15, 496, 642
Inflation, 6, 26–28, 34–36
Insurance, 431–451; life, 431–440; non-life, 440–451
Insurance companies, 435–437, *T 335*; as financial organs, 411, *T 321*, 423–424, *T 329*
Insurance Law, 435, 441
Interest rates, 5, 23, 24, *T 13*, 25, *T 15*, 107–109, *T 74–76*, 414
Internal combustion engines, 319, 320, 321, *T 247–249 See also* PRIME MOVERS
Investment, national, 81, 82, *T 46*; 89–92; *T 54*; in China 336; in Manchoukuo and China, 92–93, *T 57, 58*, 630–631, *T 497*, 635
Iran, Japanese trade with, 568, *T 448*, 572
Iraq, Japanese trade with, 568, *T 448*, 570
Iron and steel, 199–205; export, 514–515, *T 389*; import, 530–532, *T 410*; companies, 204, *T 142*; consump-

tion, 202–203, *T 140*; organized control, 120, 121, 204–205; prices, 203 *T 141*; production, 201–202, *T 139*, raw materials in, 199–201
Iron ore, production, 74, 75, 199–200, *T 136*; import, 531, *T 410*
Iron pyrites, 74, 76, 196, *T 132*
Ironware, export of, 515–516, *T 391*
Italy, Japanese trade with, 584–585, 586, *T 463*

Japan Amalgamated Floating Canneries Co., 378
Japan Central Silk Society, 269
Japan Raw Silk Association, 268
Japan Steel Manufacturing Company, 47, 205;— Law, 47, 118
Joint Fire Insurance Association of Japan, 445
Joint-stock companies, number and paid-up capital of, 86, 87, *T 51*; new capitalization, 90
Joint-stock limited partnerships, new capitalization, 90; number and paid-up capital, 86, *T 51*
Jute; *See* HEMP, etc.

Kanegafuchi Cotton Yarn Spinning Co., 238
Kaoline, 74, 76
Kawasaki Dockyard Co., 305
Kerosene, 74, 79, *See also* PETROREUM
Knitted goods, 233, *T 171*, 494, *T 371*, 506, *T 380*
Kokura-ori, production of, 243, *T 180*
Kwantung Leased Territory, Japanese trade with, 543, *T 422*, 545–549

Labour, conditions, 11–13, 43–44 96–103; cost of, 43; efficiency, 43, *T 27*, 100, 635; in silk-reeling industry, 258–263; productivity of, 100–101, *T 66, 67*
Land, 53–56; policy to promote purchase of, 179, *T 117*
Land transportation, 458–468
Large-scale industry, control in, 116–117; financing of, 430
Latin-America, Japanese trade with, 597–609
Lead, 74, 75, 196, *T 132*, 197, *T 134*, 531, *T 409*
Leaf tobacco; consumption of, 402; imports and exports of, 401, *T 317*; production, 400, *T 109, 316*
Leather, 74, 77
Lebanon, *See* SYRIA
Legislation:
Agricultural Movable Property Credit, 180
Banking, 409, 412
Bank of Japan, 413
Capital Flight Prevention, 10, 23, 30
Chosen Industrial Bank, 420, 421
Colonial Rice Import Regulation, 178
Commercial Association, 46, 118
Co-operative Society, 65, 66, 118, 428
Customs Tariff, 616–617
Exchange Control, 30, 416
Export Compensation, 430, 617
Export Raw Silk Marketing, 115
Exporters' Association, 46, 117, 118, 125, 126, 618
Factory Mortgage, 426
Gold Replenishment, 27
Immovables Mortgage Loans and Loss Compensation, 180, 429
Imperial Railway Special Account, 461
Important Products Trade Association, 118
Industrial Association, 46, 115, 117, 118, 122, 123, 128, 247, 248, 429
Insurance, 431, 440
Japan Industrial Bank, 421
Japan Steel Manufacturing Company, 47, 118
Light Railway, 463
Local Railway, 463
Major Industries Control, 45, 114,

117, 118, 119–123, 127, 128, 381, 354, 377
Petroleum Industry, 47, 118, 216
Railway Construction, 459
Railway Nationalization, 463
Raw Silk Industry, 118, 267
Raw Silk Industry Association, 267
Rice Adjustment Special Account, 176
Rice Control, 118, 177, 456
Savings Banks, 420
Shipping Subsidy, 469
Silk Reeling Industry, 118, 268
Silkworm Eggs Control, 118, 268
Special Loans through the Central Bank of Cooperative Societies and Loss Compensation 180
Tobacco Monopoly, 400
Trade Protection, 597, 620–621
Trust Business, 421
Warehousing, 457
Life insurance, 431–440; contracts in 434, 435; development of, 431; present condition of, 434–437
Life insurance companies, 411, *T 321*, 424, *T 329*; application of assets in, 437–440; business conditions, 436, *T 335*; premium receipts 435, 439, *T 338*; rate of net returns of assets, 439, *T 338*; working assets, 438, *T 337*
Light oil, 74, 79, *T 45*, *See also* PETROLEUM
Light railways, 463, 464, 465, *T 352*, *353*
Limestone, 74, 76
Limited partnership concerns, 87; number and paid-up capital of, 86, 326, *T 51*
Live-stock and poultry 163–164, 106–107, 14, *T 6*, 491, *T 369*
Loans, *See* ADVANCES
Local Railway Law, 463
Long-term loans, by special banks, 428, *T 332*
Long-term money market, 410
Lubricating oil, 74, 79, *See also* PETROLEUM
Machine-reeled silk, annual output of, 259
Machine tools, 536, *T 416*; 318 *T 246*, 319, *T 247*, 320, *T 248*; 322–323, *T 250*
Machinery, demand and supply, 298–299, *T 226–228*; exports of, 516–517, *T 392*; imports of, 537–538, *T 416–417*
Magnesite,, 74, 76
Major Industries Control Law, 45, 114, 117, 118, 119, 121, 127–129, 381, 358, 359
Manchoukuo, agricultural and industrial conditions in, 623–624; as a source of raw materials, 79–80; foreign trade of, 629–630; imports by principal articles and sources, 548, *T 427*; imports of building materials, 547, *T 426*; Japanese trade with, 545–549, 543, *T 422*, *424–426*; monetary problems, 632–633; Japanese investments, 92, 93, *T 57*, *58*, 630, *T 497*; natural resources in, 625–626; population of, 623, *T 493*; tariff policy, 631
Manchurian Central Bank, 632
Manchurian incident, 16, 29, 33, 41, 64, 80, 545, 623, 629
Mandated Islands, *See* SOUTH SEA MANDATED ISLANDS
Manganese, 74, 75, 196, *T 132*
Manufacturing industries, 14, *T 6*, 229–409
Manure, *See* FERTILISERS
Marine insurance, 440–451; development, 440–444; tariff rate, 445–446; present conditions, 447–451; business results of companies, 450–451, *T 340*, *341*; Underwriters' Association, 445
Marine transportation, 468–475
Meat, production of, 163, *T 106*, export and import of, 158, *T 101*, 163, *T 107*

Medicines, *See* PHARMACEUTICAL PRODUCTS
Medium and small industries, *See* MINOR INDUSTRIES
Meiji Life Insurance Co., 431
Metals, exports of, 513–516, *T 388*; imports of, 530–532, *T 409*; production, 75, *T 40*
Mexico, Japanese trade with, 599, *T 474*, 608, *T 483*, 609
Mica, 74, 76
Military expenditure, 35–36, *T 23*, 136
Mineral hydrocarbons, production, 78–79, *T 44*
Mineral oil, imports of, 533–534, *T 412*
Minerals, 72, 73, *T 38*; exports and imports of, 198, *T 135*; production, 195–198, *T 132–134*; resources, 72–79
Mining industry, 195–216; number of companies and paid-up capital, 88, 90, *T 53*, *54*; production, 14, *T 6*, 195–198, *T 132–134*
Minor industries, importance, 45, 63–65; organization of, 115–116
Mitsubishi:—Heavy Industries, Ltd. 300, 305, 307; Petroleum Co., 215; Warehouse Co., 453
Molybdenum, 74, 75
Monetary organs in colonies, 408, 410
Money rates, 24, *T 13*, 107, 109, 110, *T 76*
Money market, 7, 8, *T 1*, *13*, 21–23; control over 417
Monopoly Bureau, 400, 401
Morocco (French), Japanese trade with, 614
Mortality rate, 58, 67, 68
Motor bus services, 307, 466, *T 354*, 467–468
Motor cars, 306–308; production, 306, *T 236*; export and import, 304, *T 235*, 538–539, *T 418*
Motor Car Industrial Co., 307
Motor car transportation, 467–468, *T 355*
Motor cycles, 308–309, *T 237*
Mozambique, Japanese trade with, 612–613, *T 488*
Mulberry leaves, cost of, 259, area under cultivation, 255, *T 186*
Muslin, export, 286, *T 215*; production 285, *T 213*
Mutual aid financial associations, 408, 409 410

National products, 131, 132, 133, 134
National income, 8, *T 1*, 9, 82, *T 46*
National investment, *See* INVESTMENT
National loans, 26–27, *T 16*, 38–39, *T 16*, 38–39, *T 25*, 81, 82, *T 46*
Natural resources, 54–56; characteristics of, 72–73
National savings, 9, 81, 82, *T 46*
Net profits, international comparison of, 138, *T 88*, *89*; of industrial companies, 139, 142, *T 92*
Net worth, of companies, 137, *T 87*, 140, *T 90*
Netherlands, Japanese trade with, 584–585, 586, *T 463*
Netherlands East Indies, Japanese trade with, 554, *T 432*, 559–562, *T 438–441*, imports from Japan, Great Britain and the Netherlands, 560, *T 439*; imports of tissues, 562, *T 441*; Dutch-Japanese negotiations, 619
New Zealand, Japanese trade with, 573, *T 453*, 576–578, *T 456*, *457*
Nickel, 84, 75, 513, *T 388*, 531, *T 409*
Nippon-Egypt Commercial Association, 612
Nippon Keori Kabushiki Kaisha, 71
Nippon Petroleum Company, 214–215
Nippon Salvage Company, 446
Nippon Yusen Kaisha, 112, 469, 623; business results, 475
Nitrates, 74, 76
Nitrogen, 74, 76
Non-life insurance, 440–451; control of, 444; development of, 440; legal

provisions of, 440; tariff rates, 444; companies, 428, 443; business results of, 450, *T 340*, 451, *T 341*
Non-metals, 75–76, *T 41*
North America, Japanese trade with, 591–597
North China, foreign trade of, 628, *T 495*, Japanese investments in, 92, *T 57*; Japanese trade with, 629, *T 496*; natural resources, 628
North Manchuria Railway, 30
Norway, Japanese trade with, 588–590, *T 466*
Notes issue, 27–28, *T 17*, 413

Oats, production of, 156, *T 100*
Oceania, Japanese trade with, 573–578
Oil and fats, exports, 335, *T 261* 339–340, 518, *T 394*, 519; import, 340, *T 262*; output, 333, *T 259*; *See also* VEGETABLE OILS AND ANIMAL FATS
Oil seeds, 74, 75, 78, 166, *T 109*, 167, *T 111*, 168, import, 535–536, *T 414*
Oji Paper Manufacturing Co. 390, 392
Ordinary banks, 25, *T 14*, 407, 408, 409, 413, *T 322*, 416–418; funds of, 417, *T 325*; investment of, 417; number and capitalization, 413; paid-up capital, 417
Osaka Shosen Kaisha 475
Outsiders, 128; in export trade, 117–118; in large-scale industries, 116–117; in small-scale industries, 115

Paint, vanish and pigment, 328, *T 253*, 330, 331, *T 256*, 335, 337, *T 261*, *262*
Palestine, Japanese trade with, 568, 571, *T 448*
Panama, Japanese trade with, 599, *T 474*, 608, *T 484*, 609
Paper and paper board, 385, *T 303*, *304*; exports, 387–388, *T 306*, 520–521, *T 398*; import, 387, *T 305*; production, 385, 386, *T 303*, *304*
Paper industry, 385–392; Manufacturers' Association, 392, *T 308*; organized control, 119, 392; technical progress, 390; sources of raw materials, 388–390
Paraffin, 79
Passenger traffic, 462; of State railways, 459, 462, *T 346*, *349*; of private railways, 464; of State railways' motor service, 467, *T 355*
Peppermint, 74, 77, 78
Personal accident insurance, 451
Peru, Japanese trade with, 606, *T 481*
Petroleum, 196, 210–216, *T 132*, *135*, *151–157*; foreign trade, 211–214, *T 152*, *155*, *156*; Government policy 216; prices, 215, *T 157*; production, 55, 196, *T 31*, 132, 212, *T 153*, *154*, companies, 214–215; Industry Law, 47, 118, 216; degree of self-sufficiency, 74, 79, *T 45*
Pharmaceutical products, production, 328, *T 253*, 329, foreign trade, 335, *T 261*, 337, *T 262*
Philippine Islands, Japanese trade with, 564–565, *T 444*, *445*
Phosphorite, 241–242, 338, *T 263*; production, 74, 76, 196, *T 132*
Pig iron, import of, 531, 532, *T 410*; production, 55, *T 31*, 74, 75, 201–202, *T 139*
Pigment, *See* PAINT
Pisciculture, 184, *T 118*, *124*, 190
Plate and sheet glass, output, 342–343, *T 265*; imports, 346–347, *T 266–267*
Poland, Japanese trade with, 590, *T 467*
Population, 53, 56–61; agrarian, 61, 62, 152; by age groups, 58, 59, 61, *T 35*; density of, 54, 56; future of, 57, 58, 59, *T 33*, 638; rate of increase of, 57, *T 32*, 58; of productive age, 59; with occupations, 59, *T 34*; working, 11, *T 2*, *3*
Portugal, Japanese trade with, 590, *T 467*
Post office life annuity, 436, *T 336*, 437, 438

Post office life insurance, 83, *T 47*, 431, 436, *T 336*
Postal savings, 83, *T 47*, 409, 415, 424–425, 429
Potash, import of, 341–342, *T 263*
Potatoes, 156, *T 100*
Pottery industry, 355–361, costs of production, 359, *T 276*; connection with wholesale dealers, 356; export, 360, *T 277*, *278*, 521–522, *T 399*; labour conditions, 357; mechanization, 357; organized control, 359–360; production, 358–359, *T 275*; scale of enterprise, 355–356
Pottery Manufacturers' Associations, Federation of, 360
Poultry, *See* LIVE-STOCK AND POULTRY
Precious metals, production of, 55, *T 31*
Pregnancy, rate of, 58
Premiums, in life insurance companies, 435, *T 334*, *335*; in various non-life insurance companies, 448
Prices, *See* COMMODITY PRICES
Primary products, output of and foreign trade in, 14, *T 6*, 490–492, *T 369*
Prime movers, 42, *T 26*, 318, *T 246*, 319, *T 247*, 320, *T 248*, 321–322, *T 249*
Private railways, 463–466; business results of, 465, *T 353*; capital and length of lines, 464; government subsidies for, 466; traffic returns of, 465, *T 352*
Production, control of, 117, 123, 129; in Japanese empire, 13–15, *T 6*
Provisional Industrial Advisory Council, 114, 130, 131, 133
Public bonds, 36–8, *T 23*, *24*, *25*, 413–414, 415, 417
Public finance, 33–39, *T 21*, *22*; expansion of government expenditures, 34–37, *T 22*, *23*
Pulp, demand and supply, 388, 390, *T 307*; import, 536, *T 415*; production, 78
Pyrethrum, export of, 520, *T 397*
Quicksilver, 74, 75
Railway cars, 306, *T 233*, 307–308, *T 234*
Railways, 15–16, 458–466; Construction Law, 459; freight rates, 113, *T 82*; Nationalization Law, 463, 467; private, 463–466; State, 459–463, 467
Ramie, *See* HEMP, etc.
Rationalization, Bureau of, 114–116, 133; in cotton spinning industry, 239; in railway traffic, 462; in the glass industry, 344; movement, 114, 130–135; result of, 97, 100
Raw cotton, consumption, 237, *T 173*; imports, 236–237, *T 175*, 523, *T 406*, 529, *T 407*; imports from U.S.A. 592, 593; imports from British India, 557–558; domestic production, 74, 77, 78, 167
Raw materials, 491, 493, *T 370*; agricultural, 166–168, *T 109*, *110*, *111*; cost of, 493; imports of, 535, *T 414*; foreign trade, 499–500; self-sufficiency in, 74–79, *T 39–45*; sources of, 72–80; used in industrial production and import ratio, 493, *T 370*
Raw silk, domestic consumption, 265, 266, *T 195*; examination for, 264; export of, 253, 263–265, *T 194*, 508, *T 382*; export to U.S.A., 592, *T 469*; foreign trade, 232, *T 172*; government control of, 269; output of, 252, *T 184*; production of, 259, *T 189*; quotation of, 265, *T 193*; trade, 263–266; system of transaction, 263–265
Raw wool, *See* WOOL
Rayon industry, 272–281; Rayon Manufacturers' Association, 280; business results, 281, *T 206*; international position, 273, *T 197*; organized control, 119, 280; productive capacity of principal manufacturers, 280; restriction of

production, 278; structure of, 279–281; raw material, 232
Rayon tissues, 275–277; exports of, 276–277, *T 203*, 511–512, *T 385*; foreign trade of, 232, *T 172*; production of, 275, *T 201*, *202*
Rayon yarn, cost of production, 278, *T 205*; domestic consumption, 275, *T 200*; export, 274–275, *T 199*, 512, *T 386*; import, 274–275, *T 200*; output, 272–274, *T 197*, *198*, 275, *T 201*, 276, *T 202*, price, 277–278, *T 204*
Refrigerating plants, 460
Resins, 340, *T 264*
Rice, 378, consumption per capita 56; import from Chosen and Taiwan, 484; rice policy, 176–178; production, 156, *T 100*, 157–160, *T 102*, *103*; Control Law, 118, 177, 456; Investigation Council, 176; Adjustment Special Account Law, 176
Rising Sun Petroleum Co., 215
Rubber belting, 398, 394
Rubber shoes, 397, 398
Rubber industry, 393–399; Japanese plantations, 395, *T 310*; organized control, 397; labour conditions, 395–397, Manufacturers' Association, 397; sources of raw material, 394–395
Rubber manufactures, export and import of, 397–399, *T 312–314*; production, 393–394, *T 309*
Rural indebtedness, 174
Rye, production of, 156, *T 100*

Sake, output of, 373, *T 291*
Salt, 56, 55, *T 31*, 74, 76, 337–339, *T 263*
Salvador, Japanese trade with, 610, *T 415*
Savings banks, 409, 410, 418–419; funds of, 419, *T 326*; investments by, 419, *T 326*; legislation, 420; number and capitalization, 413, *T 322*
Scandinavian countries, Japanese trade with, 588–590, *T 466*
Scientific management, 130, 133
Scrap iron, 200, *T 138*, 532, *T 410*
Sea freight rates, 112, *T 80*, 113, *T 82*
Semi-manufactures, foreign trade in, 499–500, *T 374*
Serge, production of, 285
Sericulture, 161–166, *T 108*, 255–258 *See* Cocoons
Shell of mollusca, 74, 77
Shellac, 74, 78
Shibaura Engineering Works, 305
Ship improvment plan, 48, *T. 30*, 300, 470; society, 471
Shipbuilding industry, 300–302, building capacity, 303; business results, 296–298, *T 225*; control, 133; cost of construction, 301, 302
Shipping, business results of companies, 475, *T 362*; present conditions, 471, *T 358*; subsidies, 470, 471, *T 357*
Siam, Japanese trade with, 554, *T 432*, 565–566, *T 446*
Silica sand, 74, 76
Silk industry, 251–271; characteristics, 251–252; control organs, 267–269; future prospects, 269–271; development and present situation, 253–254; government policy, 267; organized control, 119
Silk-reeling industry, 258–263; capitalization, 261–262; control, 268; financial results, 262, 263, *T 192*; legislation, 118, 268; number of tives, 261, *T 191*; production, 231, *T 171*
Silk tissues, export, 232–233, 266, *T 196*, 269, 512, *T 383*; production, 266, *T 196*
Silkworm eggs, State control of, 267
Silver, 74, 75, 196–197, *T 132*, *134*
Simplification, industrial, 131–134
Sino-Japanese Reciprocal Tariff, 642

Small-scale industries, importance of, 63–65; control of, 115–116, 131; financial facilities for, 132, 410, 427

Social conditions, 44–45, 69–70

Soda, 74, 76, 329, *T 254*

South Africa, Union of, Japanese trade with, 610, *T 485*, 613–614, *T 490*

South America, Japanese trade with, 597–606; adjustment of trade relations, 620

South Manchuria Railway Co., 87, 89, 93

South Sea Mandated Islands, area of, 54; trade with, 482, 483, *T 364*

Soviet Russia, Japanese trade with, 581, *T 459*, 585–588, *T 464*, *465*

Soya beans, import of, 161, *T 104*, 539, *T 420*; production, 156, *T 100*, 161, *T 104*

Spain, Japanese trade with, 594, *T 467*

Special banks, 420–421; employment of funds of, 421, *T 327*; investments by, 421, *T 327*; number and capitalization, 413, *T 322*

Spinning and weaving machines, 323–325, *T 246*, *247*, 320, *T 248*, 325, *T 251*

Spun silk, 269

Standardization, industrial, 131, 132, 133, 134

Standard of living, 58, 68, 69, 73, 635

Standard-Vacuum Oil Co., 215

State railways, 459–463; capital and profits, 461, *T 348*; coal and electric power consumption, 460, *T 347*; goods traffic, 459, *T 346*, *350*; passenger traffic, 459, *T 346*; traffic returns, 462–463

Steam turbines, 319, 323, 324, *T 247*, *249*; *See also* PRIME MOVERS

Steel, *See* IRON AND STEEL

Straits Settlements, Japanese trade with, 554, *T 432*, 562–564, *T 442*, *443*

Straw products, production, 156, *T 100*

Subsidies, for industries, 47–48, *T 28*, *29*; for association facilities, 46, *T 28*; for transportation, 48–49, *T 30*; for agriculture, 179–180, *T 117*, for ship improvement, 474–475, for shipping, 473–474, *T 357*; for private railways, 466

Sudan, Anglo-Egyptian, Japanese trade with, 612

Sugar industry, 362–367; business conditions, 367, *T 281*; cane production, 166, *T 109*; import and export, 365–366, *T 280*; in Taiwan, 363–364, *T 279*, *280*; international position, 365, *T 281*; organized control, 120, 121; production, 55, *T 31*, 362–365, *T 276*, *277*

Sulphate of ammonia, production, 74, 76; export, 520, *T 396*; import, 533, *T 411*

Sulphur, 74, 76, 196, *T 132*, 197, *T 133*

Sulphuric acid, 196, *T 132*, 329, *T 254*

Surtax, municipal and prefectural, 110

Sweden, Japanese trade with, 580, 581, *T 459*, 588–590, *T 466*

Switzerland, Japanese trade with, 580, 581, *T 459*, 585, 586, *T 463*

Syria, Japanese trade with, 568, *T 448*, 570–571

Taiwan, canned pineapple, 378–379, *T 227*; capital invested, 87, 89; external trade of, 484–485, *T 365*; population, 14, *T 6*, 56, 57; sugar industry, 363–364, *T 279*, *280*; tea industry, 382, *T 300*, *302*; trade with Japan proper, 481–484

Tannin, 78, 340

Taxation, 109–111; business profit

tax, 109, 110, *T 78*; emergency profit tax, 39; income tax, 109, 110, *T 78*; in relation to corporation income, 110, *T 78*; national, 109, 110, *T 77*; prefectural, 110; local, 109, 110, *T 77*

Tea, 381–384; export, 382–384, *T 301, 302*, 523, *T 400*, 524; production, 156, *T 100*, 382, *T 300*

Telegraphic and telephonic instruments, 310, *T 238*, 314; exports and imports, 314, *T 243*

Tenancy, 154–155, *T 99*, 179–180, *T 117*

Textile industry, 229–293, 492; exports, and imports, 230–233, *T 172*; number of factories and operatives, 229–231, *T 171*, production, 231, *T 171*; raw materials, 166, *T 109*, 526–530, *T 404–408*

Timber, export, 524–525, *T 401*; import of, 533, *T 411*; production, 74, 77, 78

Tin, 74, 77, 78, 196, *T 132*, 197, *T 134*, 531, *T 409*

Tinned and bottled foodstuffs, *See* CANNED FOODS

Tobacco, 399–403, cultivation, 400, *T 316*; Government monopoly, 400; imports and exports, 401, *T 317*, 403, *T 319*; production 116, *T 109*, 402, *T 318*; *See also* LEAF TOBACCO and CUT TOBACCO

Tokyo Electric Co., 316

Tokyo Electric Light Co., 218

Tokyo Marine and Fire Insurance Co., 441, 442, 444, 445, 447

Tops, import of, 282, *T 207*

Toshin Warehouse Co., 457

Toyoda Automatic Weaving Machine Mfg. Co., 324

Toys, export of, 526, *T 403*

Trade conventions and agreements, 118, 618–620; with Australia, 624; with British India, 618; with Egypt, 610, 620; with Great Britain 619; with the Netherlands East Indies, 618; with United States, 619

Trade Protection Law, 620–621

Tramp shipping, 476–478, *T 360*

Transfer savings, 424, 425

Transformers, 313

Transportation, 48–49, 458–475; land, 458–468; marine, 468–475; number of companies and paid-up capital, 88, *T 53, 54*

Trawling, 184, *T 118*, 187, *T 120*

Trucks, 472, *T 354*

Trust Business Law, 421

Trust companies, 412, 413, 414, 421–423, 427; investment of funds, 422, *T 328*; money in trust, 83, *T 47*

Tungsten, 74, 75, 196, *T 132*

Turkey, Five-Years Industrialization Plan and Japanese exports, 572; Japanese trade with, 571–572, *T 448, 451*; Provisional Reciprocal Trade Agreement, 572

Tyres, 397, 398; export and import of, 402, *T 310*

Unemployment 13, *T 5*

United States, cost of production in, 95; customs duties in, 110; Japanese trade with, 591, *T 468, 469*; money rates in, 108; natural resources of, 72, 73; wages in, 102

Uruguay, Japanese trade with, 598, 599, *T 474*, 600, 601, 605–606, *T 480*

Varnish, *See* PAINT, etc.

Vegetable oils, export of, 518, *T 394*, 519; materials, 167, *T 111*; production, 74, 77, 328, *T 253*, 333, *T 259*, 343

Vegetables and fruits, foreign trade, 162, *T 105*; production, 162, *T 105*

Vehicle industry, 302–309; business results, 299, *T 225*; development

302–305; number of factories and operatives, 303, *T 232*; production cost factors, 303, *T 233*; production, 303, *T 232*; exports and imports, 304, *T 234*

Vessels, launched, 301, *T 228*; prices for new tonnage, 302, *T 231*; *See also* SHIPBUILDING INDUSTRY

Venezuela, Japanese trade with, 610, *T 415*, 617

Wages, 19–21, 43, *T 12*, 96–98; average, per hour, 97, *T 61*; cost of, in cotton spinning industry, 242, *T 178*; fixed, per day, 98, *T 62*; international comparison of, 102, *T 68*, 103, *T 69*; of female labour, 98; per day, in principal industries, 98, *T 62*; percentage to total production, 97, *T 61*

Warehouses, bonded, 456; companies 453, *T 342*; business results 345, 455; business expansion and division of functions, 453; centralized control, 456–457; historical survey, 452; outline of present condition, 454; principal mooring equipment, 454, *T 343*; special, 456

Warehousemen's Association, 457, 461

Warehousing Law, 457

Water-power, resources, 55, 72; utilized, 55

Weaving machines, *See* SPINNING AND WEAVING MACHINES

Welfare work, 102; cost of, 103

Whaling, 184, *T 118*, 187, *T 120*

Wheat, 54–55; acreage 54; consumption per capita, 55; foreign trade, 161, *T 104*, 540–541, *T 421*; production, 55, *T 31*, 156, *T 100*, 160–161, *T 104*; imports sources of, 371–372, *T 289*

Wheat flour, *See* FLOUR MILLING INDUSTRY

Window glass, 346–348, *T 268*

Wood, *See* TIMBER

Wool, 74, 77, 282, *T 207*, 529–530, *T 408*

Woollen Industry Association, 283, 288

Woollen industry, 71, 281–289; business results, 288–289, *T 218*; forms of enterprise, 287–288; in Aichi prefecture, 290; raw material, 284; number of mills, operatives, and production, 231, *T 171*; number of spinning machines, 283 *T 209*; organized control, 288; wages, 288, *T 217*

Woollen and worsted tissues, exports, 286–287, *T 215*, 512–513, *T 387*; imports, 286, *T 214*; production, 285, 287, *T 213*, *216*

Woollen and worsted yarns, 232–233, *T 172*; 283–285; export, 284, *T 211*; import, 284, *T. 210*

Workers, number of, 63, 64, *T 36*; productivity of, 100–101, *T 66*, *67*

Yield, on company debentures, 107, 108, *T 74*, *76*

Yokohama Specie Bank 407, 408, 409, 410, 420, 614, 643

Zinc, 74, 75, 196, *T 132*, 197, *T 134*, 531, *T 409*

PRINTED: the 20th May, 1936.
PUBLISHED: the 25th May, 1936.

COMPILED BY
MITSUBISHI ECONOMIC RESEARCH BUREAU.
REPRESENTATIVE: MR. TOKUJI NAGAOKA,
Marunouchi 3, Tokyo, Japan.

PUBLISHERS: MACMILLAN & COMPANY, LTD.,
St. Martin's Street, London, W. C. England.

PRINTED BY HOSOKAWA PRINTING CO. LTD.,
Ginza 4, Tokyo, Japan.

DISTRIBUTORS IN JAPAN:
MITSUBISHI ECONOMIC RESEARCH BUREAU,
Marunouchi 3, Tokyo, Japan.