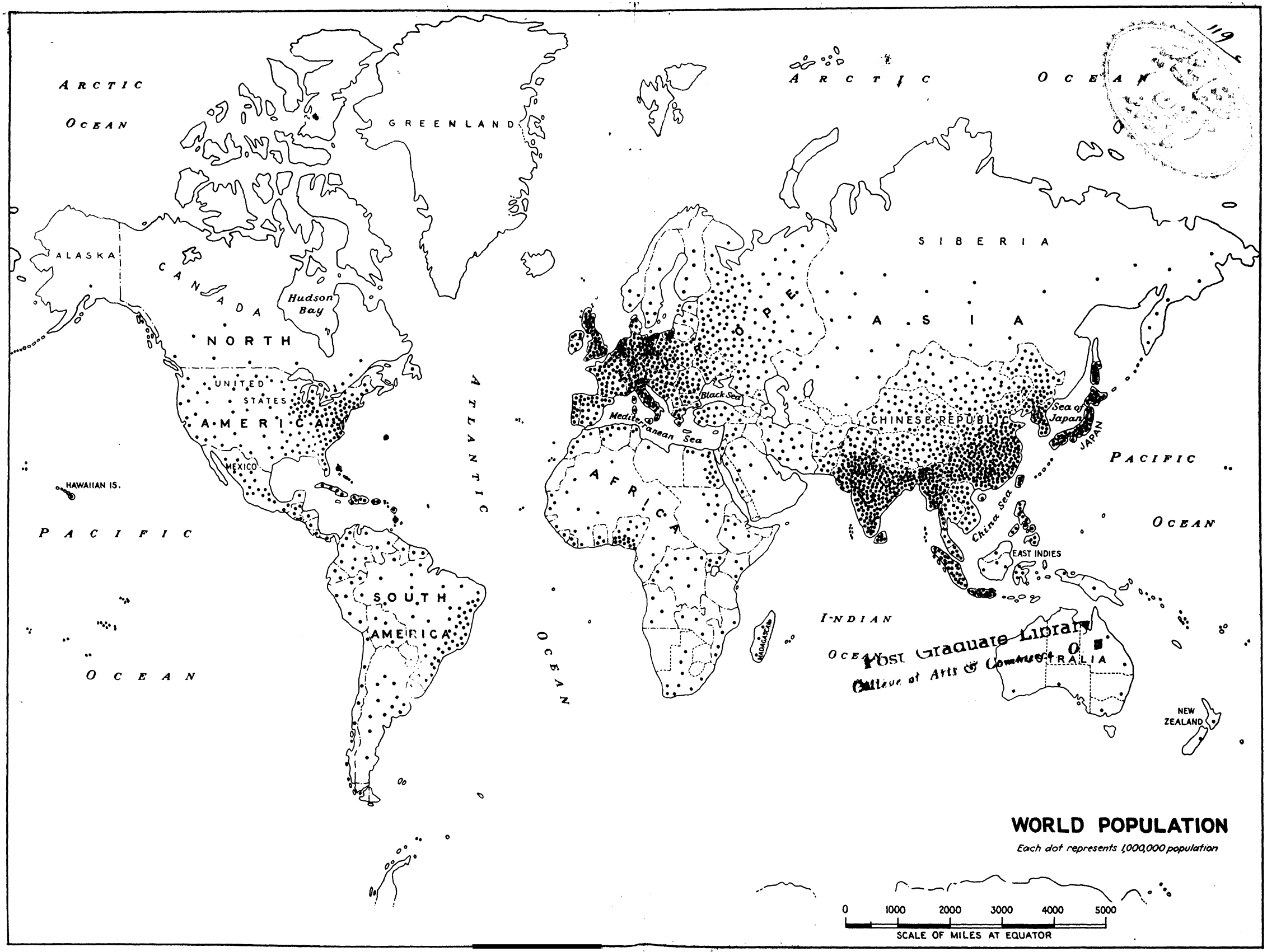
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INTERNATIONAL TRADE

INTERNATIONAL TRADE

BY

HUGH B. KILLOUGH

Professor of Economics, Brown University

FIRST EDITION

McGRAW-HILL BOOK COMPANY, INC.

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PREFACE

The United States of America has outgrown a stage of pioneering in the industrialization of a new continent and is beginning to realize the responsibilities of a mature nation in a community of great powers. From the Atlantic to the Pacific and from Maine to Texas, student interest and popular interest in international affairs have surged forward during recent decades. Vague theories of propriety in international economic relations are numerous, but there is all too little knowledge in this country of wisdom distilled from the ages of international economic intercourse.

This volume dips into the past for tested principles that may be applicable to the problems of our day and age. Present-day problems of international economic relations are treated against a background compounded of history, economic theory and factual information about the world's population, its resources and its industries. The book is intended primarily for use as a text in liberal arts colleges. If it finds a place in the libraries of statesmen and is perused by some of those many general readers who are interested in the economics of world peace, it will have served a doubly useful purpose.

The book has been in preparation for more than a decade. At intervals during that period, the author has worked in England, France, Germany, Switzerland and Russia. He is indebted for suggestions and assistance to many persons at home and abroad, some of whom occupy positions that prevent their names from appearing in a preface. The staff of the London School of Economics and the staff of the Economic and Financial Section of the League of Nations not only permitted use of their libraries but also extended assistance in the interpretation of points of view and theories. Sources of published information are given in footnotes throughout the volume and in the bibliography at the end of the book.

The author wishes to express his gratitude and indebtedness to three persons who read and criticized all or parts of the manu-

script before it went to press and thus initiated changes that contributed both to accuracy and to clarity:

Professor J. B. Botsford of the History Department of Brown University read the chapters which attempt to portray very briefly the historical setting of the subject. He criticized the effort to summarize thousands of years of history in a few pages with a sympathetic understanding of the purpose and an attitude of constructive correction.

Professor E. L. Loughnan, of the Department of Romance Languages and Literatures of Brown University, read the entire manuscript. He contributed, from his intimate acquaintance with European peoples, literatures and points of view, to the sections of the book which deal with foreign countries. He contributed also from his masterly skill in writing to a clarification and a simplification of passages that were cumbersome and involved.

Professor Lucy W. Killough of Wellesley College lived with the manuscript for ten years. She contributed to the formulation of ideas, to the correction of erroneous conclusions and to the clarification of obscure passages. In fact, she revised whole chapters of the book in order that they might be more comprehensible to the undergraduate reader.

Messrs. Charles B. Round and W. Robert Hartigan, students at Brown University, spent hundreds of hours on statistics, bibliography and other types of checking. Their efficiency and good-natured persistence were a pleasure to the author during the last long task of preparing the manuscript for the publisher.

The author considered counsel from many persons, but in last analysis he is responsible for the publication with all its faults and errors, whatever they may be.

HUGH B. KILLOUGH.

PROVIDENCE, R. I.,
January, 1938.

CONTENTS

PAGE

PREFACE v

LIST OF ILLUSTRATIONS xiii

PART I
INTRODUCTION

I. SUBJECT MATTER 3
A Difficult Period in the Economic Development of Nations —Political Aspects of International Trade—Types of Services That Economics Can Render—Mode of Treatment.

II. SOME PRELIMINARY CONSIDERATIONS 12
Reasons for Regional Specialization in Production and for International Trade—Differences between International Trade and Domestic Trade—Interdependence of International Trade and Domestic Trade.

PART II
HISTORICAL BACKGROUND

III. COMMERCE OF ANCIENT CIVILIZATIONS 27
Adaptation of Commercial Activities to the Geographical Environment—Ancient Trade and Political Imperialism—Evolution of Trading Methods.

IV. COMMERCE OF THE MIDDLE AGES 40
Medieval Localism in Europe—Eastern Trade Prior to the Crusades—Revival of Trade in the West.

V. TRANSITION FROM MEDIEVAL LOCALISM TO WORLD-WIDE COMMERCIALISM 49
Discovery of New Territories and New Trade Routes—Colonization—Organization of Overseas Trading Companies—Extension of Money Economy—Status of Manufacturing Prior to the Nineteenth Century.

VI. MERCANTILE PHILOSOPHY AND NATIONAL SOLIDARITY . . 58

PAGE

VII. ADAM SMITH 68

PART III

NATIONAL COMMERCIAL POLICIES OF THE NINETEENTH CENTURY

VIII. EMPLOYMENT OF POWER MACHINERY 75
Expansion of Production and Trade—The Spread of Power-machinery Economy.

IX. FREE TRADE 81
Say—The Ricardo-Mill Stream of Thought.

X. FREE TRADE (*Continued*) 92
Effects of Great Britain's Free-trade Policy—Summary.

XI. PROTECTIONISM TO PROMOTE NATIONAL INDUSTRIAL DEVELOPMENT 102
Hamiltonian Nationalism—List's Philosophy of Protectionism—Conditions in Germany during List's Generation—Nationalism and Industrialization the Goal of Both Hamilton and List.

PART IV

INDUSTRIAL FOUNDATIONS OF TWENTIETH CENTURY COMMERCE

XII. POPULATION DISTRIBUTION; ITS RELATION TO COMMERCIAL POLICY 115
The Principle of Diminishing Returns—Population Pressure—Population Danger Zones—Relation between Population Problems and Commercial Policy.

XIII. THE WORLD'S FOOD RESOURCES 124
Food Requirements—Trade Encourages Dietary Diversification—Cereals—Potatoes and Sugar—Meats and Fish—Dairy and Poultry Products—Fruits and Vegetables—Miscellaneous Foodstuffs—A Concluding Statement Concerning the World's Food Industries.

XIV. POWER RESOURCES 155
Sources of Energy Supplies—Geographical Dispersion of Power Machinery—Water Power—Utilization of Water-power Resources in Various Countries—Water Power versus Petroleum and Coal—Petroleum—Coal—Conclusions.

PAGE

XV. METALS AND METALWORKING INDUSTRIES 180
Iron and Steel—The Aluminum Industry—Copper—Other Industrial Metals—Gold and Silver.

XVI. TEXTILE RAW MATERIALS AND TEXTILE-MANUFACTURING INDUSTRIES 205
Cotton—Wool—Silk—Rayon—Other Textile Materials.

XVII. WOOD, RUBBER AND CHEMICALS 230
Wood—Rubber and Its Manufactures—Minor Forest Products—Sulphur and Chemical Industries—International Interdependence.

XVIII. INTERNATIONAL TRANSPORTATION AND COMMUNICATION FACILITIES 242

XIX. FOREIGN INVESTMENTS 254
The Simultaneous Expansion of Commerce, Power-machinery Techniques and Foreign Investments—Motives for Foreign Investment—Prewar Status of Foreign Investments—Postwar Status of Foreign Investments—Probable Future Tendencies.

XX. CONCLUSIONS CONCERNING CERTAIN ASPECTS OF TWENTIETH CENTURY COMMERCE 265
The Volume of World Trade—Foreign Trade per Capita of Various Countries—Effects of Changing Prices—Status of Foreign Trade of Leading Nations Before the Great War—Long-time Tendencies.

PART V

TWENTIETH CENTURY PRACTICES AND PRINCIPLES

XXI. FOREIGN TRADING AGENCIES AND PROCEDURES 281
Trade in Raw Materials—Trade in Manufactured Goods—Foreign Trade Financing—Transportation and Communication Procedures—The Settlement of Commercial Disputes — Trade-association Activities — Government Trade-promotion Activities.

XXII. INTERNATIONAL PAYMENTS BALANCES 300
Payments Balance of the United States—Trade Balance and the Investment Cycle—Prewar Payments Balance Status of Great Britain, France and Germany.

PAGE

XXIII. INTERACTION OF FOREIGN EXCHANGES, INTERNATIONAL PRICES AND PAYMENTS BALANCES 311

The Process by Which Payments Balance Items Are Adjusted—The Price-specie-flow Theory—Gold Prices versus Paper-money Prices—Conclusion.

XXIV. GAINS FROM TRADE AND THEIR DIVISION 333

Reexamination of the Principle of Comparative Advantage—Measurement of Changes in Terms of Trade.

XXV. TRADE RESTRICTIONS 355

Effects of Trade Restrictions on Prices—Meaning of the Terms "Protective" and "Free-trade" Policies—Brief Survey of Customs Tariff Systems—The Agrarian versus Manufacturing State Controversy—Other Arguments for Customs Tariffs—A Confusion of Motives—Difficulties of Removing an Established Tariff System—Tariff Making—Foreign Exchange Restrictions—Import and Export Quotas—Other Interferences with the Free Movements of Goods.

XXVI. COMMERCIAL TREATIES 386

Scope and Content of Commercial Treaties and Agreements—Customs Tariff Bargaining—International Agreements—Customs Unions.

PART VI

DISLOCATING INFLUENCES OF THE WORLD WAR

XXVII. BOUNDARY CHANGES AND PRODUCTION SHIFTS 393

Disorganization of Peacetime Conditions of Production and Trade—Economic Effects of Boundary Changes.

XXVIII. DEBT BURDENS 401

Inter-Allied Debts—German Reparations—Internal Debts.

XXIX. MONETARY DISTURBANCES AND PRICE UPHEAVALS . . . 409

Effects of War and Postwar Price Disturbances—Deflation, Unemployment and Political Unrest—International Exchange Rivalries.

XXX. RÉSUMÉ 421

PART VII

RECENT COMMERCIAL POLICY TENDENCIES

XXXI. BRITISH POLICY AND OUTLOOK 429

Free Trade Gives Way to Protective Legislation—Trade Restrictive Measures—Protection from the Point of View

PAGE

of Orthodox British Economists—Social Instability and Protection—Structural Changes in British Industry—Overseas Trade Tendencies—International Payments—Great Britain's Commercial Policy Outlook.

XXXII. POSTWAR TENDENCIES IN FRANCE 463
International Payments—Trade Restrictive Measures in France—Export-import Trade Tendencies—General Considerations.

XXXIII. BARRIERS AGAINST THE EXTERNAL EXPANSION OF GERMANY 471
The Background of Germany's Postwar Commercial Policy—Postwar Trade Restrictive Measures—Export-import Trade Tendencies—Conclusions.

XXXIV. ITALIAN NEEDS 494
The Population Problem—Postwar Land-utilization Policy—Postwar Development of Manufacturing—International Payments—Merchandise Trade Tendencies—Trade Restrictive Measures—Will Acquisition of Colonies Solve Italy's Economic Problem?—Conclusions.

XXXV. JAPANESE IMPERIALISM 510
Population Pressure—Directions of Economic Expansion—International Payments—International Trade Tendencies—Control of Export-import Trade—Recourse to Military Imperialism.

XXXVI. INDUSTRIALIZATION OF RUSSIA 527
Industrial Expansion of Russia—International Trade Tendencies—Foreign Trade Policy.

PART VIII

THE UNITED STATES IN WORLD ECONOMY

XXXVII. TARIFFS AND THE TRADE BALANCE 539
Tariff History—Trade and Payments Balances.

XXXVIII. INDUSTRIAL ADVANTAGES AND DISADVANTAGES IN THE UNITED STATES IN RELATION TO TARIFFS 547
Export Industries—Import Industries—Economic Relations between the United States and Other Regions—Probable Structural Changes in the United States Incident to Removal of Trade Restrictions.

XXXIX. ALTERNATIVE POLICY COURSES 563
Self-sufficiency—Economic Internationalism—American Internationalism, A Compromise Policy.

PAGE

XL. CONCLUSIONS CONCERNING THE ECONOMICS OF A FREER TRADE POLICY FOR THE UNITED STATES 576

The Payments Balance Problem—Economic Circumstances of the United States Compared with Those of Nineteenth Century England—Tariff Changes and Economic Instability—Possible Gains from Freer Trade—Reciprocal Trade Agreements—Conclusions.

BIBLIOGRAPHY 591

INDEX 613

LIST OF ILLUSTRATIONS

FIGURE PAGE

1. Pig-iron Production in Great Britain, France, Germany and United States by Decades, 1790 to 1910 78
2. Comparative Prices of Wheat and All Commodities, 1856 to 1936 128
3. Per Capita Consumption of Sugar in the United States, 1865 to 1935, and in European Countries for the Year 1934. 136
4. Comparative Prices of Sugar and All Commodities, 1856 to 1936 . 137
5. Comparative Prices of Livestock, Meat and All Commodities, 1875 to 1936 143
6. Typical Geographical Formations Showing Positions of Petroleum and Gas 163
7. Comparison of Prices of Crude Petroleum, Bituminous Coal and an All-commodity Price Index, 1860 to 1936 166
8. Coal Fields in England and Scotland 173
9. Coal Resources of the World 177
10. Comparative Prices of Pig Iron and All Commodities, 1850 to 1936 189
11. Comparative Prices of Copper and All Commodities, 1850 to 1936 194
12. World Production of Gold, 1493 to 1935. 202
13. World Production of Silver, 1493 to 1935 203
14. Cotton Production in the United States, India and Egypt, 1900 to 1935–1936 207
15. Raw Cotton Consumption in the United States, Great Britain and Japan, 1850 to 1935. 210
16. Comparative Prices of Cotton and All Commodities, 1840 to 1936 214
17. Comparative Prices of Wool and All Commodities, 1856 to 1936 . 217
18. The World's Commercial Supply of Raw Silk, 1876 to 1934 . . . 220
19. Comparative Prices of Raw Silk and All Commodities, 1855 to 1936 222
20. World Production of Cotton, Wool, Rayon and Real Silk, 1900 to 1934 225
21. Comparative Prices of Lumber and All Commodities, 1856 to 1936 231
22. World Production of Rubber, 1905 to 1935. 233
23. Comparative Prices of Rubber and All Commodities, 1856 to 1936 235
24. Comparative Prices of Sulphur and All Commodities, 1840 to 1936 239
25. Seasonal Fluctuations in the Foreign Trade of the United States . 312
26. Wholesale Prices and Gold Movements, United States. 321
27. Index Numbers of Wholesale Prices in Great Britain and United States, in Terms of Gold, 1830–1930. 322

FIGURE PAGE

28. Index Numbers of Wholesale Prices, United States and China, in Terms of Gold, 1870 to 1932 323

29. Export-import Prices and Domestic Prices in the United States, 1926 to 1930 326

30. Wholesale Price Indices, France, Great Britain and United States, 1900 to 1932 330

31. Wheat Prices, St. Louis, U. S. A., and Liverpool, England, Crop Year Averages, 1900–1901 to 1934–1935 341

32. The Map of Europe Before and After the Great War 398

33. Index Numbers of Wholesale Prices in France, Great Britain, Japan, Peru and United States, 1913 to 1935. 410

34. Ratios of Revenue from Duties to Value of Imports into the United States, 1821 to 1935. 541

35. Import Prices, Export Prices and Net Barter Terms of Trade, United States, 1890 to 1936 585

PART I
INTRODUCTION

CHAPTER I

SUBJECT MATTER

International trade deals with business transactions between citizens of different nations and with considerations of commercial diplomacy which spring from such transactions. This volume deals more with national policies in respect to international economic relations than with the procedures of exporting and importing goods and services.

A DIFFICULT PERIOD IN THE ECONOMIC DEVELOPMENT OF NATIONS

At no time in modern history do conflicts of interest concerning international economic problems appear to have been more acute than during the last two or three decades. While some groups of persons interested in international finance or in export industries pressed for removal of international trade barriers, other groups, interested in high-cost domestic industries, were demanding protection of home markets. A tug of war between business groups in particular nations, each group seeking advantages of political favor, is not a new phenomenon. However, the lengths to which national governments have gone in recent years in attempts to foster measures calculated to favor their nationals in the scramble for export trade and at the same time protect their domestic industries against the competition of imports are unusual. After the World War nation after nation laid import duties to protect its domestic industries and to minimize unemployment. Every restriction of imports by one country necessitated industrial rearrangement in other countries. For a time generous international lending kept the currents of trade moving in spite of artificial trade barriers, but in the late twenties long-term international lending tended to dry up. In consequence, international payments were thrown out of balance. Excessive quantities of gold accumulated in some countries; bank reserves were depleted in other countries. Nations with meager metallic monetary reserves resorted to currency devaluation, government

rationing of foreign exchange and the laying of merchandise import quotas to protect their monetary systems. As the severity of trade restrictive measures increased during the early thirties the volume of international trade declined, depression spread and the internal economies of all the great commercial nations were thrown into confusion. Finding that the slow process of deflationary adjustment was politically inexpedient, one government after another resorted to emergency currency measures. Some divorced their currencies from gold; others devalued their standard monetary units; all resorted to inflationary measures of one kind or another. Since 1933 the value and volume of world trade have increased, but grave concern is felt by informed students of the subject as to whether the improvement since 1933 is not of a temporary, inflationary character.

War-born instability was enough in itself to create economic confusion during the postwar period, but it was not the only unsettling influence. A number of large nations appear to be undergoing fundamental changes in their positions in world economy. Let us take the United States as a first example. Since the year 1790, the population of this country has increased from approximately 4 million to approximately 130 million. During the first 75 years of the period, the country was predominantly agricultural; it is now predominantly manufacturing. Although manufacturing had taken precedence over agriculture when the World War started, the United States was still a debtor nation which exported large quantities of raw materials and fabricated goods in payment of interest on accumulated borrowings from Europe. Today the United States is a creditor nation. The change from debtor to creditor position came quickly during the War. Since the War, reorganization of domestic industry and trade balance in the United States to conform with the new status of creditor nation has been slow and painful; it is far from completed even now, some two decades after the swing from debtor to creditor position occurred. Colonial America is a thing of long ago. The days of *American localism* are over; the United States is now one of the leading nations of the world, a position which many of her businessmen and statesmen are reluctant to assume. A new era has arrived.

Great Britain, too, is faced with the necessity of making far-reaching economic adjustments. During the nineteenth century

Great Britain was mistress of the Western world. The first country to emerge from the mercantile era with a strong centralized government and full-fledged institutions of a national economy—national banking, national taxation, etc.—Great Britain forged ahead of other countries in the early adaptation of power-driven machinery to manufacturing undertakings and to transportation needs. Confined within a comparatively small area rich in iron and coal resources, the British soon began to export manufactured goods in exchange for foodstuffs, wool, cotton and other fabricating materials and to extend capital loans to less industrialized parts of the world. Two great exporting industries developed in Great Britain at a time in the nineteenth century when competition for world trade in manufactured goods was comparatively inert. These industries were steel and its products and textiles. Today British textile exports must compete with low-cost Japanese textile exports, and British steel goods are meeting keen competition in foreign markets from steel goods produced in France, Germany and the United States. This intensification of international competition in conjunction with the rise of tariff barriers in less industrialized regions of the world spelled retrenchment for certain of Great Britain's oldest and largest industries. The War quickened developments already in progress.

Other nations also are experiencing difficulty in bringing about structural changes in their domestic economies necessary to absorb the shocks of foreign competition. Visualize the nature of competitive forces in a world divided into national political units: some large, others small; some progressive, others backward in the employment of modern techniques; some rich, others poor; some densely populated, others sparsely settled; none completely self-sufficing. Nations such as Great Britain, Germany and France depend for their prosperity upon importation of foodstuffs and of fabricating materials and exportation of manufactured goods. With large populations and enormous fixed investments in decreasing-cost industries, the highly industrialized, wealthy nations are facing a world which is imitating their course of development. Economic instability and need of far-reaching structural readjustment are in evidence both in the more highly industrialized nations of the world and in the less industrialized, raw-material-exporting countries. Some countries are

unable to sell the capacity output of their manufacturing plants, while others are unable to dispose of their exportable surpluses of crude products at profitable prices. The latter countries have introduced measures for the control of raw-material surpluses by restricting production in some cases and by destroying existing stocks in others.

An English statesman, speaking from London over the radio recently, cited trade restrictions as the underlying cause of chronic economic disturbance throughout the world. Free trade throughout the world, he argued, would give businessmen an opportunity to pursue their own self-interests; the kinds of goods which people want would be produced; buying power would equal the costs of goods offered for sale; business would thrive in every corner of the globe; and war clouds would roll away. If only the economic affairs of the world could be ruled by some grace-saving, cardinal principle as simple as international free trade or national protection! However, economic realities are not so simple. Take, for example, the three-way trade between Great Britain, Japan and the United States. Each country possesses a large cotton textile industry. Great Britain and the United States produce surpluses of iron and steel goods and Japan must import iron and steel. The United States produces surpluses of raw cotton and wheat; Great Britain and Japan must import these raw materials. Why not let Japan manufacture the textiles, Great Britain manufacture the iron and steel products, and the United States produce cotton and wheat? Unfortunately a number of objections to such an arrangement exist. In the first place, these are not the only countries to be considered. In the second place, Great Britain and the United States have large capital investments in textile industries which would have to be liquidated. In the third place, Japan wants an iron and steel industry of her own even if it costs her more to make iron and steel goods than they can be purchased for in England, because without an iron and steel industry behind them, a nation's armies are weak and its foreign policy badly handicapped. In the fourth place, the United States possesses such rich reserves of coal and iron ore as to place Great Britain at a competitive disadvantage in world markets for many of her products of iron and steel. In fact it appears that Great Britain cannot freely compete with Japan in textiles without lowering

the wages of British textile workers; and that she may not be able to compete with the United States in iron and steel goods markets without reducing the wages of her iron and steel workers. Perhaps there are other industries in which Great Britain might excel. However, the shifting of large amounts of labor and capital from one industry to another is not easy even under conditions more favorable than those that exist in Great Britain.

POLITICAL ASPECTS OF INTERNATIONAL TRADE

International trade, more than some of the other branches of economics, is inextricably involved with international political considerations. Trade restrictive measures are evidences of this fact. Imperialism is another example of the connection between trade and politics. With the coming of improved transportation facilities during the eighteenth and nineteenth centuries, countries that had improved modes of manufacturing increased their exports of manufactured consumers' goods, capital equipment and technical ideas. In exchange, they obtained increasing amounts of foodstuffs and other crude materials that were scarce at home. In this manner it became possible for relatively small areas to support larger populations than could live well from the produce of their immediate environs. England[1] with her more than seven hundred persons per square mile—most of them living well and some in luxury—is an extreme illustration. In the industrially backward countries, international trade unlocked great reservoirs of dormant wealth in the form of natural resources. Railroads were built, agricultural produce was given access to the sea and to world markets; virgin timber became a rich source of revenue; and dormant mineral deposits acquired economic value. Parallel with these developments in the backward countries went foreign ownership of the railroads, mining machinery and other capital equipment. Property rights, held by foreigners in countries unstable politically, led inevitably to political imperialism supported by navies for duty in foreign waters and armies for service on foreign soil. Industrially progressive countries, particularly England, France, Germany, Belgium, Netherlands and other countries of western Europe, vied with one another for patronage and property rights in North America, South America, Asia, Africa and the East Indies. Later the United

[1] Wales, Scotland and Ireland not included.

States of America and Japan entered the race for overseas wealth. Capital investments in Cuba and the dispatch of United States warships to Cuba to protect American property from the depredations of revolutionists are inextricably related. The John Hay doctrine of the *open door* in China, put before the American public as a move to save the weak and helpless Chinese nation from European aggrandizement, did not overlook the possibilities of commerce between China and America. Japan's recent exploits in the Orient are not very different in some respects from similar exploits of Western nations at an earlier date.

A third example of the political implications of international trade is the influence of large corporations with representation in many countries. These organizations appear to be undermining, in some degree, the potency of national political barriers, much as the activities of international traders during the early modern period helped to break down the institution of town economy. The General Electric Company of the United States with its European subsidiaries is a typical example. This company has subsidiaries in England, France, Germany, Italy, Netherlands, Spain, Portugal, Austria and Belgium. In some instances the subsidiaries are controlled by the parent company through stock ownership; in other cases the relationship is contractual. The European organization of the General Electric Company is known as the International General Electric Company. Not only in the electrical industry, but also in the communications industry, the petroleum industry, automobile manufacturing, the chemical industry, retailing, the motion-picture industry and elsewhere, the large corporation with business interests in many countries is a factor of increasing political as well as economic significance.

TYPES OF SERVICES THAT ECONOMICS CAN RENDER

The undercurrents of international economic relations as well as their surface evidences involve many considerations that are not economic. Nevertheless, the economist has contributions to make toward a clearer understanding of the whole complicated problem of international economic intercourse. It is his function to analyze tendencies in the light of an accumulation of teachings, practices and cause and effect relationships that are buried away

in a voluminous body of economic literature—the receptacle of experience records handed down from the past. By no means all the economic problems with which the world has been beset during the last few decades are strange and new; demonstrated cause and effect relationships drawn from experience can contribute much to an understanding of them. Economic analysis can render at least two important types of service. In the first place, by contributing to a clearer understanding of causes for existing economic confusion and probable courses of future development, it can facilitate a statesmanlike procedure in the unraveling of tangled world affairs. Statesmen charged with the responsibility of formulating international economic policies—whether monetary policies, tariff policies, or mere gestures of good will—are most likely to be successful if they take fully into account the trends of world economic development and make full use of experience records. One does not have to be a profound student of economics to know, for example, that temporary gains in favorable merchandise trade balances achieved through a policy of currency inflation have, in most cases, been dearly bought, or that creditor nations ordinarily find it to their advantage to import more goods than they export. Records of economic experience hold for the patient student of international economic relations many other equally significant cause and effect relationships that are reasonably certain to interact in predetermined fashion.

A second service that an understanding of international economics can render is in the more successful conduct of business enterprises. Every business concern which has goods to sell or money to invest must project its calculations ahead from day to day, year to year and decade to decade, basing its decisions of today in no small part upon judgments of tomorrow's events. What business concern wants to be caught with large fixed investments in a tariff-protected industry whose tariff props are in imminent danger of being removed by congressional or executive action? What individual wants his savings invested in the securities of a foreign nation which is unable to transfer to him annual interest payments or dividends? No business enterprise can be free from risks and hazards of unpredictable change. However, twentieth century businessmen who do not take carefully into account the probable effects of currents of world

economic change upon their ventures, assume unnecessary hazards; in fact, they are likely to court disaster.

MODE OF TREATMENT

The literature of international trade is varied, both in subject matter and in mode of treatment. Let us cite three or four examples of authoritative American books on the subject. First, there is Taussig's *International Trade.*[1] It is a restatement (with amplifications, modifications and verifications) of the classical stream of doctrines initiated by Ricardo[2] about a century ago. A quite different type of book is de Haas's *Practice of Foreign Trade.*[3] This book is concerned primarily with various commercial activities incident to buying and selling export and import goods in the highly organized markets of the present day. These two volumes are different in point of view; they are mutually exclusive in much of their content, and their modes of treatment are quite dissimilar. Another popular American treatise, Whitaker's *Foreign Exchange,*[4] confines itself to methods of international financing. Yet another book, Culbertson's *International Economic Policies,*[5] discusses economic influences in international relations. The following passage from the preface of Culbertson's book is suggestive of its content:

> It would be one sided to suggest that the rivalries and clashes of nations are entirely the result of economic differences, but it would be equally erroneous to contend that such matters as competition for markets, for supplies of raw materials, for loans and for concessions are not major causes of diplomatic controversies and international misunderstandings.

Culbertson makes no effort to maintain a sharp distinction between the economic and the political. His grounds are that in

[1] TAUSSIG, F. W., *International Trade,* The Macmillan Company, New York, 1927.

[2] David Ricardo (1772–1823) was a British financier and member of Parliament. His utterances and writings exercised a profound influence upon British policy in the early years of the nineteenth century.

[3] DE HAAS, J. ANTON, *Practice of Foreign Trade,* McGraw-Hill Book Company, Inc., New York, 1935.

[4] WHITAKER, ALBERT C., *Foreign Exchange,* D. Appleton and Company, New York, 1st ed., 1920; rev. ed., 1933.

[5] CULBERTSON, WILLIAM SMITH, *International Economic Policies,* D. Appleton and Company, New York, 1925. Quoted by permission.

practical politics, economic and political motives are interdependent. The foregoing books are samples of American works that treat various aspects of international trade from widely different points of view. Foreign treatment of the subject is equally diversified.

The present volume centers its emphasis upon national commercial policies in international relations. It is concerned with the industrial foundations upon which international commercial policies rest, and the economic principles involved in their successful or unsuccessful operation. The international trading policies of various nations are examined at different times and in different historical and geographical settings. Such a study of economic forces at work illustrates long-established cause and effect relationships and encourages and facilitates judgment of probable policy tendencies in the future.

CHAPTER II

SOME PRELIMINARY CONSIDERATIONS

All trade is essentially the exchange of goods and services for other goods and services. In this fundamental respect international trade and domestic trade do not differ. The ultimate gains from trade consist not of monetary profits but rather of economic utilities. Because desire on the part of an individual for any one particular kind of good is limited, an exchange of goods may increase the total utility of the goods entering the exchange transaction. Thus the one party to the transaction does not necessarily lose an amount equal to that gained by the other party. All parties involved may, in fact, procure from an exchange transaction net additions to their possessions of goods. An Argentine wheat farmer who grows more wheat than he and his family need for the making of bread and beer and other staples or delicacies for household consumption may be induced by necessity to burn good wheat in his fireplace unless he can trade the wheat for some other fuel that can be secured in greater abundance and with less effort. A British coal miner, on the other hand, has comparatively easy access to an abundance of fuel and little or no wheat. Under the circumstances a ton of wheat may exchange for three tons of coal, the wheat being much more valuable for food in the mining districts of England than three tons of coal, and the coal being more suitable for fuel in Argentina than a ton of wheat. The Argentinian cannot produce coal so readily as he can produce wheat because coal mines are scarce in Argentina. The Englishman living in the heart of a coal-mining region can dig out many tons of coal more easily than he can grow a ton of wheat because coal in his locality is abundant while the region is not well suited to wheat growing. Such gains from exchange may be far more than sufficient to compensate for long hauls and other costs of transfer. The simple truth that all parties to the transaction may gain from an exchange of goods is sometimes obscured by complexities of modern com-

mercial transactions in which gains and losses of each individual trader are recorded in monetary units.

REASONS FOR REGIONAL SPECIALIZATION IN PRODUCTION AND FOR INTERNATIONAL TRADE

Because in the creation of the earth and its inhabitants nature's useful resources and man's innate abilities were not apportioned uniformly to all parts of the globe and to all persons, and because techniques of production do not advance at equal rates among all peoples, regional specialization in production and opportunity for profitable trade, both domestic and international, are legion. A few examples of regional advantages in production will emphasize reasons for the long-recognized fact that territorial specialization and trade tend to augment the aggregate of economic goods available for use.

First are regional advantages in production arising from the geographical occurrence of nonreproducible minerals. Approximately 80 per cent of the world's known reserves of coal are located in North America and Europe.[1] These regions comprise only about a fifth of the inhabited portion of the globe and but a quarter of the world's population. Coal in abundance is more easily produced in North America and Europe than in countries where coal occurs in meager quantities or not at all. Here is a good economic reason for territorial specialization in production and for trade in coal or the products into which its energy enters. European and North American countries abundantly endowed with coal deposits trade with regions in South America, Africa and Asia that are less well supplied with this particular mineral. Coal is but one of many mineral resources that are plentiful in some regions and scarce in others. More than 90 per cent of the world's annual supply of petroleum comes from six countries, *viz.*, United States of America, Venezuela, Russia, Mexico, Persia and Dutch East Indies. These are the regions where petroleum has been found to occur in largest amounts. Countries other than these that would run many gasoline engines with cheap fuel look to petroleum-producing countries for replenishment of their gasoline tanks. Copper is another mineral that is plentiful in some regions and scarce in others. The United States and Chile, having possession of more

[1] British Isles included, Russia excluded.

copper ore than European countries, produce about two-thirds of the world's annual output of this metal, in part to supply European countries which nature failed to endow with adequate copper deposits. It is not necessary to go through the whole category of valuable minerals to realize that lack of uniformity of their occurrence in all parts of the world is a reason for trade from which all parties to the transaction may acquire gain.

A second reason for interregional trade is to be found in differences of climate and soil. Tropical fruits such as bananas cannot be produced in temperate regions without artificial heaters and humidifiers. Semitropical fruits like the orange and grapefruit are not suited to cold northern latitudes. Sugar cane must have a tropical or semitropical climate to grow exuberantly; so also must the rubber tree. Many of the hardwoods like mahogany and teak come from the tropics; soft coniferous woods like the pines, spruce, cedar and cypress are indigenous to countries of the north temperate zone. The coffee tree requires a warm humid climate and a soil rich in iron; Brazil is particularly well suited to the growing of coffee. Rice production requires an abundance of rainfall or irrigation. Wheat is not extensively grown in warm humid climates largely because of wheat diseases that are excessively destructive of the crop under those conditions. Production of wheat in extremely arid regions is also limited because the grain will not mature abundantly without some form of artificial irrigation in regions where the annual rainfall is less than 9 inches. Northern Africa and northwestern Australia are examples of such regions. In South America, Mexico and southeastern United States are other large areas where wheat is not extensively grown because in this case annual precipitation is too great. (In these regions precipitation is 50 or more inches per annum.) Cotton growing, like wheat raising, is restricted by climatic factors to regions for which the plant is adapted. At present, about 90 per cent of the world's cotton supply is produced in four countries, *viz.*, United States of America, India, China and Egypt. Climatic and soil differences thus give rise to regional specialization and trade.

A third set of conditions which contribute to regional specialization and interregional trade is to be found in the relation between the numbers of people living in a particular area and the quantity and quality of land available for their use. Densi-

ties of population in representative countries of the world vary remarkably. The United States of America has about 43 persons per square mile, Canada 3, Argentina 12, Brazil 15, China proper 250, Japan proper about 470, Italy 350, France 200, Germany 370 or more, Netherlands more than 600 and the Union of Soviet Socialist Republics (Russia) about 20. The clustering of large numbers of people in restricted areas is due in part to superiority in productive advantages, past or present, of the thickly populated regions. It is due even more largely perhaps to fortuities of history, differences in birth rates, habits of life and immigration restrictions. Whatever be the causes for differences in densities of population, the fact itself is a reason for territorial specialization and interregional trade. Agriculture in Italy and the Netherlands is very intensive; the product per man is relatively small because the amount of land available for each man to cultivate is small. These countries produce more than their per capita shares of the world's annual output of vegetables, fruits, dairy products and poultry products, all of which require relatively little land and relatively large quantities of labor per unit of product. Here also manufacturing industries that require relatively large quantities of hand labor predominate. Diamond cutting, fine cotton-goods factories, ready-made clothing shops, silk reeling and the manufacture of fine silk goods are examples. In contrast with the more densely populated parts of the world, Australia with its two persons per square mile of land produces for export large amounts of wool (obtained from sheep that range the grassy plains) and millions of bushels of wheat for sale to the more densely populated countries of Europe and Asia.

A fourth reason for territorial division of labor and international trade emerges from differences in rates of development and adoption of production techniques, particularly the techniques related to mechanical and chemical arts. England, Germany and the United States of America are among the countries which have forged ahead in the development and application of improved mechanical techniques during the last two centuries; China, India and Russia may be cited among the countries which lagged behind in the substitution of machines for human labor and in the building of mass-production machine industries. During the last decade, Russia has advanced rapidly in the adaptation of modern machines to her needs and in the building of

factories and a transportation system motivated with the natural energy of coal, petroleum and water power. In China and India, political decentralization, political instability and age-old Oriental philosophies continue to retard a rapid spread of Western industrial methods. As between these extremes, countries representing many stages of industrial culture exist side by side and trade with one another.

As long as the scatter of world populations is skewed, as long as employment of the best techniques of production lags in some countries and as long as nature's resources are not apportioned equally to all regions and peoples, interregional trade will tend to maximize the world's supplies of economic goods. These conclusions apply both to international and to domestic trade but in different degrees of importance.

DIFFERENCES BETWEEN INTERNATIONAL TRADE AND DOMESTIC TRADE

Fundamentally, both international trade and domestic trade are means of achieving increased production through division of labor. Nevertheless, international trade and domestic trade are dissimilar in a number of important respects. These dissimilarities arise from such conditions as (1) varying degrees of labor mobility, (2) nature of market, (3) existence of import tariffs, (4) monetary variations, and (5) legal peculiarities.

Varying Degrees of Labor Mobility.—Occupational skills and associations, family ties, custom, language and restrictive immigration legislation retard movements of workers from one country to another. Of these five impediments to free mobility of labor between countries only the first three, *viz.*, occupational skills and associations, family ties and custom are of pronounced importance in impeding intranational population movements. A result is differences in degrees of internal and external mobility of labor.

Populations do not flow freely from one region to another within the short space of time of a few weeks, months or even years. Nevertheless, between regions that are not separated by political boundaries and divided by legislated immigration restrictions, large numbers of people do move to and fro in the course of time. People, especially young people, move from regions of least opportunity to those of greater opportunity. Thus from generation to generation the population of a nation

tends to apportion itself regionally more or less in accordance with earning opportunities. Real wages of comparable grades of labor and living standards in various parts of a nation thus tend to seek a common level.

As between nations that prohibit free movements of populations over the boundary line, real wages do not necessarily tend to seek a common level. Take, for example, the difference between real wages and living standards in Italy and the United States. Italy's population is more dense in relation to natural resources than is that of the United States, and real wages in Italy are lower than those in the United States. This difference is a reason for limiting, by congressional act, the numbers of Italians who are permitted to migrate annually to the United States. In consequence, production in the two countries is carried on in more or less closed compartments in so far as the labor supply is concerned, whereas employers in different localities of either country compete for labor. This conclusion does not necessarily imply that money wages or even real wages are absolutely uniform in all localities which are encompassed by common national boundaries. In fact, wages in all parts of a national market seldom are exactly uniform. Averages of money wages per worker in six cities in the United States for the year 1925 varied, for example, as follows:[1] Springfield, Massachusetts, $1,310; Cincinnati, Ohio, $1,271; Atlanta, Georgia, $969; Dallas, Texas, $1,180; Minneapolis, Minnesota, $1,270; and Portland, Oregon, $1,332. Occupational characteristics, living costs, custom (as affected by the Negro population of Georgia, for example) and other factors interacted to cause differences in wage levels between these localities. National boundaries need not in every case augment differences in wage levels between localities thus alienated. As a general rule, however, wages in different countries do not seek common levels as readily as do wages in competing localities within the boundaries of a single nation. Index numbers of the relative levels of real wages[2] in the large towns of 13 countries are shown in the accompanying table.

[1] SOURCE: *Statistical Abstract of the United States*, 1930, p. 826.

[2] Real wages represent the purchasing power of money wages over classes of goods habitually consumed. As between countries whose price levels and habits of consumption differ markedly real wage comparisons are more significant for the purpose at hand than are money wage comparisons.

TABLE 1.—INDEX NUMBERS OF THE RELATIVE LEVELS OF REAL WAGES IN LARGE TOWNS OF DIFFERENT COUNTRIES, IN JULY, 1930
(Base: Great Britain—100)[1]

Country	Number of towns	Real wages
United States	10	190
Canada	6	155
Denmark	1	113
Sweden	3	109
Great Britain	7	100
Irish Free State	3	93
Netherlands	4	82
Germany	6	73
Poland	4	61
Austria	3	48
Yugoslavia	3	45
Spain	4	40
Italy	6	39

[1] SOURCE: *International Labor Review*, October, 1930.

The index numbers in Table 1 indicate that real wages in Great Britain in 1930 were more than twice as high as real wages in Italy and that real wages in Canada and the United States were more than 50 per cent higher than British wages. The compiler of the data recognized certain limitations of his index numbers—limitations arising from smallness of the sample, conditions of labor that were probably not in all cases representative for the country under examination and other shortcomings. When due allowance has been made for limitations of accuracy, the data point to conclusions different perhaps in degree but not in direction from those reached by other students of the subject,[1] *viz.*, that in some countries labor is abundant and relatively cheap, whereas in other countries it is scarce and relatively dear. In some cases mass movements of workers from low-wage countries to high-wage countries would in all probability occur were it not for national boundaries and immigration restrictions. Artificial barriers to prevent population movements from Italy

[1] See "An International Inquiry into Costs of Living: A Comparative Study of Workers' Living Costs in Detroit (U. S. A.) and Fourteen European Cities," International Labour Office, Geneva, 1931.

to France and from Japan to the United States of America are cases in evidence. Such efforts on the part of countries with relatively high living standards to restrict an influx of workers from countries with relatively low living standards tend to differentiate international trade from domestic trade. In international trade the wage factor is of relatively more importance in determining types of territorial specialization than is the case in domestic trade. Both the volume and the permanence of international trade rest more largely upon wage differentials than is the case in interregional, domestic trade.

Nature of Market.—Essential characteristics of machine industry are standardization of product, mass production and mass sale. A large domestic market is well suited to mass sale. The majority of a nation's people speak or at least understand a common language and can be reached through an integrated system of communication. A large proportion of a nation's population may be reached with standardized sales messages communicated through magazines with nation-wide circulation, through the associated press of the nation or through nation-wide radio hookups. Frequent intercourse fostered by easy communication and familiar modes of travel in congenial surroundings tends to standardize habits of consumption and to maximize advantages of large-scale production. Standardization of goods for the domestic market applies not only to consumers' goods but also to industrial goods. Systems of weights and measures are all too often national institutions; systems of training for engineers and designers tend to conform to national patterns; and styles in machinery and equipment tend to assume national characteristics. English railway engines and freight cars, for example, are characteristically different from engines and freight cars in France or in the United States of America. In certain contiguous countries of Europe railway gauges are so different as to necessitate reloading of freight at the national boundaries in place of through carriage of loaded freight cars. Lack of standardization of products of different nations, as illustrated with railway equipment, exists in many other types of industrial equipment. One need not delve deeply into the intricacies of specification habits, style causation, machine design and consumption preferences to realize that in a great many cases goods to be sold in foreign countries must be especially

designed to conform with the national characteristics of those countries.

Differences in demand more or less similar to those cited exist among the regional markets of a large nation. However, the individualities of various parts of a large domestic market are, as a rule, less extreme than those of different national markets.

A significant result of these market peculiarities is that a large concern which is supplying a particular class of goods (typewriters, railway engines, machine tools, flour, hats or what not) for sale in a number of different countries cannot standardize the product and realize advantages of mass production and mass sale to as great an extent as can the firm which is producing an equally large volume of one class of merchandise for sale in a large national market.

Existence of Customs Tariffs.—Tariff walls constitute a third difference between foreign trade and domestic trade. A customs tariff is a duty or schedule of duties levied upon goods which pass the boundaries of a political state. In ancient and medieval times tariffs were levied primarily for the purpose of raising revenue. In recent times they have been used more largely for the purpose of regulating the flow of commerce. Duties are imposed upon imports, upon exports and upon goods in transit. Import duties are by far the most important category of modern tariff charges. Practically no self-governing nation is entirely free of import duties. Rates of duty are levied, ordinarily, either in terms of a fixed charge per unit of weight, measure or count of the merchandise imported, *i.e.*, specific duties, or in terms of a specified percentage of the value of the goods imported, *i.e.*, ad valorem duties.

Export duties are less common now than they were during the mercantile period, although not so uncommon as to be classed in a category of purely historic practices. Great Britain, for example, employed export duties in her attempt to regulate production of raw rubber under the Stevenson plan in the nineteen twenties. Other examples are Chile's export duty on nitrates and Canada's export duty on pulpwood.

Customs tariffs obstruct the sale of particular goods in particular markets. Thus they may limit imports of foreign merchandise, curtail production of certain goods in particular areas by penalizing exports (as in the British rubber-restriction plan)

or facilitate the practice of dumping. Dumping is the sale of goods in foreign markets at prices less than those for which similar goods are sold in the domestic market. If it were not for tariffs, goods sold abroad at figures below the domestic price level for such goods would tend to return to the country of origin.

Monetary Variations.—Purchases and sales of goods in a domestic market are, as a rule, negotiated with money or currency that is uniform in all parts of the market. As between countries, mediums of exchange are not uniform, even when all the countries in question have gold standards. When both the United States and Great Britain were on gold standards, for example, the gold equivalent of a United States dollar was 23.22 grains of fine gold, and the gold equivalent of the British pound was approximately 113 grains of fine gold. Expressed in another way, the British pound at par was equivalent at 4.8665 United States dollars.[1] When these countries were on gold standards, exchange rates varied as much as 1 per cent, *i.e.*, a British pound might exchange for as much as 4.89 United States dollars or as little as 4.84 United States dollars, depending upon the condition of trade balances and the cost of transferring gold from one country to another. When the monetary units of these countries are not subject to gold conversion, exchange rates may vary by much greater amounts than those indicated. Calculation and execution of monetary exchange transactions incident to international trading constitute costs and risks of a kind that are not ordinarily involved in domestic trade. A United States merchant who sells a bill of goods in New York, San Francisco or some other domestic city for $4,866 will collect approximately $4,866 if the purchaser pays his bill. Costs of transferring this sum from one city to another are of minor importance. If a similar bill of goods is sold in Great Britain for a specified number of pounds sterling, the American merchant may realize $4,866 or some other amount depending upon the rate of exchange between dollars and pounds when collection of the bill is consummated. Monetary variations tend in this manner to differentiate domestic trade from international trade. The hazards of foreign exchange dealings are particularly great in times of economic stress, when governments resort to various forms of monetary depreciation.

[1] Par of exchange in this sense is the so-called mint par of exchange.

Legal Peculiarities.—A fifth difference between international trade and domestic trade is to be found in a dissimilarity of legal systems and modes of settling commercial disputes in various countries. A domestic trader may be subject to a great variety of local laws, tax rates and other regulations in different parts of his own country. As a rule, however, legislative regulations and procedures in any particular nation rest upon a common foundation of legal codes and philosophies. These codes and philosophies may be quite different from those in some other country where the historical background is not the same. A consequence is that the international trader is burdened with a heavier weight of legal responsibilities and is faced with a greater variety of legal complexities than is the domestic trader.

INTERDEPENDENCE OF INTERNATIONAL TRADE AND DOMESTIC TRADE

No country has within its own national boundaries facilities for economical production of all the goods required by a modern industrial people. Even the United States of America, which is among the most self-sufficing of the highly industrialized nations of the world, depends upon other countries for the greater part of its silk, sugar, rubber and potassium, for a number of important alloy metals such as vanadium, tungsten, manganese and antimony and for a great many other commodities: jute, tin, nickel, dyestuffs, drugs, corundum, sponges and asbestos, to mention only a few. Great Britain imports large amounts of sugar, wheat, meat, cotton, wool, timber and copper, in addition to scores of less bulky commodities: tobacco, silk, sisal, dyestuffs, drugs, metal alloys, precious metals, resin, spices, tea and others. France imports large quantities of coal because of the inferiority of her own coal reserves. Germany is dependent upon other countries for iron ore; Japan is dependent upon foreign countries for adequate supplies of both coal and iron as well as for many other raw materials.

Internal and external trade have contributed jointly for many centuries to the needs of industry and the satisfaction of ultimate consumer wants and have become functionally connected. For hundreds of years, international trade has been a vehicle for the extension of improved production techniques to an ever-widening circle of users; it has been a medium for the cross-fertilization of

cultures and a connecting link between the activities of peoples in all parts of the world. As a result, imposition of trade restrictions by some one country is likely to throw people out of work in other countries. Buying power of the unemployed and their purchases of domestic goods shrink; the displaced workers must seek new occupations, and in so doing domestic sales and purchases are modified. Thus the effects of imposition of trade restrictions by some one country spread to other countries and from industry to industry in these other countries. Economic disturbances in any one country, whatever their causes, are transmitted to other countries. Reduction of foreign investments caused by political upheaval in a debtor nation, for example, disrupts foreign exchanges, modifies credit structures and affects prices and interest rates in all creditor countries. Extreme overproduction of some one important raw material—wheat, sugar, rubber, cotton or what not—causes price disturbances that are transmitted to other commodities and to other nations. A severe decline in wheat prices, for example, reduces the buying power of farmers in Australia, Canada, Argentina, Russia, United States and other wheat-producing countries. The wheat growers in turn purchase fewer manufactured goods. Manufacturing profits shrink, manufacturing workers are thrown out of employment and less cotton and rubber are purchased in the form of automobiles, clothing and industrial equipment. There follows a tendency for consumers to eat more wheat and fewer potatoes, and for fertilizer markets which draw supplies from Chile, France, Germany, United States and elsewhere to become less active. Few persons escape entirely the shocks of compound waves of business depression that may originate with extensive overproduction of wheat. Every national industrial system as now constituted is synchronized with every other national industrial system in greater or less degree through an interdependence that has evolved slowly as the countries themselves have developed.

National industrial systems depend upon one another for markets, for financing and for raw materials. Some nations could, no doubt, continue to exist without foreign trade, but the domestic trade of no nation would continue to flow in its accustomed channels if its foreign trade should cease to exist. The question of interdependence between domestic and international

trade from a purely economic point of view resolves itself largely into two considerations: first, that of the gains in production efficiency that are to be had from international division of labor, and, second, that of the extent to which existing populations and industrial systems have grown up with international trade and have become dependent upon it.

The extent of dependence of different nations upon international trade varies. England and Japan, at the present time, are probably more dependent upon foreign trade than other large countries; the United States of America, Russia and China are among the countries least dependent upon foreign trade. With a drift toward intense self-sufficing nationalism that has been in evidence since the World War, serious thought is being given in some quarters to the problem of weighing possible losses from reduced international division of labor and international trade on the one hand against possible gains from greater national self-sufficiency on the other.

If a persistent trend toward closed economies develops, what may happen to countries that are largely dependent upon world trade? Some students of world economy believe that the welfare and perhaps the very existence of a number of large nations as now constituted depend upon access to foreign supplies of raw materials and to foreign markets for goods manufactured at home. These students of the subject believe that little progress could be made toward achieving generally conditions of greater national self-sufficiency without a long series of wars, geographical redistribution of the world's population and relocation of national boundary lines.

PART II

HISTORICAL BACKGROUND

INTRODUCTORY

The purpose of this section is to call attention to the influence of historical, geographical and technological factors upon the course of commercial policy developments. Nations, like individuals, tend to move in directions of least resistance. The nation which is poor in agricultural resources may emphasize the development of external commerce, particularly if trade routes are invitingly convenient, if foreign foodstuffs are abundant and if the population is ingenious in contriving manufactures. The people of some other nation may be more inclined to devote a larger proportion of their energies to localized industry, particularly if domestic natural resources are abundant and easy to get at. The first nation is likely to be an advocate of open ports and equality of trading opportunity. The second nation is more likely to be content with less trade and a policy of home-market protection. International commercial policies are seldom free from the influence of geographical factors. They are influenced also by historical precedent. Wide markets, division of labor and extensive commerce existed in the East for thousands of years before Adam Smith published his *Wealth of Nations* (1776). Smith's conceptions of economic gains that might be achieved in eighteenth century England by division of labor and commerce were strikingly similar to experience records of ancient Phoenicians and Greeks and, no doubt, were influenced by them. In some respects commercial history of the ancient East has repeated itself in the West much as technical developments perfected in the West have, more recently, been transplanted to the East.

Industry and commerce are constantly changing. The historian is a student of change. He delves into the past for origins of existing institutions and practices and, not infrequently, he uncovers the cause of change. Students of national policies in international economic relations will find the perspective of a historical approach both stimulating and illuminating. Underlying historical and economic forces that act in the direction of increased international commerce may be as powerful today as formerly, in spite of a seeming trend toward greater degrees of economic nationalism.

CHAPTER III

COMMERCE OF ANCIENT CIVILIZATIONS

Methods of production, transportation and communication of ancient civilizations were so different from those of modern civilizations as to limit sharply the contributions which a study of ancient history can make toward solution of present-day trading problems. Nevertheless, the history of ancient times holds a few gems of wisdom which the twentieth century man of practical affairs may well pause to heed. Human nature has changed little if at all since the time when Babylon was a renowned commercial mart. The springs of human action which induced Phoenician merchants to sail the seas were not altogether different from motives which today send British merchant vessels to the coasts of Africa and the ports of India. Nature's penury in some regions and her profusion of resources in others (taken in relation to populations and production techniques) are old reasons for diversity of commercial policies in different countries.

ADAPTATION OF COMMERCIAL ACTIVITIES TO THE GEOGRAPHICAL ENVIRONMENT

Geographical environment has long been recognized as a factor which conditions a country's commercial development. In paragraphs to follow, contrasts are drawn between economic developments in Phoenicia and Egypt about 1200 B.C. and between those in Greece and China about 400 B.C. Phoenicia and Greece were trading nations; Egypt and China were more largely self-sufficing agricultural nations.[1] Phoenicians and Greeks with their limited agricultural resources and advantageous port facilities appear to have taken to commerce on the high seas for much the same reasons that Great Britain, hundreds of years

[1] Compare this passage with the following quotation from Adam Smith's *Wealth of Nations*, Book IV, Introduction: "The different progress of opulence in different ages and nations has given occasion to two different systems of political economy with regard to enriching the people. The one may be called a system of commerce; the other that of agriculture."

later, developed her overseas commerce. The Chinese and Egyptians were more bountifully supplied with agricultural resources and, having less access to the sea, did not develop an extensive trading system.

Egypt About 1200 B.C.—Egypt, about 1200 B.C., is an example of a nation that did not develop an extensive external trading economy. The fertility of the Nile Valley was sufficient to support its 7 to 10 million people.[1] Furthermore, Egypt was bounded on three sides—south, east and west—by deserts. The deserts prohibited extensive overland trade, and access to the sea via the Nile River was not sufficient to encourage extensive sea trade. Partly, at least, because of the geographical surroundings the Egyptians were not drawn into seafaring pursuits. Egypt, however, was not without any foreign trade. Scarce woods were imported from Phoenicia and Syria, silver from Asia Minor, spices and cosmetics from the far east and gold and ostrich feathers from the south. Some linen, flax, wheat and glazed wares were exported. However, the Egyptians were not dependent upon trade for their existence or for their prosperity as were their neighbors, the Phoenicians. The Egyptians were not initiators of foreign commerce; they were not advocates of open ports and free commerce as were the Phoenicians.[2] The geography of a "great river of fertility in an arid desert"[3] was more conducive to agricultural pursuits in early Egypt than to extensive commerce. Consequently Egyptian economy was a largely, although not completely, self-contained economy. At about the same period, a neighboring country, Phoenicia, developed a trading economy.

Phoenicia About 1200 B.C.—The Phoenician nation flourished from about the fifteenth to about the fourth century B.C. The word "Phoenice" is Greek for "the Palm Land," which bordered the eastern end of the Mediterranean Sea. A race which occupied the narrow strip of land between the Mediterranean Sea on the west and the Lebanon Mountains on the east, prior

[1] PETRIE, W. M. F., *Social Life of Ancient Egypt*, Archibald Constable and Company, Ltd., London, 1923, pp. 29–30.

[2] The Egyptians maintained customhouses at their harbors and other principal places of entry. Duties were levied on all goods except those assigned to the Crown. Customs revenue was one of the most important sources of royal income.

[3] PETRIE, *op. cit.*, p. 199.

to about 2000 B.C., is believed to have been closely connected with the Egyptians. Sometime after 2000 B.C. the region in question was overrun by Semites. The resulting racial mixture became Phoenicians. The homeland of the Phoenicians was not more than 200 miles long and nowhere exceeded 35 miles in width. It was protected from invasions from the north and east by the Casius, Bargylus and Lebanon Mountains. To the south were promontories jutting into the sea that served as obstacles to land attack by way of Arabia or Egypt. The geographical features of Phoenicia and the characteristics of its inhabitants gave rise to an economic system quite different from that of Egypt. The Egyptians were primarily farmers; the Phoenicians were more largely traders. Easily accessible timbers for building ships, suitable harbors, islands within sight of the shore, wealthy civilizations located to the southwest and to the east, greatly desired minerals to be had from the west and a scarcity of fertile agricultural land at home, all contributed to the development of a trading civilization in Phoenicia.

Beginning, presumably, with short fishing trips, the Phoenicians had reached the islands of Cyprus and Rhodes and had established regular commerce with Greece sometime before 1000 B.C. There followed more extended voyages as far west as Spain and the British Isles. Excelling in the art of navigation, the Phoenicians practically monopolized for many years the sea trade of the Mediterranean. With control of the most economical means of transportation, they made large profits by exchanging goods found cheap in some districts and begging a market, for other goods more abundant elsewhere. Supplementing the sea trade was that fostered by caravan routes connecting Tyre (and Sidon about 20 miles farther north) with the Tigris-Euphrates Valley, India and China.

From raw materials, some secured at home and some imported, the Phoenicians manufactured goods that found ready markets in the Orient, Mesopotamia, Egypt, Greece, Italy, Spain and elsewhere. Skill in the use of purple dye, extracted from a species of shellfish abounding off the Phoenician coast, contributed to success in textile manufactures. Among other Phoenician manufactures were glassware, furniture and metal works of utility and art. Grain, to supplement home-produced food, and trading stocks of ivory, ostrich feathers and other novelties were

secured from Egypt in exchange for furniture, glass, timber, dyestuffs and precious metals. Copper was secured from Cyprus, tin probably from England, gold, silver and iron from Spain, the North African coast and other western localities and foodstuffs and slaves from Greece. Precious metals (common to barter in practically all regions) and novelties were exchanged for silk, spices and other luxury articles originating in the Orient. Thus an endless series of barter transactions connected Phoenicia with every corner of the then known world and provided a remunerative occupation for a people inadequately endowed with fertile agricultural land.

The Phoenicians established trading posts and colonies to facilitate their trading operations[1] much as did the English 2,500 to 3,000 years later. Like the English, after removal of the "Corn Laws" in the eighteen forties, the Phoenicians were advocates of free trade. In the case of nineteenth century England free access to the markets of the world and extensive world trade offered greater promise of wealth than a system of trade restrictions requiring the production of necessary foodstuffs on an inadequate area of fertile land. The same generalization may be applied to the Phoenicians of the pre-Christian era. Scarcity of land, easy access to the sea, inventions,[2] resources adapted to manufacture and trade and an ingenious people who had to struggle for a livelihood in a region where food was not plentiful gave rise to a pattern of economic civilization and a world outlook in Phoenicia different from that of the self-satisfied people living contemporaneously and prosperously in the fertile valley of the Nile.

Greece About 400 B.C.—Following the decline of Phoenicia, Greece became the second Mediterranean country to prosper from a far-flung network of trading activities. Greek trade expansion started in a small way, as early, possibly, as 1100 or 1000 B.C.; it reached its maximum of success about the time Phoenicia as a great nation passed from the historical picture—between 400 and 300 B.C. The rise of Greek trade resulted in

[1] Reasons for the founding of Carthage (in the ninth century B.C. probably), the most renowned of the Phoenician colonies, is lost in obscure myths purporting to recount a story of how civil strife caused a split in the ruling families of Phoenicia and migration of the weaker parties to Africa.

[2] Dyeing processes and the art of glassmaking, for example.

conflict between Phoenicia and Greece. As Greece expanded in the Aegean and Ionian seas the activities of Carthaginians, Tyrians and Sidonians contracted in these areas. The old position of the Phoenicians as principal middlemen between the great empires of the East and the peoples of the Mediterranean came to an end. A second commercial nation, Greece, rose to dominate Mediterranean trade. Greek colonization paralleled Greek trade expansion. The new territories acquired by colonization were among the most fertile in the Mediterranean area—Sicily, southern Italy, low-lying valleys of Asia Minor, the north Aegean seaboard and the shores of the Hellespont and Bosphorus. By the sixth century B.C. the economic life of Greece in the Mediterranean world had assumed the general character which it maintained until the expedition of Alexander the Great.[1]

Commerce of Greek cities—Athens, Corinth and others—with populations too large to be supported by their immediate environs, did not consist solely of imports of foodstuffs and other goods which they lacked. These imports were offset by exports of manufactured goods and shipping services. Ceramic, textile and other export industries developed. The ceramic industry used native raw materials. The textile and metallurgical industries consumed raw materials in part produced at home and in part imported. Home-produced olives were converted into oil for export. Woodworking industries depended in part upon local raw materials and in part upon imported woods. Tanning and leather-goods industries were supplied with locally produced hides. Ivory for the manufacture of ornamental works was obtained from Africa. By 400 B.C. Greek manufacturing had become specialized and trades were numerous. There were highly skilled carpenters, sculptors and modelers, bronze workers, stonecutters, goldbeaters, cartwrights, ropemakers, linen weavers, metal chasers, ivory turners, painters, embroiderers, cobblers, miners and millers among others. Some workshops were operated by free men who worked on their own account; elsewhere slave labor was employed. Greek manufacturers had no machinery comparable with that employed by nineteenth century English manufacturers, but in many other respects the

[1] Alexander the Great (a Macedonian) came into power about 336 B.C.; his conquests followed immediately thereafter; Tyre was conquered in 332. Alexander's exploits tended to extend the Greek system.

framework of the Greek manufacturing-trading economy, an economy that exported manufactures and imported raw materials and foodstuffs—was similar to the type of manufacturing-trading economy developed by the English more than 2,000 years later.

A stream of similar economic activity and business philosophy appears to run from Phoenicia through Greece to Netherlands and Great Britain. The Greeks approached more nearly to a money economy than the Phoenicians and thus were able to conduct trading operations more economically. The English went further in the development of money economy than the Greeks; the English were without slaves in the Greek sense and their industry was mechanized. These are radical differences; nevertheless, striking similarities existed. All three economic systems—the Phoenician, the Greek and the more modern English—maintained far-flung shipping and trading organizations; they established trading posts and colonies; and they engaged in wholesale exportation of manufactures which was counterbalanced by wholesale importation of raw materials and foodstuffs. The Greeks maintained a system of export and import tariffs and international trade regulations. These, however, were for the purpose of raising revenue and of insuring adequate supplies of foodstuffs from abroad, not for the purpose of inducing the Greek farmers to attempt production of adequate food for the nation on a too meager area of fertile land.

China About 400 B.C.—Ancient China was more like Egypt than like Phoenicia or Greece. The area of the China of 400 B.C. corresponded neither to that of China Proper as we know it today nor to the larger area referred to as the Chinese Empire. Prior to the second century B.C. Chinese sovereignty included roughly the region south from where the Great Wall now stands[1] to the Yangtze River basin, *i.e.*, roughly the northern half of the area we ordinarily designate today as China Proper.[2] The China of

[1] The Great Wall was erected about 228–210 B.C.

[2] Chinese history may be divided roughly into three epochs: (1) the Feudal Period, 2000 B.C. and earlier to about 221 B.C., (2) the Monarchial Period, 221 B.C. to A.D. 1912 and (3) the Republican Period, since A.D. 1912. Beginning in 223 B.C. conquest prepared the way for the building of a great inland empire. In the course of the next two centuries the Huns were driven westward; the Chinese Emperor drew tribute from the whole of Central Asia, and Chinese influence was extended west as far as the Caspian Sea. With alternate periods of civil wars, breakup of the empire, more civil war and

400 B.C., like ancient Egypt, was a fertile region where lived a self-sufficing agricultural people. The Chinese from the very earliest times were averse to trade. A Chinese trader was "regarded as a small-minded person whose main object in life was not to increase the public wealth but to corner supplies."[1] Early Chinese records are interspersed with edicts and devices to prevent merchants from occupying official posts and to prevent traders and shopkeepers from making exorbitant profits at the expense of ignorant farmers. The abstract idea of exchange for the furtherance of mutual comfort and luxury does not appear to have been a part of Chinese philosophy. In none of the legends, semiauthentic history and authentic records as summarized by students of the subject is there evidence to indicate that foreign trade was of relatively great importance to the inhabitants of ancient China. Trade in tea, which one thinks of as a principal article of Chinese commerce, appears to have been of little or no significance prior to about the sixth century A.D. Foreigners invaded China; civil wars occurred; dynasties were deposed; sovereignty was extended to include surrounding territories and neighboring peoples; but from first to last, the interests of the Chinese people centered more upon local enterprise than upon distant trade.

The direction of China's development was inland—similar in some respects to that of Russia today and the United States in the nineteenth century. Geographic factors were not the only influences which contributed to China's development into a self-satisfied agricultural civilization. Nevertheless, a fertile soil and room for expansion in early times, had, no doubt, some influ-

reunion under central authority, the Chinese ruled a vast empire until they were conquered by the Mongols in A.D. 1280. Within a hundred years the Chinese had deposed the Mongol rulers and were again in power (A.D. 1368). Between A.D. 1368 and A.D. 1644 the Ming Dynasty (Chinese) sat on the imperial throne. During the fifteenth century the Mongols invaded China a second time with some success and in the sixteenth century European penetration of China began. Also the Japanese raided and captured coastal cities from time to time. In general, however, China was ruled by the Chinese from A.D. 1368 to A.D. 1644. Early in the seventeenth century Manchu tribes began raiding from the north and subsequently captured Peking. From the fall of Peking in 1644 to the year 1912, when the Chinese Republic was established, the empire was ruled by the Manchus.

[1] PARKER, EDWARD HARPER, *China*, John Murray, Ltd., London, 2d ed., 1917, p. 42.

ence in preventing the Chinese from being lured into dangerous sea voyages. An agricultural economy prevailed in China until philosophy and habit had become too firmly fixed to be radically changed without mass upheaval. Separated as the people were by mountains, segregated by groups into sheltered-valley communities, fortified against the outside world by deserts, impenetrable forests and ocean barriers, and without facilities for easy intercommunity or international communication, the pattern of Chinese habits of existence, once established, flowed down through the centuries little modified by time and change.

ANCIENT TRADE AND POLITICAL IMPERIALISM

Territorial expansion, political expansion and trade expansion, in varying degrees of combination, went hand in hand in the development of Phoenician and Greek trade. In the case of Rome, military and political imperialism was a dominant condition. No far-flung system of transportation and trade has ever been able to exist without some degree of military and political imperialism. However, imperialism appears to have been less pronounced in some of the modern commercial systems—nineteenth century Great Britain, for example—than it was in ancient Rome. In this connection, one is inclined to wonder whether, in years to come, imperialism will be minimized in order that many small, free and politically independent states may survive, or whether aggressive military and economic domination, on the part of a few powerful nations, will be resorted to in efforts to unify political control over large areas that are complementary in an economic sense. These considerations are of growing importance because modern industry, dependent as it is upon great quantities of raw materials, widely dispersed,[1] encourages territorial division of labor more pronounced in degree than anything which has gone before.

As one views in retrospect the rising tide of ancient trade, the widely taught conception of free trade and equal opportunity among sovereign nations, with unequal voice in the world's political affairs, tends to fade away in a mist of dreamy idealism. Nor does the commercial and political history of modern Western nations, as we shall see in later chapters, point toward a condition of political and economic stability in a world united by commer-

[1] See Part IV of the present volume.

cial ties, yet divided by innumerable national boundaries and national traditions. Free trade among the states of the United States of America from 1790 to date would, in all probability, have been impossible without a strong, unified federal government. Possibly, free trade among the sovereign states of Europe can never be realized in advance of political union. It is not inconceivable that economic and political currents in the modern world are drifting in the same general direction as those of the ancient world, despite revolutionary differences in production techniques. Political imperialism on the part of commercial civilizations of the ancient world culminated in the Roman Empire.

With the movements of commerce and empire westward, Italy became a logical center of operations. Italy's position between the two great basins of the Mediterranean, her long coast line fronting on three seas, her early contact with Mediterranean trading civilizations, and her intermediate position between the barbaric West and the civilized East, all contributed to her becoming a center of empire.

By the middle of the third century B.C., victory in the almost incessant warfare with surrounding tribes had made the Romans masters of the whole peninsula of Italy. During the next 300 years Roman law and Roman rule fused into a single political organism a territory which included Arabia and Mesopotamia, Asia Minor, the Black Sea region, Greece, Egypt, north Africa including Carthage and territories extending west to the valley of the Rhine and to the heart of Britain. Rome became a great commercial and financial center. Tribute from peoples conquered by the Roman legions poured into the coffers of the ruling city. Rome became a center toward which foodstuffs, manufactures and luxuries of diverse kinds flowed from all corners of the empire. In exchange for merchandise imports from subjugated peoples the Romans built roads and established law and order.

Roman conquest resulted in a coming together, an interpenetration and a synthesis into one political organism of regions which had formerly been independent. It extended from the Persian Gulf and the Caspian Sea west into England, and from the Black Sea region south to include the lower Nile Valley, Carthage and other parts of northern Africa. Political union

of the regions that became parts of the Roman Empire permitted freer interregional commerce and gave full play to the invigorating forces of regional specialization in production. The industrial and commercial activities of Egypt, Syria and Asia Minor were not stifled under Roman rule. Tyre and Sidon continued to manufacture and export purple-dyed tissues, artistic bronzes and glassware. Egypt continued to produce grain. Her output exceeded local requirements, and the surplus moved to regions deficient in foodstuffs. Mining in Spain, England and other regions of the West increased. Improved agricultural methods took hold in Gaul with the cessation of intercommunity warfare and the introduction of new ideas and more abundant supplies of plows, harrows and scythes. Textile, metalworking and furniture-making industries and other occupations thrived and prospered in all parts of the empire. Removal of barriers that obstructed the easy flow of interregional commerce appears to have been conducive to industrial progress. Taking the empire as a whole, production and consumption appear to have been stimulated by Roman rule.

However, advantage on the side of territorial division of labor under Roman rule was not to be preserved indefinitely. Rome had her period of prosperity—a period longer than that between the Industrial Revolution (middle eighteenth century) and the present time, though short in relation to the history of civilization. Advantages of territorial division of labor and world free trade made possible by the Roman Empire appear, in time, to have been counterbalanced by structural weaknesses in the economic system and organic weaknesses in the political system. The central government weakened; economic and political sinews that bound together the various parts of the empire softened, and the world from India westward was plunged into a long period of political disorganization and economic localism. One well may wonder whether the twentieth century is just a stage in a long upward trend toward an improved system of world political cooperation and free trade, or whether the drift is toward an era of economic localism more marked than that of the nineteenth century.

EVOLUTION OF TRADING METHODS

Expansion of trade in the ancient world was accompanied by a development of commercial techniques which, with refinements

and improvements, are still in use. Manufacturing methods and modes of transportation have undergone basic and revolutionary changes during the modern era. The volume of interregional trade has increased enormously since the time of Greece and Rome, but its mode of conduct is not so different as one might expect. The Phoenicians established trading posts or factories not altogether different, probably, from those of the French, Spanish and British in America, Africa and China 3,000 years later. The traders of Tyre, Sidon and Carthage built warehouses in which were assembled stocks of goods from Egypt, Mesopotamia, Cyprus, Greece, Italy and Spain for storage and reshipment. Although precious metals were common articles of barter conducted by the Phoenician traders, money and credit did not, apparently, come into widespread use until Greek and Roman times. However, the systematic, organized commerce of the Phoenicians, conducted with ships designed for the purpose and facilitated by branch houses serving as points of assembly and dispersion, was a very definite step in the direction of modern international commerce.

The Greeks established the beginnings of a money and credit economy. In order that goods might be exchanged in barter economy, a coincidence of wants was essential. Use of a medium of exchange universally desired, durable and easily identified obviated, in part, the difficulties of disposing of shiploads of merchandise for goods that could be turned over at a profit; facilitated the striking of bargains, reduced risks of transfer from one locality to another and facilitated the financing of costly ventures. The Lydians, in Asia Minor, are believed to have introduced the art of coinage.[1] The first coins were made of a mixture of gold and silver; later gold and silver coins were struck separately. The Greeks are believed to have adopted the idea of coinage from Lydia. The coin in commonest use in Athens about 400 B.C. was the tetradrachm, or "owl" as it was called in allusion to the image which it bore on its reverse side. Other coins used in Greece were drachmas and staters. Even though every city had its own peculiar coins, and monetary systems differed between regions, calculations of monetary exchanges were much less difficult than the conduct of trade by barter.

[1] HERRICK, CHEESMAN A., *History of Commerce and Industry*, The Macmillan Company, New York, 1917, p. 53.

Money changers came into existence, and later bankers, who made loans at interest, issued letters of credit and sold insurance. An Athenian going to Miletus might pay a sum to his banker in Athens, secure a letter of credit and draw a specified sum of money from the Athenian bank's Miletus correspondent. The rate of interest in Greek times might vary anywhere from 10 to 40 or 50 per cent. Shipping insurance took the form of bottomry, a transaction wherein the lender handed his capital to the borrower to be applied to objects exposed to sea risk, on condition that the borrower should repay the sum lent only if the objects on which the loan applied should arrive safely at their destination.

Movable wealth had a far-reaching influence upon economic life in Rome. The city of Rome became a center of capitalism built upon a foundation of money and other forms of movable wealth, taken from conquered peoples and maintained by tribute. The issue of coinage being in theory a privilege of sovereignty, the Roman emperors endeavored to introduce the Roman monetary system into all parts of the empire. Exchange of foreign coins from faraway regions, like China and India, gave rise, however, to money-changing companies which also carried on banking operations as in Greek times. Another feature of Roman capitalism was the rise of joint-stock companies which dealt in paper values such as the shares of companies of publicans. From a very early date Rome had farmed out her taxes to middleman collectors. With the expansion of the empire, tax revenues involved such large sums that no one person could finance the collection function. As a result, stock companies came into existence, which advanced loans to municipalities against future revenue. The shareholders of these companies were men of every class. Senators who were forbidden by law personally to take part in public bidding for tax contracts or in the conduct of commercial ventures purchased shares in the companies, as did also knights and even middle-class citizens. Banker-promoters did not confine their activities to government transactions; they lent financial aid to shipowners and merchants and to aspiring young noblemen like Caesar and Antony. Roman banking became so intricate that financial crises followed vicissitudes in foreign affairs and commercial misadventures. In addition to amplifying money and banking

operations in the manner of the Greeks, the Romans introduced standardized weights and measures, another innovation that is a characteristic feature of modern commerce. If one thinks of the outlying parts of the Roman Empire as being comparable with British India in its relation to Great Britain, he will realize that even the foreign investment aspects of modern international trade are not exclusively modern in their origins, even though they are more highly developed in technique.

CHAPTER IV

COMMERCE OF THE MIDDLE AGES

A striking characteristic of the Roman Empire was its transportation system. Natural waterways were supplemented by roads radiating from the capital. In western Europe, passable roads were maintained from the city of Rome to the mouth of the Rhine, to the Pillars of Hercules (Gibraltar) and to the western coast of Gaul (through France). From the main arteries many secondary roads branched off. Picture a modern concrete system of automobile highways radiating from a large Western city of the twentieth century; then recall the construction of Roman roads—some of them with pavement 14 feet wide supported by layers of stone or mortar 3 feet thick. The Roman roads terminated at or were joined with navigable waterways which were kept open for military transportation and for commerce. The Rhine, for example, then as now, was one of the principal inland traffic channels of Europe. Three features of the Roman system were in sharp contrast with the medieval period that followed: first, Roman traffic arteries were maintained in a state of good repair; second, military patrols minimized banditry; third, local and regional tyrannies were not permitted to become so burdensome under Roman rule as to destroy commercial intercourse.

MEDIEVAL LOCALISM IN EUROPE

With the disintegration of the empire, local administrators were gradually cut loose from centralized authority and many of them ultimately became heads of small, sovereign states. France, for example, is estimated to have been cut up into 10,000 or more little, independent principalities. The European landside today is dotted with the remains of medieval castles that were once centers of tiny, sovereign realms. Highway and river tolls increased in number. It was not uncommon for toll stations on main arteries of traffic to be located not more than

5 or 10 miles apart. Contractors who leased these stations made a practice of keeping taverns where traders were detained until authorized to move on. During long intervals of delay caused by absence of officials or other pretext, the merchant was charged exorbitant rates for lodging. Far from being standardized, charges appear to have been determined by the merchants' ability to pay. Furthermore, the merchants were subjected to highway robbery by outlaw bands which often were agents of petty barons. Thus after paying a lord for safe-conduct through his territory a merchant might be robbed by the very lord who had collected safe-conduct fees. Roads fell into decay. The toll-paying merchants got, at best, nothing more in return for their contributions than the right to look after themselves, to travel over unrepaired highways as best they could or to make the necessary repairs at their own expense. Under these unfavorable conditions commerce diminished. By about the ninth century A.D. trade had reached such a low level of activity that the itinerant peddler was more common than the professional merchant.

It is not necessary to repeat the historical, political and economic reasons for the rise of a system of feudalism in western Europe. The important fact to observe is that an economy of agriculture, manufacture and widespread commerce under Roman rule gave way to a more localized and self-sufficing economy of group agriculture with a minimum of trade and manufacture. Miserable as may have been the economic conditions of Western people under the Roman system with its exorbitant taxes and abusive conduct on the part of local officials, the consensus is that conditions were even worse during the Middle Ages. They were certainly far more divergent between one region and another.

Most of the historical records passed down from generation to generation are concerned with the lives and teachings of religious leaders and the battles of secular princes; the common man has little place in early medieval literature. Only a few scattered glimpses of his mode and conditions of life remain. However, these glimpses gleaned from inventories and estate record books suggest a mode of life that involved a minimum both of commerce and of comfort. Few goods were imported for consumption by the common folk, except such necessities as

salt and spices, for which the local communities had to depend upon the outside world.

The medieval women spun and wove linen and wool fabrics, tended the cattle and sheep, cultivated the vineyards and vegetable gardens, looked after the poultry, helped with the harvest and performed all household duties. The men plowed, sowed and cultivated the fields, constructed and repaired buildings, made plows, mattocks, hoes, scythes, axes, carts, barrels, baskets and other farm implements and utensils. There was some specialization in work. Shoemakers, carpenters, blacksmiths and brewers of wine were trained for these particular tasks. In some localities weaving was a specialized occupation. There was, however, no concentrated manufacturing of surplus goods for export.

The common people of manorial estates were tied to the soil. Before the towns reappeared, there was no escape from a monotonous mode of existence. Common people retired to bed at dark. Candles were too valuable for general use and, besides, the common people could neither read nor write. Their principal diversions were dancing, sports, such as archery, singing and buffoonery on Sunday, and a visit once a year to the annual fair. Here they wandered about among the little booths, meeting their own kind from neighboring estates, bartering for salt and, if the fair was large, gathering stories from foreign merchants and seeing strange goods from beyond the boundaries of their own narrow world. Silks, jewelry and other luxuries brought in meager amounts for sale to wealthy nobles were on display at the large fairs.

The self-contained, monastic abodes produced some surplus of goods for support of armies and nobles. The abbeys paid taxes to war lords in return for military protection or maintained their own military establishments. They collected revenue from their tenants in the form of sheep, poultry, eggs, grain, woolen and linen fabrics, leather, cheese, wine, handiwork of artisans and the like. Some of these goods could be transported to a royal court or army base; others were consumed on the spot by the retinues of nobles who traveled about from place to place, living upon the land.

In contrast with the quicker tempo of contemporary life in cities of the eastern Mediterranean, and in contrast with town

economy of western Europe in later centuries, manorial self-sufficiency was a backward and archaic mode of life, geared to the needs of mere existence. The West, even after some semblance of political unity had been achieved, was essentially an inland empire, a closed state, without important foreign markets, where people lived in a condition of almost complete isolation. In contrast with Eastern cities such as Constantinople and Alexandria, that carried on a thriving commerce, cities of the West, like Paris and London, were scarcely more than centers of religious and military administration, walled and fortified against invasion and large enough to accommodate the surrounding populace in case of attack by marauding northmen or neighboring princes. In the Middle Ages, world commerce was an index of intellectual outlook on the part of middle-class and common people and a sign of material prosperity. Without books or newspapers to read, without telephones or radios, without public schools, railway trains or automobiles, common people tied to the soil for a lifetime of work, with little opportunity to talk to merchants or other travelers, tended to stagnate intellectually. Furthermore, in the days before scientific exploitation of nature's forces had got well under way, division of labor and trade were the chief means of increasing per capita output of economic goods, and the small self-sufficing economic units were not conducive to the realization of large gains in this direction.

EASTERN TRADE PRIOR TO THE CRUSADES

During the late medieval period, Italian cities and parts of the old Roman Empire farther east were organized into separate states with intense rivalries. Among the foremost trading cities were Constantinople and Venice. Constantinople occupied, then as Istanbul does now, a commanding position on one of the approaches to the Mediterranean Sea. It had served from early times as a shipping port for fishery products, timber and grain originating in the Black Sea region and the Danubian Valley and as a connecting link between the Mediterranean and the Orient. Because of her advantageous position, Constantinople was able to maintain a considerable volume of trade during the whole period of the Middle Ages—more before the Crusades than after. Passing merchants were taxed in Constantinople and arbitrary restrictions imposed upon them, but not to the point

of destroying commerce. Even though trade in silks, spices, ornaments, drugs and other Eastern goods sank to a low level in the West, a bottleneck position like that occupied by Constantinople might continue to conduct a large volume of east-west commerce because the West was immense. Furthermore, there was opportunity for trade with Italy, Greece and Egypt which did not become so isolated as the Germanic regions to the north.

Alexandria and Italian coast cities were, like Constantinople, strategically located to benefit from trade. Three main routes between Asia and Europe were followed during the Middle Ages. One route began at the head of the Persian Gulf. Baghdad (founded about A.D. 750 near the site of ancient Babylon) was the first important stopping point for goods moving from the East westward. From Baghdad a caravan route led through the desert to the Phoenician coast and thence by water to Mediterranean ports west. Another route moved from Constantinople east across the Black Sea to Tana on the Sea of Azov, thence by land north of the Caspian Sea and on to China and India. The third route was by way of the Red Sea and Alexandria.

Probably more has been written about Venice than any of the other Mediterranean ports. Medieval Venice has been described as the "Ocean's Queen" and "Pearl of the Sea." Lying at the head of the Adriatic, she was a Mediterranean seaport, yet situated so far north as to be almost in the heart of Europe. Venice is said to have gathered into her harbor merchandise moving over the three east-west routes—silk, spices, camphor, ivory, pearls, carpets, etc. In the early Middle Ages, trade in these commodities with western Europe was meager, because, as already explained, Europe's system of tolls and tyrannies tended to stifle it; furthermore, the manorial economy had little to offer in exchange for Eastern luxuries. It is well to remember, however, that in spite of tolls, restrictions, tyrannies and wars between city-states, specialization and manufacture in Mediterranean cities and trade among them did not cease to exist even during the darkest period of the Dark Ages. Furthermore, the intinerant peddlers kept some trade alive in northern Europe.

The character of the people and their institutional background as well as geographical factors appear to have played a large part

in determining the extent to which commerce survived in western Europe and eastern Mediterranean countries after the collapse of the Roman Empire. The middle easterners living in the Tigris-Euphrates Valley, the peoples of Asia Minor and of the Black Sea region and the Greeks had been engaged in commerce for centuries. Where their influence was greatest, commerce survived. But the Germanic races from the northwest were descended from a people who for ages had hunted, tilled the soil and tended flocks for a livelihood. Germanic tradition and influence tended, therefore, to restrict commerce in the West.

The influence of dissimilar streams of culture which flowed into western Europe from east and north have had a part in the molding of European economic history at every turn. The obsequious eastern Jew with his sharp trading habits and his international-mindedness has waged an unending struggle with the more self-sufficing, combative nature of the Teutonic northerner. At some stages the spirit of the north appears to have had the upper hand. At all stages, north and east have fused to some extent and have exercised joint influence upon the European environment.

REVIVAL OF TRADE IN THE WEST

Rejuvenation of trade in western Europe accompanied a movement of the West against the East which goes under the general name of the Crusades. From the eleventh to the thirteenth century a religious fervor swept over Europe. Hoping to save their souls, in search of adventure to break the dull monotony of Western existence and in search of more land, which to them was wealth, knights and soldiers of fortune joined with religious zealots in a series of expeditions to save a mystic Holy Land from desecration by infidels. The Crusades contributed in Europe to an increase in the power of central town authority, which already was in process of developing. Some communities purchased their independence from princes whose interests were diverted, by the Crusades, from local wars to Eastern adventure and who were in need, therefore, of goods for outfitting crusading expeditions. Communities, thus freed from the restraints of feudal rule, came under the control of merchants, who established municipal governments and achieved a measure of self-protection. Slaves and serfs ran away to the cities, where they became artisans and free

men if successful in remaining unclaimed for a period of a year. The self-sufficiency of feudal estates declined and manufacturing was transferred to the towns. Farmers brought their grain, wool, chickens and pigs to market and exchanged them for shoes, clothing and other fabricated goods.

Change from the old mode of life was quickened by the return of Crusaders, who had been thrown in contact with habits of thought and ways of life in the East. Even the returning nobles, in some instances, allied themselves with commercial enterprises in the West, and thus encouraged an expansion of foreign trade. The old port of Marseille acquired new life. Commerce flowed more freely up and down the Rhône, the Rhine, the Danube, the Seine and the Thames. London, Paris, Lyon, Cologne and lesser cities increased their production of manufactured goods for export as well as for local consumption.

The degree to which towns gained self-government depended in most cases upon the relative strength of the town and of the noble from whom a charter had to be obtained. Some of the coast cities in regions where feudal control was weak allied themselves with the Pope in the great struggles between papacy and empire and thus gained wider privileges. Towns in Flanders and on the Baltic coast were especially fortunate in this respect. Instead of fighting each other, the Baltic coast towns gradually grew together for mutual protection and finally about the middle of the fourteenth century formed the Hanseatic League. The league has been described as "a model of cooperation in an age of city rivalries."[1] Its membership fluctuated from 20 to 100 or more cities, located principally in North Germany. The league maintained a navy, had its own flag and promulgated rules and regulations to govern its trading members who were active participants in ocean commerce.

In time the activities of foreign merchants penetrated the trade barriers of many inland towns. Cramping guild restrictions and self-sufficiency gradually gave way to intertown commerce. Thus were laid the foundations of economic nationalism. National economy represented a larger grouping of economic forces and common interests than existed in the earlier municipal order. It bound together peoples of the same blood, language

[1] SELLERY, GEORGE C., and A. C. KREG, *The Founding of Western Civilization*, Harper & Brothers, New York, 1929, p. 233.

and religion and created for them conceptions of interdependent industry, standardized currency and centralized authority. The transition from manorial economy through town economy to national economy was gradual. It covered a period of several centuries and was a result of many forces, both political and economic. Commerce contributed to the wealth and power of political and military leaders who were to become kings, and they in turn favored undertakings of their commercial supporters.

When one stops to realize what a long period after the breakup of the Roman Empire was required for the welding of many small political units in western Europe into political states—France, Great Britain, Germany, Spain, Italy and the rest, he is not surprised at the delays, disappointments and failures encountered in attempts to create a United States of Europe or a dynamic world League of Nations. Transitions from small economic and political units to larger economic and political units are conditioned by racial, sociological, religious, linguistic and geographical as well as by economic factors. Forces powerful enough to cause expansion of political and economic units appear at some stages in history to have been dominant, at others dormant. During the thirteenth and fourteenth centuries commercial expansion had a far-reaching influence upon political affairs. It is possible that powerful economic forces are at work in our own time to bring about some form of closer union between nations of the twentieth century. The geographical distribution of basic industrial resources is sufficient reason for territorial division of labor and an increased volume of world trade. Improvements in transportation and communication facilities are removing geographical barriers, contributing to greater uniformity of industrial methods and minimizing language difficulties in the conduct of world commerce. However, today as in former epochs of the world's economic development, free and unfettered commerce does not benefit all participants alike. Removal of commercial barriers in western European communities of the Middle Ages strengthened the commercial and industrial elements of European society and weakened the status both of feudal aristocrats and of religious despots. All classes of society cannot strengthen their relative positions at one and the same time.

Development of political centralization in Europe, which began during the latter part of the Middle Ages, was hastened in

some localities and retarded in others by prevailing circumstances. It came early in England. In France the process was gradual; remnants of feudalism continued to exist in France until the French Revolution in 1789. The independent states of Germany were not strongly united under Prussian rule until 1871. The process of political unification was well under way in Spain before 1500. In Portugal it was well along at a somewhat earlier date. Netherlands had thrown off the impediments of Spanish rule by the middle of the sixteenth century. With the development of centralized political authority in Portugal, England, Spain and Netherlands, came a period of geographical discoveries and organization of great trading companies, for the promotion of trade between Europe and Asia, the Levant, the Muscovite Dominions (Russia), Africa and America. Hand in hand with discovery and trade expansion went imperialism, colonization and a continuation of the age-old struggle for survival.

CHAPTER V

TRANSITION FROM MEDIEVAL LOCALISM TO WORLD-WIDE COMMERCIALISM

International trade of modern times rests upon a foundation of highly centralized nationalism in the stronger countries, with varying degrees of faltering independence or colonial dependence on the part of weaker states. Characteristic features of commercial systems of modern times are the corporate form of business organization, a money-credit economy and manufacture with power machinery. These institutions took shape after the medieval period.

The gains of division of labor and commerce contributed to the disintegration of medieval city-states. Exploration and discovery supplied new lands for colonization and provided a larger fund of precious metals for use in extending money economy. Tightly organized and broadly financed trading corporations consolidated commercial gains which the breakup of feudal economy and the discovery of new territories and new trade routes made possible. Need of exports to exchange for precious metals and foreign merchandise stimulated improvement in manufacturing techniques. Finally, during the period of transition from medieval localism to modern industrial nationalism (roughly 1400–1800) a political-economic philosophy called mercantilism was evolved. This philosophy helped to clarify the aspirations of states and to centralize political authority.

Nineteenth and twentieth century commerce is strikingly different from the commerce of earlier centuries. By no means all its important features, however, are basically new. At the end of the medieval period, peoples of the West had within their reach a rich fund of experience in political organization, ocean navigation and commercial venture which for 3,000 years had been accumulating in the East. The value of this fund of knowledge was not overlooked. It accounts in part for the rapid strides of progress which Westerners made during the fifteenth,

sixteenth, seventeenth and eighteenth centuries. For example: the idea that the earth was round and that India might be reached by sailing west from Spain did not originate in the fifteenth century when Europeans began seeking a western route to the Orient. This idea had been voiced by Eratosthenes as early as the third century B.C. The principle of the navigator's compass used by Portuguese explorers was a discovery of the ancient East. The art of shipbuilding had been in process of evolution and improvement since Phoenician times. The wealth of Eastern commercial cities was a fact which deeply impressed every Westerner who traveled in the East. Also Greece furnished examples of centralized governments for which no parallels existed in the West.

DISCOVERY OF NEW TERRITORIES AND NEW TRADE ROUTES

Possibly no character depicts the spirit which ushered in the age of discovery and Western expansion better than Henry, the Navigator, of Portugal, 1394–1460. By the time Prince Henry had grown to manhood, Westerners were sailing by the compass; records of Marco Polo's travels had fired the imagination of adventurous youth; exploits of intrepid Viking navigators had dispelled somewhat a fear of dark seas and mythical monsters believed to inhabit the great unknown; and soon the invention of movable type was to make available books of travel and geographical description. Henry the Navigator encouraged the teaching of mathematics at Lisbon, brought Arab and Jewish authorities to Portugal to instruct his captains more fully in the arts of navigation and organized voyages of discovery. His activities stand at the threshold of a striking period of European adventure in the unknown reaches of the Atlantic and beyond. In 1471 the equator was crossed; in 1484 Diaz rounded the southern tip of Africa; Columbus reached America in 1492; Vasco da Gama sailed to India via the Cape of Good Hope in 1498; etc. Trade expansion and colonization paralleled discovery. With commerce between Europe and the Orient over the old routes impeded by Mohammedans and Turks, east-west trade was quick to follow new routes as they were discovered. Spain and Portugal were the first countries to profit by discovery. After the new route to India around the Cape of Good Hope was discovered, Portugal's trade in spices and other Oriental luxuries underwent an amazing development. Spain profited less from Oriental

trade because the Pope assigned Africa and the entire East (the Philippines excepted) to Portugal. Spain, however, profited enormously from her exploitation of the silver and gold mines of Mexico and Peru.

The daring and audacious exploits of the period from about 1450 to 1600 (with which every high-school and college student should be familiar) mark the beginning of the commercial supremacy of the West and the eclipse of medieval and ancient commercial centers in the Mediterranean area, particularly Venice, Alexandria and Constantinople.

COLONIZATION

Portuguese settlements in the Madeiras and Azores and on the northwestern coast of Africa in the fifteenth century were the beginnings of a far-reaching European colonization movement that paralleled discovery and trade expansion and set the stage for economic imperialism on the part of Western nations. The conquests of Mexico (1519–1521) and of Peru (1531–1533) were in keeping with the spirit of the age. Operating from a base in recently occupied Cuba, Cortes, with a force of 600 or 700 men and a few horses and small cannon, overthrew and took possession of the Aztec empire in Mexico. Stores of gold and silver accumulated by the Aztecs were confiscated and sent to Spain, and the Mexican mines were worked with forced Indian labor for the glory and profit of the conquerors and their European king. Having tasted blood in Mexico and profited greatly by the venture, the Spaniards, this time represented by less than 200 men under the incredibly daring and audacious leadership of Pizarro, pushed from Panama into South America to conquer the Inca empire in Peru. Again hoards of precious metals were found and confiscated and more miners were put to work for the conquistadores and for the Spanish crown. The great wealth in precious metals secured from Mexico and Peru encouraged other Spanish ventures and settlements—in Central America, Chile, Argentina, California, Florida and elsewhere.

While the Spanish were plundering and establishing settlements in Mexico and contiguous regions the Portuguese were establishing themselves in Brazil, along the eastern and western coasts of Africa and in the Far East, and England was laying the foundations for her North American colonies. John Cabot, an

Italian by birth who had moved to London, sailed to Labrador in 1497. On a second voyage he sailed down the North American coast as far, possibly, as Virginia. Among the tangible results of Cabot's voyages were the establishment of a profitable British fishing industry in the North Atlantic and preparation of the way for British settlement in North America.

During the fifteenth and sixteenth centuries, Spain and Portugal laid claim to territories along the African, South American and North American coasts, took possession of the West Indies, the East Indies and other Atlantic and Pacific islands and set their marks upon the Asiatic mainland. During the seventeenth and eighteenth centuries colonization was to continue with one European country after another—particularly England, France and Netherlands—being drawn into the great game of colonial empire building.

ORGANIZATION OF OVERSEAS TRADING COMPANIES

English merchants took little part in overseas commerce before 1500. Tin, iron, copper and lead were obtained in England by the ancients; metals, leather and wool by Europeans during the Middle Ages. Not until the beginning of the modern period, however, did English traders cease *to be passive.* Organization of the great trading companies marks the beginning of England's rise to prominence in ocean commerce. The Dutch, too, became more active in world commerce when medieval impediments began to disappear. Royally chartered and joint-stock companies were among the expedients resorted to by British and Dutch in meeting overseas competition. This type of organization was employed, also, by the French and the Swedes.

The first of the English companies went under the name: Merchants of the Staple. The king designated certain towns in which wool might be collected and sealed by the royal customs officers. Merchants who assembled wool in the designated towns and exported it were called Merchants of the Staple. In time, a company of Merchants of the Staple secured a charter from the king granting it a monopoly of the wool export trade. English membership in the company was not restricted; foreigners were excluded. Each member paid the association a fee and it in turn contributed to the royal income. Otherwise its activities were not restricted.

Organization of other British trading companies followed the success of the first. Reasons for the granting of royal charters to such companies are not far to seek: in the first place, the companies were sources of royal revenue; in the second place, monopolies could be granted to court favorites or persons to whom the king was obligated; in the third place, protected companies were instruments for controlling commerce in war materials; and, finally, the fostering of British shipping was a means of encouraging shipbuilding and maintenance of a merchant marine that could be called into action for naval service in times of emergency.

In addition to the Merchants of the Staple, six royally favored companies are conspicuously noted in the history of British industry during the sixteenth and seventeenth centuries, *viz.:*

The Merchant Adventurers, chartered in	1505
The Muscovy Company, chartered in	1553
The Eastland Company, chartered in	1568
The Levant Company, chartered in	1581
The Guinea Company, chartered in	1588
The East India Company, chartered in	1600

The Merchant Adventurers exported wool and woolen cloth to the Continent and imported hops, wine, soap, linens and other manufactures. The Continental wool and woolen cloth markets were highly competitive. Raw wool was in such demand by the Flemish cloth industry that it more or less sold itself; cloth had to be merchandised in a more vigorous, audacious fashion—hence the name Merchant Adventurers.

The Muscovy Company was founded for the discovery of regions, dominions, islands and places unknown in northern Europe and points east. The main motive was discovery of a northern route via Russia to China and large new markets for British textiles. This objective was not achieved, but some increase in trade with the north was secured as an outcome of the venture.

The Eastland Company promoted the exchange of cloth, tin, lead and Eastern reexports, for flax, hemp, fish, wax, timber, pitch and honey obtained in Norway, Sweden, Poland and Prussia.

The Levant Company was organized for trade with Turkey, Syria and Asia Minor. England exported wool and woolen woven goods, tin, lead and iron to these regions and imported cotton, mohair, drugs and coffee from them.

The Guinea Company was authorized to promote trade between England and the northwestern coast of Africa. Among the imports were pepper, ivory and palm oil. Textiles and metal-wares were sent in exchange.

Of all the British trading combines, the East India Company is probably the one best known. It had a monopoly of British trade with India, Arabia and Persia. Spices, cotton, perfumes, rosewoods, silk, indigo and precious stones were secured in exchange for England's standard export wares, *viz.*, wool and woolen cloth and metal goods. The officers and stockholders of this organization lobbied at court and in Parliament for charter renewals and other favors and took active part in creating public opinion in England from the time when the company was first chartered in 1600 until its strength waned early in the nineteenth century.

The outstanding Dutch trading company of the seventeenth century operated under the name of Dutch East India Company. Dutch commerce was built around a fishing industry. Great quantities of herring, a staple food in Catholic Europe, were readily available in the North Sea off the Dutch coast and a new method of curing was developed in Amsterdam. During the first half of the seventeenth century Dutch merchants rose to a dominant position in the carrying trade of Europe and extended their activities to the Far East. Long a sea-loving people, the Dutch pushed their trading ventures east to Venice, Constantinople and Alexandria soon after the defeat of the Spanish Armada by the British, and by 1601 had dispatched some three score ships to the East Indies. The Dutch East India Company had its beginning in 1607, when self-interest and national welfare caused an amalgamation of the several Dutch companies that were competing for Eastern trade. For many decades thereafter the history of Dutch commerce and colonization was to be closely associated with this chartered company and its offspring, the West India Company.

EXTENSION OF MONEY ECONOMY

The extension of money economy in Europe during the late Middle Ages and the early modern period was an essential part of the transition from feudalism to nationalism and colonial empires. The chief characteristics of money economy are divi-

sion of labor and exchange. Money's function is to facilitate the exchange process. The expansion of commerce in Europe created an increasing demand for money. Inasmuch as experience had demonstrated the superiority of gold and silver over other commodities for monetary uses and inasmuch as there was a dearth of these metals in western Europe, the discovery of gold and silver hoards and of gold and silver mines in the New World was an important contribution to European economic development. Between 1500 and 1600 the world's annual production of gold increased about 50 per cent; silver production increased about eightfold. The precious metals served as a hand-to-hand medium of exchange and as a basis of value in banking operations. With the establishment of frequently used trade routes, merchants of the West resorted to the use of bills of exchange and letters of credit. An important function of the Hanseatic League and of the later chartered companies was regularization of exchange practices. Within the framework of systematized trading activities money changers quite naturally expanded their activities to include deposit and loan functions. Bankers who succeeded in acquiring reputations for engineering successful investments attracted funds from business acquaintances and the friends of business acquaintances, first from their own towns and later from distant towns. Kings and nobles who were frequently in need of immediate sums of ready money turned to the bankers for loans and were encouraged by them to liberalize the easy flow of trade and to take part in speculative ventures. By the beginning of the modern period officials were paid with money; soldiers were hired for money; and supplies were purchased with money. The use of money thus extended royal power and government functions as well as trade.

With the development of joint-stock companies the power of capital and credit increased in scope. Small savings of individuals were drawn from their hiding places to augment the available supply of working capital. In time bourses were established and speculative dealing ceased to be confined to princes and wealthy merchants. Financial operations in Antwerp, an important commercial and financial center of the sixteenth century, will serve as an illustration. Here was the first bourse to be established in western Europe, a place where dealers met daily and effected exchanges by means of paper securities

representing goods located elsewhere. Bankers bought and sold exchange for forward delivery; shares of stock changed hands; and news-gathering systems were organized to enhance profits from speculative transactions.

STATUS OF MANUFACTURING PRIOR TO THE NINETEENTH CENTURY

We of the twentieth century associate with the idea of manufacture and trade, large buildings, integrated machinery, steam plants, electric motors and concentrated bodies of workers. This ultramodern pattern of economic activity is strikingly different from industrial conditions that prevailed prior to about 1800. Manufacturing methods, as late as the sixteenth, seventeenth and eighteenth centuries, were not very different from those of ancient times.

In general, manufacturing in Europe and England during the sixteenth and seventeenth centuries and much of the eighteenth century was in the handicraft stage. The woolen industry in England is characteristic of the old system. The work was done in the homes of workers or in small shops. Hand or foot spinning wheels were used, and in weaving the shuttle was thrown back and forth by hand. Some families performed all the operations from wool to cloth: wife and daughters worked at spinning wheels; small boys carded the wool; men did the weaving. Because one loom operated regularly could provide work for five or six spinners, the women of some families spun yarn and passed it along to weavers, while the men of the family were engaged in other occupations such as metalworking and carpentering.

In the early part of the period under consideration weavers produced or purchased wool, directed the dyeing, spinning and weaving operations and sold the cloth. As the cloth market expanded a merchant class appeared who purchased wool, had it worked into cloth by many scattered families, assembled the finished product and negotiated its sale. Commercial connections of some of the larger merchants extended as far as America, India and China. Some merchants amassed great wealth, affected the airs of gentlemen and carried swords. They became capitalists and aristocrats as compared with the lowly spinners and weavers.

The textile industry was one of the first to lend itself to the factory system of modern times. The spinning jenny was invented in the seventeen sixties and Arkwright's first spinning mill (worked by horses) was established shortly thereafter. One of the first power looms (power supplied by a dog) to work successfully was set up in Glasgow in the seventeen nineties. At the end of the eighteenth century the development of power-loom weaving had hardly begun.

When Adam Smith published his *Wealth of Nations* (1776) charcoal was still the principal fuel employed in smelting iron. In 1750 the ironworks at Coalbrookdale were the only ones in all England which used coal for smelting; ironworks on the Continent were even slower than those in England to make the transition from charcoal smelting to coal smelting. Not until iron became more abundant and less expensive than it was when smelting depended upon charcoal and abundant supplies of wood did metal machines for industrial purposes come into widespread use.

Both the machines of modern factory systems and the motive power for their operation were lacking in European economy until late in the eighteenth century. Employment of motive power other than the muscular strength of man or beast is an essential feature of a mass-production economy. The power of falling water and that of wind pressing against the blades of great mills drove machines to a greater or less extent long before steam engines made their appearance. Nevertheless, it was not until widespread introduction of steam power in the nineteenth century that wholesale replacement of handicraft methods by machine methods of manufacture occurred.

During the sixteenth, seventeenth and eighteenth centuries European trade became world-wide. Colonies were established in America, Africa and Asia; money economy developed rapidly; nationalism in European countries took shape; but not until the end of the period did manufacturing methods and modes of transportation undergo radical modification. During the seventeenth and eighteenth centuries sailboats continued in use; manufacturing was done largely by artisans working with simple tools in small shops or in their own homes; and overland transport of bulky goods was of little or no importance. These were the conditions which prevailed during the mercantile period and at the time when Adam Smith published his *Wealth of Nations.*

CHAPTER VI

MERCANTILE PHILOSOPHY AND NATIONAL SOLIDARITY

With the growth of international trade in western Europe during the long period from the fourteenth to about the end of the eighteenth century expedients for the promotion of economic nationalism came into being. These expedients, loosely organized into a system of economic policy, came to be known as mercantilism. Examination of mercantile arguments and practices against the background of economic and political circumstances from which they sprang will illustrate the manner in which economic conceptions tend to adapt themselves to currently prevailing needs. Examination of these ideas will also help to expose certain loose and erroneous arguments which from time to time appear in connection with reasoning about international trade balances and tariff policies in the light of twentieth century conditions.

Mercantilism is a philosophy of trade that was etched upon the panels of history by practice and precept during the period between the end of the Middle Ages and the beginning of the age of power machinery. Ruins of European castles mark the passing of the medieval period. They call to mind an organization of economic activity commonly described as town economy. The town with its surrounding manors was the characteristic economic unit. Municipalities and manors were politically subordinated to the state with its king and underlings, but the state did not unify national economic affairs. Each town with its surrounding manors was largely self-sufficing and was separated from other towns by trade barriers.

In contrast with this type of economic localism is economic nationalism, which took shape during the mercantile period. The national economic unit embraced many towns. Its boundaries were determined by geographical barriers, racial characteristics of large population groups and institutions such as language,

religion and custom. The national economic state was characterized by conceptions of national and international trade, national division of labor and national banking. As ordinarily conceived, mercantilism included two stages marked by somewhat different national policies. In the first stage mercantilism was a revenue-raising, king-making, gold-accumulating policy; in the second period it was a protection-of-established-industry policy.

THE FIRST PERIOD

Introductory.—Among the many reasons for transition from town economy to national economy were the growth of intertown trade and the rivalries of far-flung trading organizations. Military leaders who desired portable wealth and traders who sought for freer access to markets were drawn together and propelled in similar directions by forces of self-interest. Desire for political supremacy on the part of dominant princes and desire for commercial supremacy on the part of aggressive merchant groups created joint need of unified armies and navies. Nationalism had its beginnings as a system of expediencies for promoting the interests of these small minorities. The expediencies in question became social forces of a rising order of magnitude, which swept into unified systems, areas and population groups many times larger than the medieval city-states. The patterns of national development in Italy, France, Germany, Netherlands and England were not identical, but the forces of unification and the strategy of leadership were sufficiently similar to justify the use of some such term as mercantilism to designate the general type of economic policy characteristic of the time. Similarity of mercantile doctrines, in the several countries where mercantilism held sway, rested mainly upon two basic conditions: first, the aims were concentration of authority in the hands of royal princes and extension of frontiers; second, the means to these ends lay in the regulation of commerce on a national scale. In some degree mercantilism held sway in all parts of western Europe during the 400 or 500 years prior to the nineteenth century. The system was most complete in detail in Great Britain. There national solidarity was definitely achieved and national economic institutions, such as central banking, national taxation and nation-wide trade, became functional realities prior to the nineteenth century.

British Mercantile Philosophy.—Among the requisites of a strong national economy in the British Isles was a strong navy. Profitable foreign trade was an inducement for the building of ships and the training of seamen by private interests. Before the establishment of a national system of money and banking and a system of national taxation, the king could not provide and maintain a large national navy, because his resources were inadequate. A British king of, let us say, the fifteenth century was but one of a number of strong noblemen who struggled among themselves for the seat of honor. A private-citizen merchant marine would be commandeered in time of national emergency for the defense of all. In order to make trade profitable and thus to encourage merchants to build ships, manufacturing was fostered—types of manufacturing which provided goods desired by foreigners. British mercantilism was, in part, a system of regulations established to foster such manufacturing.[1] But manufactures and ships were not the only economic sinews required for the weaving of a strong national fabric. Gold and silver were needed for the establishment of an adequate national banking system, a national system of taxation and war chests. In short, among the more important requisites of a revenue system adequate to provide support for a king and his court, and proceeds needed for a centralized political system, were manufactures, trade and monetary metals. These things mercantilism was designed to provide.

England produced insufficient gold and silver to supply her needs.[2] As a result, various expediencies were resorted to for the purpose of securing gold and retaining it in the country. These expediencies, like those resorted to for the fostering of manufacturing, of trade and of shipbuilding, were part of the mercantile doctrine. They included embargoes on gold exports and regulations to insure a favorable balance of trade. Aggregate

[1] Among the regulations in question were wage fixing, price fixing, embargoes upon gold exports, navigation acts requiring British exports and imports to be carried in British ships, trade monopolies, monopolies of colonial markets, import tariffs, export bounties and bilateral commercial treaties favoring particular industries in particular countries.

[2] England needed gold and silver for the maintenance of a national monetary and banking system and a national system of taxation and reserves of wealth readily available for use of the ruling class, if the ruling class was to maintain and to strengthen its position.

sales of English goods were expected to exceed aggregate purchases of foreign goods, the difference to be collected in gold or silver. In order to insure a favorable trade balance, limitations were put upon merchandise imports, and exports of manufactures were encouraged. Import duties were placed upon domestic consumption goods that could be produced at home. Exports of manufactured goods (embodying larger values than raw materials) were encouraged by fixing prices of labor and industrial raw materials at low levels and in some cases by paying export bounties. Navigation acts were passed requiring English goods, both exports and imports, to be carried in English ships. In these and other ways the state attempted to regulate external commerce in a manner to insure an excess of sales over purchases and an incoming stream of gold and silver in settlement of the difference.

The predominant passion of the English nation during the mercantile period was a stout patriotism fashioned to promote the interests of the ruling classes. Individual welfare was subordinated to national welfare. The function of the individual was conceived to be that of promoting the welfare of the state, not the other way around. Industries came to be considered in different order of importance, measured not so much in terms of individual productivity and standards of living and well-being as in terms of national supremacy. The mercantile conception of industrial hierarchy was as follows:

First in importance was international trade so regulated as to encourage shipbuilding and an inflow of precious metals.
Second in importance was manufacturing so regulated as to make foreign trade profitable.
Next in importance was such mining as was necessary to make manufacturing possible and profitable.
Fourth came agriculture to feed the people and to minimize the necessity of importing foodstuffs and agricultural raw materials.

Since labor was the largest element in production costs, a large population was thought by the mercantilists to be desirable in order that labor might be plentiful and wages low.

Industries which worked up raw materials were exalted over those which provided raw materials.

Foreign trade took precedence over domestic trade.

Colonies were considered as estates to be worked for the advantage of mother countries. They were prohibited from trading with European nations other than the mother country, which they supplied with precious metals and raw materials in return for manufactured goods.

The king worked to consolidate and strengthen his position in the nation. The nation worked to consolidate and strengthen its position in the community of nations.

Examples of the Literature of British Mercantilism.—The writings of British mercantilists were not so concise, uncontradictory and definitely focused as the foregoing interpretations may suggest. They were scattered, fragmentary and uncoordinated. Nevertheless, students of the mercantile era have found sufficient similarity in points of view of leading writers to justify building the dominant and frequently repeated ideas into a more or less coordinated system. Among the typical mercantile treatises published in Great Britain were Child's *A New Discourse of Trade*[1] and Mun's *England's Treasure by Forraign Trade.*[2] Concerning the balance of trade, Child had the following to say:

> Among other things relating to Trade, there has been much discourse on the Balance of Trade; the right understanding whereof may be of singular use, and serve as a compass to steer by, in the contemplation and propagation of Trade for publick advantage. It is the most general received opinion and that not ill grounded, that this Balance is to be taken by a direct scrutiny of what proportion the value of the Commodities exported out of this Kingdom bear to those imported; and if the Exports exceed the Imports, it is concluded the Nation gets by the general course of its Trade, it being supposed that over-plus is imported Bullion, and so adds to the treasure of the Kingdom Gold and Silver being taken for the measure and standard of Riches.[3]

Thomas Mun, another mercantilist, was born in 1571. He accumulated wealth and acquired a reputation as a merchant engaged in the Levant trade. In 1615 Mun was elected a direc-

[1] CHILD, SIR JOSIAH, *A New Discourse of Trade*, London, 1690.

[2] MUN, THOMAS, *England's Treasure by Forraign Trade*, London, 1664. Macmillan Company ed., 1910.

[3] CHILD, *op. cit.*, 4th ed., pp. 163–164. Child became Governor of the East India Company and member of Parliament.

tor of the East India Company. His treatise, *England's Treasure by Forraign Trade*, written probably about 1631, was printed for the first time by his son in 1664. The book opens many avenues of insight into economic philosophies and practices of the mercantile period.

> The ordinary means . . . to enrich our wealth and treasure is by *Forraign Trade* [wrote Mun] wherein we must ever observe this rule; to sell more to strangers yearly than we consume of theirs in value. . . .
>
> Although this Realm be already exceeding rich by nature yet might it be much increased by laying the waste grounds (which are infinite) into such employments as should no way hinder the present revenues of other manured lands, but hereby to supply our selves and prevent the importations of Hemp, Flax, Cordage, Tobacco, and divers others things which now we fetch from strangers to our great impoverishing.
>
> We may likewise diminish our importations, if we would soberly refrain from excessive consumption of forraign wares in our diet and rayment. . . .
>
> In our exportations we must not only regard our own superfluities, but also we must consider our neighbors necessities, that so . . . we may gain so much of manifacture as we can and also endeavor to sell them dear, so far forth as the high price cause not a less vent in the quantity. . . .
>
> The value of our exportations likewise may be much advanced when we perform it ourselves in our own Ships for then we get not only the price of our wares as they are worth here, but also the merchants' gains, the charges of ensurance, and freight to carry them beyond the seas.[1]

Conclusions.—From a vantage point of twentieth century conditions and motives, mercantilism may appear to be a queer and illogical body of misconceptions. Merchant ships are not as serviceable for front-line action in modern warfare with its submarines, airplanes and armored battleships as were merchant ships in the warfare of the sixteenth and seventeenth centuries. The Spanish Armada was defeated not by Britain's royal battle fleet—a puny thing in comparison with the Spanish battle fleet—but by a flock of small pirate trading vessels armed for merchant duty on the high seas. Such mercantile ideas as intense desire for stocks of precious metals and measurement of national wealth in terms of gold and silver hoards may seem even more absurd

[1] MUN, *op. cit.*, pp. 7–11. Quoted with the permission of The Macmillan Company, New York, and Basil, Blackwell and Mott, Ltd., Oxford.

to the student of modern economics than need of a merchant fleet for national defense. The twentieth century nation which possesses the largest stocks of gold is not necessarily the wealthiest country in the world. National government, national taxation, national banking and national trade can, if need be, function without gold or silver under our system of twentieth century credit economy. However, this was not true during the mercantile period. Gold and silver played a more vital part in national economy then than now. A merchant group possessed of gold in abundance, some part of which could be passed along to the king's coffers was a condition essential to national solidarity during a period when the aggregate of surplus goods over and above the minimum for subsistence was relatively small. These considerations throw light upon reasons for emphasizing both gold and favorable merchandise trade balance during the mercantile period. Gold was needed for the maintenance of an effective centralized government, and a favorable trade balance was needed to get the gold. Merchandise exports and imports together with shipping services constituted a much larger proportion of aggregate international transactions than is the case today. Capital exports, interest on foreign investments, tourist expenditures, etc., were then relatively less important parts of the aggregate of international payments than now. Mercantile theory held, therefore, that gold flows could best be directed by controlling merchandise balances.

The mercantile writers were not particularly concerned about standards of living among the underprivileged masses. Their concern was to build and extend a far-flung system of world commerce and to make provision for its protection against the depredations of competing and antagonistic national groups. Mercantile philosophies were expounded by international traders and statesmen whose interests were allied with those of reigning royal families. It so happened, during the mercantile period, that the security of a king's position was more dependent upon the good will and support of powerful merchant groups than upon the support of the unorganized masses of common people. Furthermore, interests of the landlord class and those of traders were not in sharp conflict so long as a system of protection was retained thus to insure intensive use of the land and maintenance of high rentals. From the point of view of the best joint interests of

merchants, kings and a landed aristocracy, mercantilism was sound policy. The evaluation of mercantilism from the point of view of the best interests of an inarticulate and impotent proletariat is quite another matter. In evaluating the early stages of mercantilism it is well clearly to define the point of view from which an evaluation is made. It is well also to remember that trade in many of the Western countries before the eighteenth century was, so to speak, an infant industry and that power manufacturing had not yet emerged to revolutionize age-old methods of acquiring wealth. Finally, it is well to remember that during the mercantile period in western Europe the military leader who could command large quantities of the precious metals was the leader who could hire soldiers, fight wars and retain or acquire control of political affairs.

THE SECOND PERIOD

During the eighteenth century the center of interest shifted from favorable trade balances for the purpose of augmenting bullion stocks to protection of home manufactures against foreign competition in the domestic market. This stage in the evolution of European nationalism is ordinarily included as a phase of mercantilism; it might equally well be considered separately. Protection in the second stage of the mercantile period served as a shield to prevent the decay of particular vested interests that had ceased to further purposes either of national solidarity or of national growth. Wool, silk and linen manufacturers were among the more important of the vested interests in question. Prior to the eighteenth century there was little or no cotton manufacturing in western Europe in spite of the fact that for centuries India and China had spun and woven cotton. Fine calicoes, muslins and other cotton fabrics were imported from the Orient by Europeans during the first part of the seventeenth century and even earlier for consumption by well-to-do families, but it was not until the latter part of the seventeenth century that cottons began to move from east to west for mass consumption by the middle and lower classes of Europe. This shift in demand from wool fabrics to cotton fabrics during the latter part of the seventeenth century and the early part of the eighteenth, with consequent unemployment and loss of profits in wool spinning and weaving industries in England and Continental

countries, marks the rise of a type of protectionism fashioned to shield the European wool spinning and weaving industries from the competition of Oriental cotton goods.

The agitation of wool spinners and weavers and of silk manufacturers in England against cotton goods imports and against the domestic weaving and printing of cotton goods was so successful that in 1720 Parliament prohibited by statute not only the importation of cotton wares but also the manufacture and consumption of certain cotton goods in England. At about the same time France also imposed more stringent prohibitions upon home production and domestic consumption of cotton goods. Both in England and on the Continent the anticotton laws are clear-cut illustrations of class legislation for the protection of powerful vested interests and the stifling of new industries. However, in spite of prohibitive legislation, the cotton spinning and weaving industries took hold in the West, particularly in England. In the seventeen thirties the flywheel shuttle for weaving was invented and within three-quarters of a century after the prohibitory legislation of 1720 Hargreaves, Arkwright, Crompton and others had contributed inventions by which cotton spinning and weaving were improved and cheapened to a degree that foreshadowed the rise of the world's lowest cost cotton textile industry in Manchester and environs. In 1774 the manufacture and use of cotton goods spun and woven in the kingdom were legalized but the import duty on cotton goods continued in effect for another half century or more.

SUMMARY

By way of summary, the mercantile period may be divided into two stages: first, the period prior to about 1700, when favorable merchandise trade balances and accumulation of bullion were among the dominant objectives; second, the period after about 1700, beginning with legislation for the protection of the wool spinning and weaving industry and ending with British free trade about the middle of the nineteenth century. The nineteenth century brought power machinery into widespread use and thus saw the release of a new set of economic forces.

What conclusions useful in clarifying confused issues of twentieth century international trade policy may be drawn from experience records of the mercantile period? One conspicuous

conclusion is that national political considerations and national economic considerations are so interrelated as to defy separate evaluation. The mercantile emphasis placed upon gold and silver as measures of wealth are, for example, absurd from a purely economic point of view in a modern country with national political solidarity, national security and a functioning credit economy. Mercantile countries had none of these things and for that reason precious metals assumed a significance out of proportion to their purely economic value.

Another conclusion that may be drawn from mercantile experience is that a striving for favorable trade balances as a means of accumulating national wealth under any and all circumstances in an erroneous conception. This conclusion is suggested by the fact that government regulations to maintain favorable trade balances gave way[1] in the face of production advantages of territorial division of labor. Favorable trade balances were sought during the early stages of the mercantile period with more or less definite objectives in mind, *viz.*, acquisition of precious metals, naval construction and national defense. Remove the need of protection to promote these ends and mercantile trade-balance theory has no foundation upon which to rest.

Finally, mercantile experience illustrates the fact that commercial restrictions imposed primarily for the purpose of protecting old industries and excluding new ones are doomed to ultimate failure. Trade restrictions maintained primarily for the protection of minority industrial interests marked the beginning of the end of mercantilism's usefulness as a constructive national policy.

[1] In Great Britain and France; see Chap. IX.

CHAPTER VII

ADAM SMITH

By Adam Smith's[1] time (1723–1790) the transition from local to national political units had been completed in Great Britain and a number of the countries on the Continent.[2] Religious leaders had become less influential in political and economic affairs. Military leaders and political leaders had pooled their forces for greater collective influence, and a rising commerce capable of supplying finances had contributed a third type of membership to the ruling group. Mercantile regulations of commerce had served their nationalizing functions and were becoming mere impediments to continued progress. Furthermore, the interests of certain domestic manufacturing groups and landlord groups, on the one hand, and those of certain powerful foreign trading groups, on the other hand, had come to a parting of the ways. One era of political-economic development in Great Britain had come to an end; another was on the threshold. Adam Smith was a critic of regulated inefficiency; he was an eighteenth century courier of nineteenth century *laissez faire*. He had no eighteenth century counterpart upon the continent of Europe or elsewhere because, possibly, Great Britain was the first country to outgrow mercantile practices. Smith's teachings were not concerned primarily with international trade; they were concerned with economic efficiency in all departments of national life. By undermining the logic of an outworn system of trade restrictions and by glorifying the economies of unfettered commerce and division of labor he laid the foundation for classical free-trade doctrines applying alike to domestic and to foreign commerce.

Smith was a student of a transition period in national policy. The realistic analyst of American economic conditions of the

[1] Smith's famous volume, *An Inquiry into the Nature and Causes of the Wealth of Nations*, was published in 1776.

[2] Unification of Germany was not accomplished until 1871.

present time likewise is student of a transition period. Smith was primarily a humanitarian; his concern was to increase the nation's wealth in order that all the people might be more abundantly supplied with goods. Take as an example of his humanitarian philosophy the following passage:

> Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to only so far as it may be necessary for promoting that of the consumer. The maxim is so perfectly self-evident that it would be absurd to attempt to prove it. But in the [existing] system the interest of the consumer is almost constantly sacrificed to that of the producer.[1]

The ultimate goal of greater well-being for the masses is as dominant in the minds of American economists today as it was in the philosophy of Adam Smith more than a century ago. The goal toward which the philosophy of the *Wealth of Nations* was directed and the commercial policy recommended for the attainment of the goal are our chief interests in the book. The commercial policy which it recommended became an essential part of classical free trade.

The theory underlying the British free-trade policy had three essential parts, as follow:

1. Unfettered international commerce to augment gains from territorial division of labor.
2. Comparative costs which account for and justify international trade.
3. Price-specie mechanisms for the regulation of international prices.

Smith developed the conception of gains from personal and territorial division of labor, thus establishing part one of the classical free-trade theory and contributing to the formulation of part two. Starting, in Book I, with the idea that the labor of a nation supplies all its conveniences and luxuries, Smith set himself to find ways and means of increasing labor's effectiveness. One way he found was to enlarge the scope of the market by removing trade restrictions, thus making possible greater degrees of specialization of labor. The following quotation is self-explanatory:

[1] SMITH, ADAM, *An Inquiry into the Nature and the Causes of the Wealth of Nations* (1776), Vol. II, Bk. IV, Chap. VIII. Quoted by permission of E. P. Dutton & Co., Inc., New York, publishers of Everyman's Edition.

The greatest improvement in the productive powers of labour . . . seem to have been the effects of the division of labour. . . . Take an example . . . from a very trifling manufacture, . . . the trade of the pin maker; a workman not educated to this business (which the division of labour has rendered a distinct trade) nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion) could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business to whiten the pin is another; it is even a trade by itself to put them into the paper.[1]

Ten men working in a factory, according to this illustration, could make upwards of 48,000 pins in a day.

If they had all wrought separately and independently and without any of them having been educated to this peculiar business they certainly could not each of them have made twenty, perhaps not one pin in a day; that is certainly not the two hundred and fortieth . . . part of what they are at present capable of performing, in consequence of a proper division and combination of their different operations.[2]

[1] *Ibid.*, Vol. I, Bk. II, Chap. I.

[2] *Ibid.*

NOTE: It is well to note at this point that the illustrated gain from personal division of labor was not primarily a result of the employment of steam power. Steam engines may have been employed in pumping water out of the mines from which coal came for smelting the iron that went into the pins. Water power was used to some extent for the motivation of factory machinery during Adam Smith's time. It was not, however, until after 1781 when Watt took out his patent for rotary motion that steam engines ceased to be used only for pumping water and became a source of motive power for the running of factory machines. This fact has peculiar significance because extension of power machinery during the nineteenth and twentieth centuries has created conditions in Great Britain, United States and elsewhere that are tending to shift the major economic emphasis from problems of increasing productive capabilities of particular workers to those of stabilizing production in such a manner that all who wish may work. This shift in emphasis will be found to have an important bearing upon modifications of early commercial theory to fit present-day economic conditions.

The productivity of groups of workers could be increased by specialization and cooperation, provided the extent of the market made such specialization feasible:

> . . . it is the power of exchanging that gives occasion to the division of labour . . . the extent of this division must always be limited . . . by the extent of the market. When the market is very small, no person can have any encouragement to dedicate himself entirely to one employment. . . . It is impossible there should be such a trade as even that of a nailer in the remote and inland parts of the Highlands of Scotland. Such a workman at the rate of a thousand nails a day, and three hundred working days in the year will make three hundred thousand nails in the year. But in such a situation it would be impossible to dispose of one thousand, that is, one day's work in the year.[1]

From these conceptions of specialization and wide markets, opposition to trade restrictions, which tended to limit the extent of markets for products of highly specialized labor, followed naturally. Among the types of trade restrictions, common in eighteenth century Great Britain, which Smith believed to be detrimental to the best interests of the nation were the following:[2]

1. Restrictions laid upon the exportation of gold and silver. Such restrictions were opposed because they tended to reduce the volume of international trade and thus to limit the extent of markets for the products of highly specialized labor.

2. Restraints upon the importation of foreign goods. Such restraints were enforced either by high import duties or by absolute prohibitions. They were believed to be detrimental because they discouraged maximization of specialization in low-cost export industries by limiting the market for export goods.

3. Artificial means of encouraging exports. Such devices were opposed on the grounds that exports which had to be subsidized were products of industries in which labor was relatively inefficient.

This list of trade restrictions, opposed by Smith, indicates that his theory of wide markets was not to be confined within the boundaries of a single nation. Arguments for specialization

[1] *Ibid.*, Chap. II.
[2] *Ibid.*, Bk. IV.

that applied to groups of persons in a nation applied in his reasoning equally well to groups of persons in different nations.

> If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry employed in a way in which we have some advantage . . . The natural advantages which one country has over another in producing particular commodities are sometimes so great that it is acknowledged by all the world to be in vain to struggle with them.[1]

With arguments such as these Adam Smith prepared the way for Ricardo's doctrines and for removal of the corn laws[2] in the nineteenth century. Arguments for specialization and free trade which were convincing in the eighteenth century, before general application of steam-motivated steel machinery, become even more convincing in the nineteenth century when Great Britain achieved the position of leading industrial nation with manufacturing costs so low as to enable her to undersell competitors in the world's markets for a great variety of manufactured goods. Policies recommended by Adam Smith seem to have gained widespread and favorable recognition not so much because the policies were new as because they were in conformity with dominant industrial changes that were in progress at the time.

[1] *Ibid.*, Chap. II.

[2] Import tariffs and export bounties on grain.

PART III

NATIONAL COMMERCIAL POLICIES OF THE NINETEENTH CENTURY

INTRODUCTORY

The nineteenth century is set apart from all that goes before by a revolutionary transition from dependence upon human energy for industrial work to industrial utilization of coal-generated energy, petroleum-generated energy and hydroelectric power. To Adam Smith's "two systems of political economy with regard to enriching the people,"[1] the one, a system of agriculture, the other that of commerce, was added a third: that of manufacture with power machinery. Since about 1800 productivity and the size of populations in Western countries have increased rapidly; capital has accumulated faster than ever before; markets for bulky goods have been greatly extended and manufactures turned out *en masse* to sell at prices progressively lower in relation to wages.

During the nineteenth century the international commercial policies of Great Britain, France, United States, Germany and other nations were adapted to the new industrial conditions. Policies of nations first to establish steam-motivated manufacturing systems veered off toward international free trade; in nations slower to make use of the new techniques protective policies were established as shields against the low-cost competition of mass-production manufactures from neighboring countries. Economic forces which power machinery set in motion about a century and a half ago have been active in the molding and shaping of commercial policies ever since.

[1] SMITH, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Vol. I, Bk. I, Chap. I.

CHAPTER VIII

EMPLOYMENT OF POWER MACHINERY

In the nineteenth century power machinery came into general use in Great Britain, France, United States, Germany and various other Western nations. The employment of steam engines quickened the transition from hand-tool manufacturing to machinery manufacturing. Nations making fullest use of machines soon became the low-cost producers of manufactured goods.

A tool is an implement for direct action—cutting, striking, rubbing, etc. A machine is a train of apparatus so connected that if one piece be made to move, all the apparatus must move in predetermined fashion. When nonhuman energy was set to the motivation of machines in factories tended by wage-earning workers, each directing some specialized operation, a system of production was achieved quite different from and much more effective than any system of production that had gone before. A striving on the part of many nations for industrialization, with all the advantages accompanying power-machinery production, was one of the most characteristic features of Western civilization during the nineteenth century. One country after another—Great Britain, United States, France and Germany built steam railroads, constructed factories and replaced sailing vessels with steamships.

EXPANSION OF PRODUCTION AND TRADE

Statistics of per capita production of pig iron and per capita imports of grains and textile fibers are suggestive of the increase in heavy work, such as mining, handling and fabricating, which employment of the energy of expanding steam and allied technical developments made possible. British data are used for purposes of illustration for the reason that the British were among the first to make general use of power machinery. The table that follows shows per capita production of pig iron and per capita imports of grains and textile fibers for the United Kingdom by decades

TABLE 2.—UNITED KINGDOM: PER CAPITA PRODUCTION OF PIG IRON AND PER CAPITA IMPORTS OF GRAINS AND TEXTILE FIBERS, BY DECADES, 1820 TO 1890 INCLUSIVE[1]

Year	Pig-iron production, pounds per capita	Grain[2] imports, pounds per capita	Textile-fiber[3] imports, pounds per capita
1820	39	31	8
1830	62	48	12
1840	117	67	24
1850	184	129	27
1860	296	202	53
1870	424	228	51
1880	498	344	60
1890	469	373	64

[1] SOURCE: Derived from population, export and import data given in William Page, *Commerce and Industry, Tables of Statistics for the British Empire from* 1815, Archibald Constable & Company, Ltd., London, 1919, pp. 140, 180.

[2] Wheat, barley and oats.

[3] Raw cotton and raw wool.

from 1820 to 1890 inclusive. Pig-iron production per capita in the United Kingdom was about twelve times as great in 1890 as it had been in 1820; per capita imports of grains were at least twelve times as great in 1890 as they had been in 1820 and per capita imports of textile fibers were about eight times as great. These data are not presented as an accurate measure of the increase in per capita productivity in the United Kingdom during the nineteenth century. Some industries, agricultural production for example, did not keep pace with mining, manufacture and trade. However, few persons will question the fact that commerce and the aggregate physical volume of production increased during this period more rapidly than the population. In 1820 Great Britain's population numbered approximately 21 million; in 1890 it was about 38 million. In the same time, pig-iron production increased more than twentyfold and shipping as measured by vessels with cargoes and in ballast entered and cleared at British ports increased about fivefold.[1]

The increase in quantities of heavy, bulky materials which could be produced, handled and fabricated would not have been

[1] PAGE, WILLIAM, *Commerce and Industry, Tables of Statistics for the British Empire from* 1815, Archibald Constable & Company, Ltd., London, 1919, pp. 162–163.

possible without enlarged use of mechanical power. In the early centuries the world depended upon manpower for the carrying of burdens and the performance of heavy tasks. Drudgery of human slaves was a symbol of ancient civilizations. The pyramids are monuments to this epoch of man's progress. Prior to about the beginning of the nineteenth century human brawn was the biggest factor in tilling the soil, mining ores, transporting commodities and fabricating raw materials. The work done by oxen, horses, windmills and water wheels was of little consequence as compared with the energies brought under human control through the medium of steam engines. Had it not been for the steam engine the day of small things and the period of localized industries would be still with us.

THE SPREAD OF POWER-MACHINERY ECONOMY

Nineteenth century political and industrial leaders strove to devise policies which would enable their respective nations to share generously in the production and trading economies that power machinery made possible. Rates of industrial development in various countries were different because political and economic conditions were dissimilar. Coal, iron, scientific knowledge and capital were essential ingredients of the new system of industrial production. Scientific knowledge and capital were lacking in some nations; coal and iron were not equally accessible in all. Netherlands and Italy had neither coal nor iron resources. Spain was deficient in coal. In Germany and the United States canals or railroads hundreds of miles long had to be constructed before rich mines of coal and iron could be brought into use. Germany was decentralized politically at the beginning of the nineteenth century. The oligarchic system in Russia was too firmly established to permit quick transition from feudalism to a degree of individual freedom comparable with that which promoted rapid industrial development in neighboring states. The two nations which by 1840 had achieved the highest degrees of industrial development were England and France. Aside from Belgium, which is too small to be rated among the five or six leading powers of the world, the three Western countries next to achieve the advantages of industrialization were United States, Germany and Russia.

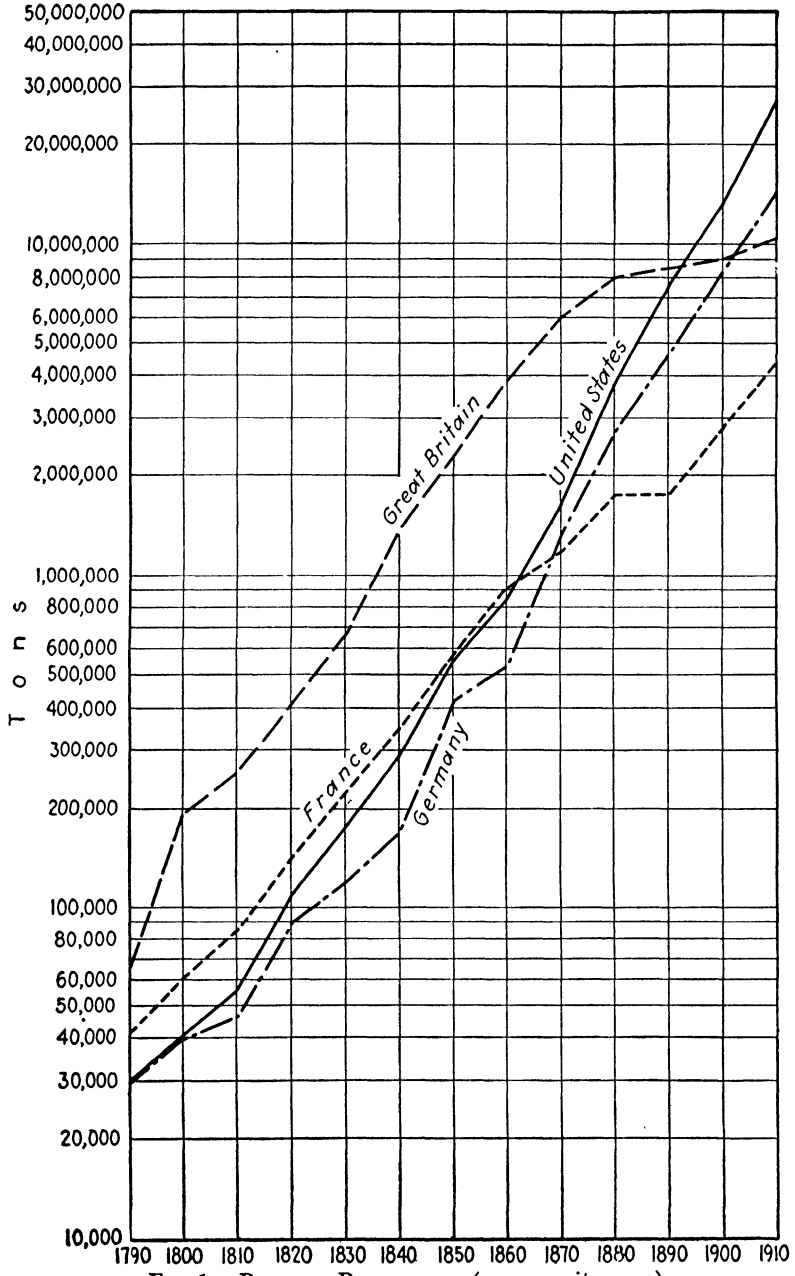


FIG. 1.—PIG-IRON PRODUCTION (see opposite page).

Statistics for pig-iron production in the United Kingdom, France, the United States and Germany indicate roughly the periods of most rapid industrialization in these countries (Fig. 1). Russia is not included in the group because of her late start and a lack of comparability of Russian statistics during the period.

In 1800 Great Britain was well ahead of all competitors in the process of industrialization as indicated by pig-iron output. Expansion of the iron industry continued at a rapid rate in Great Britain until about 1880. In 1840 industrialization in France (as indicated by pig-iron production) was well ahead of that in Germany. By 1870 Germany had caught up with France and was beginning to forge ahead. German industrial expansion (as indicated by pig-iron output) increased at a phenomenal rate after 1870. Shortly after 1900 Germany's output of iron exceeded that of Great Britain for the first time. In 1840 iron output in the United States was somewhat less than that of France and only about one-fourth that of Great Britain. During the last half of the nineteenth century industry (as indicated by pig-iron output) expanded more rapidly in the United States than in any other country.

Along with industrialization in Great Britain, France, United States, Germany and Russia went fundamental changes in the political and social systems of these nations. In Great Britain a landed aristocracy slowly gave way to a rising generation of industrialists. In France serfdom was abolished by the revolution in 1789. The United States declared her independence in 1776 and won it in 1783. In Germany serfdom gave way rapidly between 1800 and 1850, and in Russia after 1860. Political transitions in the Western world started before the Industrial Revolution and continued with it. In Great Britain and in France a drift toward economic freedom carried through to include policies of international free trade. Great Britain maintained a policy of international free trade for more than half a century; France maintained a policy approximating free

FIG. 1.—PIG-IRON PRODUCTION IN GREAT BRITAIN, FRANCE, GERMANY AND THE UNITED STATES, BY DECADES, 1790 TO 1910

SOURCES: 1790 to 1890, Mulhall, Michael G., *The Dictionary of Statistics*, George Routledge and Sons, Ltd., London, 1892, p. 332. France and Germany, 1900 and 1910, *The Statesman's Yearbooks*, 1903, pp. 590, 667; 1913, pp. 802, 878. Great Britain, 1900 and 1910, Page, William, *Commerce and Industry, Tables of Statistics of the British Empire from* 1815, Archibald Constable & Company. Ltd., London, 1919, p. 200. United States, 1900 and 1910, *Statistical Abstract of the United States*, 1930, p. 755.

trade for a shorter period. The United States and Germany developed domestic systems of comparative economic freedom during the period of their transition from agricultural to manufacturing states but neither of these nations opened its markets to the free competition of low-cost British manufactures. Industrialization in Russia and formulation of an international trading policy for Russia during her process of industrialization is now in progress.

Circumstances in the nineteenth century were more favorable to a policy of international free trade in Great Britain than in France, the United States or Germany. In the first place, being the initial country to make widespread use of power machinery, Great Britain was the low-cost country in the production of steel and textile manufactures. In the second place, Great Britain had an abundance of coal and iron for manufacturing, whereas her agricultural land was relatively scarce. In the third place, Great Britain had been a trading nation for several hundred years prior to the beginning of the nineteenth century. She possessed a large merchant marine, a banking system suited to international trading, and a personnel skilled in international diplomacy and international commerce. Adam Smith had pointed the way toward British free trade in 1776; David Ricardo developed and expounded the theory from the point of view of an international banker in the early eighteen hundreds, and in the eighteen forties John Stuart Mill elevated the theory of international free trade to a position among the literary classics of England. The fact that these three men, Smith, Ricardo and Mill, were proclaimed to be economic seers is sufficient evidence that the policies which they advocated were in harmony with the interests of politically and economically dominant groups.

In France J. B. Say was the outstanding exponent of free trade. Say was nine years old when Adam Smith's *Wealth of Nations* was published in 1776. He interpreted and extended Smith's doctrines for Continental readers in his *Le traité d'économie politique* published in 1803 and later translated into several languages.

In the United States and Germany systems of domestic economy followed paths marked out by Smith and Say but international policy took a different course from that charted by Ricardo and Mill. Early exponents of the American and German system of protection were Alexander Hamilton and Friedrich List.

CHAPTER IX

FREE TRADE

From France and England emanated ideas of freedom during the nineteenth century—personal liberty, freedom to choose one's occupation, freedom to buy and sell and international commercial freedom. It appeared for a time as if these ideas would gain acceptance throughout the whole civilized world. One of the most vigorous exponents of commercial freedom in France was J. B. Say.[1]

SAY

Say reiterated the principles of division of labor expounded by Adam Smith in the *Wealth of Nations* (1776), and expounded his own famous law to the effect that production creates demand.

"Division of labour cheapens products by raising a greater quantity at the same or less charge of production . . . (and) the mere circumstance of the creation of one product immediately opens a vent for other products."[2]

Upon such basic and simple assumptions Say built a structure of logic which led inevitably to the conclusion that that nation was most prosperous whose commerce was free and unfettered. With fine command of rhetoric Say outlined the path of free trade and its advantages so clearly, he thought, that "wayfaring men, though fools, could not err therein." However, notwithstanding the eloquence of Say and the homely illustrations employed by him to assist the ordinary man to an understanding of economic laws, deaf ears were turned to the logic of international free trade for France until about the middle of the nineteenth century.

After the political revolution of 1789 France abolished internal trade barriers but raised her tariffs against external trade. Then followed the English blockade during the Napoleonic Wars

[1] SAY, J. B., *Le traité d'économie politique*, Paris, 1803.

[2] SAY, J. B., *A Treatise on Political Economy*, J. B. Lippincott Company, Philadelphia, 3d Amer. ed., 1827, pp. 35*ff*.

and the Continental system of protection, and finally a series of protective tariffs in 1816, 1820, 1822, 1826 and 1841. Not until 1853 when Napoleon III introduced a number of minor relaxations in the tariff by reducing duties on such raw materials as wool, cotton, fats and oils, dyewoods, coal and iron, was the protectionist trend reversed. By this time France had introduced the steam engine and the factory system and had built railroads.[1] The French people never did accept free-trade doctrines to the extent that they were accepted by the English, and France never adopted a full-fledged free-trade policy. She made a good start toward free trade during the eighteen fifties and eighteen sixties but the system did not persist as in Great Britain; possibly because France was more of an agricultural nation than Great Britain; possibly because she was less well supplied with coal and iron than Great Britain; possibly because of her loss of Alsace-Lorraine to Germany as a result of the War of 1870; possibly because Great Britain forged ahead industrially while France was engaged in Continental wars. For these or other reasons less obvious, France reverted definitely to a protectionist policy with the passage of the Méline Tariff act of 1892. She has been a protectionist nation ever since.

We must turn to Great Britain to find the best illustration of free trade, in fact the only modern illustration of a free-trade policy in action for a long period of time. As one examines British free-trade policy of the nineteenth century in relation to Great Britain's industrial supremacy during this period he may be impressed with the idea that British statesmen and economists were very canny in expounding a body of logic that made a commercial system suited to Britain's particular circumstances appear to be blessed with a righteous regard for the best interests of foreigners. Lest such a point of view be overemphasized, it may be well to sound a warning at this point. For two decades after the middle of the nineteenth century the whole continent of Europe was swept by a movement toward international

[1] In 1815 there were 15 establishments using steam engines in France, in 1830, 625; in 1847, 4,853. Pig-iron production in 1827 amounted to 220,000 tons; by 1847 it had increased to 590,000 tons; and by 1867 to 1,260,000 tons. In the latter year France had more than 6,000 miles of steam railways.

SOURCE: KNOWLES, L. C. A., *Economic Development in the Nineteenth Century*, George Routledge and Sons, Ltd., London, 1932, pp. 136, 139, 146, 213.

commercial freedom. Belgium, Italy, Germany, Austria-Hungary, Netherlands and Spain joined with France and Great Britain in concluding treaties which substantially lowered prevailing rates of duty on every front.

THE RICARDO-MILL STREAM OF THOUGHT

The Ricardo-Mill doctrines and British free-trade policy of the nineteenth century appear to have been a logical outgrowth of Great Britain's real and potential industrial supremacy. She had a long start in the application of power machinery. Even after 1825, when restrictions against the exportation of British machines were relaxed, Great Britain's advantage in manufacturing continued for a number of reasons. In the first place, foreigners could not work the imported machines successfully until they had trained large numbers of mechanics and engineers. In the second place, nineteenth century Great Britain had inherited banking facilities and a network of trade connections abroad suited to a large export-import trade. In the third place, Britain's great industrial rival, France, was hampered by inadequate supplies of workable coal. Not only was coal abundant in England but it was the right kind for iron smelting and it was accessible. Cheap coal, good coke, iron ore that was easy to work and large numbers of skilled artisans enabled Great Britain to make machines, engines, locomotives and steamships at relatively low costs.[1] In the fourth place, Great Britain had accumulated capital from her overseas trading ventures and had wasted less of her resources in costly wars than was

[1] British exports of machinery and millwork increased from £209,000 in 1830 to £593,000 in 1840; £1,042,000 in 1850; and £3,838,000 in 1860. In 1800, a quarter of a century after Watt improved the steam engine and 18 years after he patented rotary motion, there were 63 steam engines in the 3 principal manufacturing centers of England, *viz.*, Birmingham, Leeds and Manchester. In all England there were 289 steam engines in operation in 1800, of which 84 were in cotton mills. By 1835 England had some 1,600 steam engines and Scotland about 225. In 1830 there were 625 establishments in France which used steam. Pig-iron production in Great Britain in 1827 amounted to 691,000 tons; in France about 220,000 tons.

SOURCES: KNOWLES, *op. cit.*, pp. 136, 139; KNOWLES, L. C. A., *The Industrial and Commercial Revolution in Great Britain during the Nineteenth Century*, G. Routledge and Sons, Ltd., London, 1922, pp. 73, 141; and PAGE, WILLIAM, *Commerce and Industry, Tables of Statistics for the British Empire from* 1815, Archibald Constable and Co., London, 1919, p. 137.

the case in France. Netherlands had capital but she lacked coal, iron and mechanics. While the United Kingdom was developing manufacturing and world trade during the nineteenth century, the leading Continental countries, with the exception of France, were still engaged in the establishment of national unity. Germany and Russia did not throw off their medieval feudal shells until the nineteenth century was well under way. In addition to being slow in the process of national political unification, Italy and Sweden had little coal. Spain also was inadequately supplied with coal. Belgium was too small to be a serious British rival for industrial and commercial supremacy. The United States of America developed mechanical contrivances almost as rapidly as Great Britain but the United States was a large, sparsely populated, loosely united nation. More than half a century of internal development lay between her early nineteenth century status and the time when she made a vigorous bid for world trade in manufactured goods. During a large part of the nineteenth century, then, Great Britain had no serious rivals in the development of world trade in manufactures. Furthermore, she needed the goods that less industrialized countries had to exchange for manufactures, *viz.*, foodstuffs and fabricating materials such as cotton. Low-wage common labor, a nucleus of trained mechanics, an abundance of coal and iron, experienced bankers and traders, capital reserves, need of foodstuffs, a strong centralized national government and a laissez-faire sentiment already crystallized and popularized by Adam Smith, were the basic elements from which Ricardo fashioned his doctrine of international free trade.

David Ricardo (1772–1823) was the third son of a Dutch Jew who had emigrated from Netherlands to England and acquired a fortune in the British stock market. The son was educated in England and Holland for a mercantile career. Financed by a friend of his father, he acquired a fortune in his own name through stock-exchange operations by the time he was thirty years of age. Thenceforth his interests were divided between business and politics. He purchased a country estate, bought his way into the House of Commons via the prevailing system of "close borough" politics and soon became known for his political sagacity. Ricardo's economic philosophy was elaborated in his *Principles of Political Economy and Taxation*, published in 1817. His economic reasoning was influenced by Smith's *Wealth of*

Nations and by a lifelong friendship with Malthus, whose *Essay on Population*[1] appeared in 1798.

Combining Adam Smith's doctrines concerning division of labor and trade with Malthus' population theory, relating these to the circumstances of Great Britain's forwardness in manufacture and her overcrowded agriculture and mixing the whole with a generous portion of the profit-making proclivities of a brilliant Jew, Ricardo developed a very convincing chain of logic:

> It has been my endeavor to show throughout this work that the rate of profits can never be increased but by a fall in wages and that there can be no permanent fall of wages but in consequence of a fall of the necessaries on which wages are expended. If therefore, by the extension of foreign trade . . . the food and necessaries of the laborer can be brought to market at a reduced price, profits will rise.[2]

Lower tariffs to reduce food prices, to lower living costs, to make possible wage reductions, to lower manufacturing costs, to increase manufacturing and trading profits was the sequence of the argument. It assumed that wages would inevitably sink to an existence minimum, that labor and capital within the nation were mobile, and that agricultural workers in Great Britain produced less per capita than agricultural workers in other countries because of Great Britain's dense population and diminishing returns in agriculture.[3]

At the center of the Ricardian theory of international trade is the so-called principle of comparative costs. The comparative-costs idea has not ceased to be a practical issue since its enunciation by Ricardo in the early eighteen hundreds. By way of illustration we may take the following quotation from a current periodical,[4] the central idea of which harks back to the Ricardian theory of international trade.

[1] MALTHUS, THOMAS ROBERT, *Essay on the Principle of Population as It Affects the Future Improvement of Society*, London, 1798.

[2] RICARDO, DAVID, *The Principles of Political Economy and Taxation*, John Murray, Ltd., London, 1817, Chap. VII. Quoted by permission of E. P. Dutton & Co., Inc., New York, publishers of Everyman's Edition.

[3] "It must be evident to those who have the slightest acquaintance with agricultural subjects, that in proportion as cultivation is extended, the additions that could yearly be made to the former average produce must be gradually and regularly diminished." MALTHUS, *op. cit.*, 5th ed., pp. 9–10.

[4] *Literary Digest*, June 23, 1934, now *The Digest*, New York. Quoted by permission.

Economically the arguments in favor of a transition from a protected, restricted and inefficient industrialism to one based upon the widest exchange of efficiently-produced goods of all countries seem to have greater weight at the present moment [in the United States]. . . . Broadly speaking the new policy necessarily must entail some individual hardship. Certain industries in this country may be entirely eliminated but in their place it is held, of necessity will come expansion in certain other industries. . . . Each country because of its climate, its topography, its natural resources and the character of its labor, or the extent of its domestic market, is highly proficient in the production of certain things and less proficient in the production of others.

Turning again to Ricardo's *Principles of Political Economy and Taxation*[1] we find similar pronouncements.

It is . . . important to the happiness of mankind that our enjoyments should be increased by the better distribution of labor, by each country producing those commodities for which by its situation, its climate and its other natural or artificial advantages, it is adapted, and by their exchanging them for the commodities of other countries.

Ricardo was followed by John Stuart Mill (1806–1873), a philosopher and a scholar who had the literary abilities to clothe Ricardo's crude, vigorous statements with the raiments of classical literature. Mill's *Principles of Political Economy* was published in 1848. In it Mill reiterated Ricardo's principle of comparative costs, expounded and clarified the theory of international prices introduced by Ricardo and added his own conception of the equation of international demand. In restating the principle of comparative costs, Mill clearly distinguished two separate conditions of cost differences: equal differences and comparative differences. The illustrations employed by him follow:

Illustration I. Equal Differences

DAYS OF LABOR REQUIRED TO PRODUCE EQUAL QUANTITIES OF CLOTH AND CORN IN POLAND AND ENGLAND

	Corn	Cloth
Poland	100 days	100 days
England	150 days	150 days

[1] RICARDO, D., *op. cit.*, Chap. VII.

Under these circumstances there is no gain from trade. Suppose the quantities involved in the assumption to be 50 bushels of corn and 200 yards of cloth produced in each country, when there was no trade between them. The aggregates of corn and cloth produced are the same when the countries specialize.

WITHOUT TERRITORIAL SPECIALIZATION

	Corn	Cloth
Poland...	100 days labor, 50 bu.	100 days labor, 200 yd.
England..	150 days labor, 50 bu.	150 days labor, 200 yd.
Total...	100 bu.	400 yd.

WITH TERRITORIAL SPECIALIZATION

	Corn	Cloth
Poland...	200 days labor, 100 bu.	
England..	.....	300 days labor, 400 yd.
Total...	100 bu.	400 yd.

In this case the comparative costs of the two articles in England and in Poland were supposed to be the same, though the absolute costs were different. On this supposition, as already stated, there would be no gain to either country by confining its labor to one of the two products and importing the other.[1]

Illustration II. Comparative Differences

DAYS OF LABOR REQUIRED TO PRODUCE EQUAL QUANTITIES OF CORN AND CLOTH IN POLAND AND ENGLAND

	Corn	Cloth
Poland.....	100 days	100 days
England.....	200 days	150 days

Supposing as before the quantities involved in the assumption to be 50 bushels of corn and 200 yards of cloth, the aggregates

[1] MILL, JOHN STUART, *Principles of Political Economy*, Longmans, Green & Co., New York, 1911, Bk. III, Chap. XVII.

of corn and cloth produced are greatest when the countries specialize and trade.

WITHOUT TERRITORIAL SPECIALIZATION

	Corn	Cloth
Poland	100 days, 50 bu.	100 days, 200 yd.
England	200 days, 50 bu.	150 days, 200 yd.
Total	100 bu.	400 yd.

WITH TERRITORIAL SPECIALIZATION

Poland	200 days, 100 bu.	
England		350 days, 466⅔ yd.
Total	100 bu.	466⅔ yd.

The net gain arising from specialization in this instance is 66⅔ yards of cloth.[1]

[1] A third aspect of comparative costs that has received more emphasis since Mill's time than it was accorded by Mill is a condition where each of the trading countries has an absolute advantage in some industry, a condition commonly referred to in current literature as *absolute differences* in costs (labor costs).

Example of Absolute Differences

DAYS OF LABOR REQUIRED TO PRODUCE EQUAL QUANTITIES OF CORN AND CLOTH IN POLAND AND ENGLAND

	Corn	Cloth
Poland	100 days, 50 bu.	100 days, 200 yd.
England	150 days, 50 bu.	50 days, 200 yd.
Total	250 days, 100 bu.	150 days, 400 yd.

In this case Poland has an absolute advantage in corn production (two days of labor being required to produce a bushel of corn, as compared with three days in England) and England has an absolute advantage in cloth production (four yards of cloth being produced per day of labor as compared with only two yards per day in Poland).

With territorial specialization of labor the aggregate production of corn

Mill was not content to stop with illustrations presumed to show that there was a gain from specialization and trade. He raised the further question: just how is the gain divided between the trading countries; what proportion of the gain goes to each country? The ratio of labor costs of production of corn and cloth in Poland, *viz.*, 1 bushel of corn for 4 yards of cloth, is one limit to the possible ratio of exchange between the two countries. Poland will not pay more for cloth than it costs her to produce it. The ratio of labor costs of production of corn and cloth in England, *viz.*, 1 bushel of corn for 5⅓ yards of cloth, is the other limit to the possible ratio of exchange between the two countries. England will not pay more for corn than it costs her to produce it. The value of a bushel of corn, then, in terms of cloth will be somewhere between 5⅓ yards and 4 yards.

If it be asked what country draws to itself the greatest share of the advantage of any trade it carries on, the answer is, . . . that the countries which carry on their foreign trade on the most advantageous terms are those whose commodities are in most demand by foreign countries, and which have themselves the least demand for foreign commodities.[1]

This is Mill's so-called *Equation of International Demand.*

Mill concluded his exposition of the principles of international trade with an analysis of the so-called "price-specie-flow" theory.[2] Briefly, this theory holds, first, that the value of

and cloth in the two countries is increased as follows:

	Corn	Cloth
Poland	200 days, 100 bu.	
England	.....	200 days, 800 yd.
Total	200 days, 100 bu.	200 days, 800 yd.

The gain from specialization according to this illustration is 400 yards of cloth. Without specialization 400 days' work in the two countries produced 100 bushels of corn and 400 yards of cloth. With specialization 400 days' work in the two countries produced 100 bushels of corn and 800 yards of cloth.

[1] MILL, *op. cit.*, Bk. III, Chap. XVII. Quoted by permission of Longmans, Green & Co.

[2] Expounded earlier by David Ricardo. See Ricardo's "High Price of Bullion a Proof of the Depreciation of Bank Notes, 1810."

money when it consists of the precious metals, or of a paper currency convertible into them on demand is entirely governed by the value of the metals themselves;[1] second, that an increase in the supply of the precious metals in relation to need for money raises prices, encourages imports, discourages exports and causes precious metals to flow out of the country in settlement of an unfavorable trade balance. Prices fall in the gold-exporting country, rise in the gold-importing country and thus international price equilibrium is reestablished. Subsequent theorists attempted to harmonize Mill's barter terms of trade analysis with a marginal money cost-of-production theory of value and thus make it consistent with the price-specie-flow analysis, but Mill let the theory rest before attempting to carry it that far.

Summary.—The salient features of the free-trade theory of Ricardo and Mill may be summarized as follows:

1. Production opens a demand for products—Say's Law reiterated by Mill.

2. The ultimate advantage of foreign commerce consists in the imports.

3. Labor costs determine relative advantages and disadvantages of countries in the production of particular kinds of goods. Under a free-trade system a country exports goods in the production of which it enjoys the greatest comparative advantage or has the least comparative disadvantage—the principle of comparative costs.

4. Division of the gains from territorial specialization and trade depends upon relative intensities of demand of the trading countries for the various kinds of goods traded—Mill's Equation of International Demand.

5. International trade is essentially barter. The fact that actual commercial transactions are negotiated with money does not alter the underlying principles.

6. Prices in different gold-standard countries are kept in equilibrium by specie movements and the effect of an increase or a decrease in specie upon the value of money in a country—the price-specie-flow theory of international prices.

7. Labor and capital are much more mobile within a country than between countries—conclusion drawn by both Ricardo and Mill.

[1] See Chap. XXIII of this volume for further and more comprehensive treatment of the "price-specie-flow" theory of foreign exchanges.

8. International free trade, by encouraging territorial division of labor, increases aggregate production of the trading countries and makes for greater harmony of international relations.

The theory of international free trade as expounded by Ricardo and Mill was criticized, refined and modified in minor respects before the end of the nineteenth century by Cairnes,[1] Marshall[2] and others. Basically, however, it remained the accepted philosophical justification for the British free-trade policy.[3]

[1] CAIRNES, JOHN ELIOT, *Some Leading Principles of Political Economy*, Harper & Brothers, New York, 1874.

[2] MARSHALL, ALFRED, *Principles of Economics*, Macmillan and Co., Ltd., London, 1890.

[3] See Chaps. XXIII and XXIV of the present volume for a discussion of certain twentieth century modifications of various aspects of the classical theory of international trade.

CHAPTER X

FREE TRADE.—(*Continued*)

Habitual modes of practice that have become anchored in legislative statutes change slowly. Smith, Ricardo, Mill and half a century of eroding time were required to sweep away a tariff system in Great Britain inherited from the mercantile period. The industrial stage was set for free trade early in the nineteenth century; the last of the important tariff restrictions in Great Britain were revoked after the middle of the century.

During the period from 1815 to 1914 Great Britain was engaged in no major war. However, the aftermath of the Napoleonic Wars was a contributing cause of a decade of deep depression at the beginning of the period. Great Britain's national debt in 1816 was approximately 878 million pounds; the tax burden was heavy. Several hundred thousand men[1] had returned from war to be reabsorbed in industry. Thousands of domestic manufacturers had lost their markets through the cessation of demand for army clothing and armaments. The currency was inflated.[2] In spite of an increase in prohibitions upon the importation of corn, in 1815 agriculture was depressed. Large numbers of workers in the iron and textile trades could not find employment.[3] As is usually the case in time of extreme business depression many remedies were suggested; among the suggested remedies in this case was free trade. In 1821 a general plan was laid before

[1] The total population of the United Kingdom in 1816 was between 19 and 20 million.

[2] The Bank Restriction Act passed in 1797 and renewed from time to time until 1820 in effect established an inconvertible currency of bank notes.—PAGE, *Commerce and Industry*, pp. 41, 42.

[3] Taking the Birmingham district as a fair sample of the iron industry, out of a population of 84,000 persons about 27,500 received parish relief. One-third of the working people were wholly out of employment and the remainder were on part time. In the textile industry workers thrown out of employment by the introduction of machinery could not find work in other trades.—PAGE, *op. cit.*, pp. 31, 32.

Parliament for revision of the navigation laws. The recommendations were divided into two parts: part one concerned clauses of the Navigation Act which applied to intercourse with foreign nations; part two dealt with laws relating to colonies, coasting trade, fisheries and registry. In 1822 acts which prohibited commerce with the Netherlands and the German states and which restricted trade with Russia and Turkey were repealed. The number of articles of European produce which under the old law could be imported only in British ships or in ships of the country of origin was reduced and restrictions upon imports from Asia, Africa and America were relaxed. In 1825 the trade of the British colonies was thrown open to ships of all states which had colonies and which granted like privileges to British ships. In 1824, 1825,[1] 1826 and 1827 import duties on various manufactures and raw materials were revised downward: among them, metals, wool, silk and timber. The resistance to a lowering of tariffs on manufactures was on the whole less than that offered to a lowering of tariffs on home-produced agricultural commodities, because, apparently, manufacturers were better able than farmers to meet foreign competition. The severest part of the struggle for free trade centered about the corn laws.

In the Reform Parliament (1830–1841) liberal legislation continued bit by bit; duties on glass, soap, paper and other manufactures were lowered or removed, but the corn laws resisted assault. However, the fact that Great Britain could not largely increase her exports of manufactures without largely increasing her imports was obvious. Foodstuffs were logical imports. In the eighteen forties such export industries as hardware, nail making, cutlery, textile manufacturing and shoemaking were severely depressed. Food costs were excessive, and the agitation for repeal of the corn laws grew in violence. The break came with passage of a bill providing for a sliding scale of duties on corn in 1842.[2] In spite of the protectionist arguments that free trade

[1] Under the act of 1825 over 1,100 customs acts then in force were repealed, thus sweeping away laws of the customs which had accumulated during the course of 550 years.—PAGE, *op. cit.*, p. 54.

[2] In the Custom House account of 1840, 190 principal articles were enumerated. Over 93 per cent of the duties were collected on 18 of these articles, *viz.*, corn, sugar, tea, molasses, tobacco, spirits, wine, timber,

would be the ruin of agriculture, that land would be thrown out of cultivation by the competition of corn grown in Europe and United States and that political power would be transferred from the agricultural to the industrial class, a proposal for further reduction in the corn duties looking to free trade at the expiration of a three-year period (1849) was passed in 1846.[1] Thus by the middle of the nineteenth century Great Britain's foreign commerce was reasonably free from tariff obstructions imposed at home.

EFFECTS OF GREAT BRITAIN'S FREE-TRADE POLICY

Paralleling and following the swing from a highly protectionist policy in Great Britain to a low tariff policy went five developments of particular interest from the point of view of the effects of international commercial policy upon industry and trade. Joint-stock trading and manufacturing companies increased in number and magnitude. Exports of manufactured goods and imports of raw materials and foodstuffs increased. Agriculture declined in relation to manufacturing. Capital exports increased. For a time Great Britain's balance of trade was increasingly favorable.

The joint-stock trading company as a type of business organization was not new to nineteenth century England, many such companies having been engaged in overseas trade during the seventeenth and eighteenth centuries. However, few joint-stock companies were formed for carrying on manufacturing in England prior to about the end of the first quarter of the nineteenth century. Reduction of indirect rates paid on government bonds in 1822 and 1824, the downward trend of tariffs beginning about this time, repeal of the law of 1720 requiring joint-stock companies to be incorporated, increase in the amount of capital needed in manufacturing ventures and various other causes resulted in a rapid growth of joint-stock companies and a widening of their field of activity. In 1825 it was estimated that at least 300 or 400 such companies were in operation in Great Britain.[2] In 1855 a bill was passed for limiting liabilities of

coffee, cotton, wool, butter, tallow, silk, currants, raisins, seeds and cheese. —PAGE, *loc. cit.*

[1] The duty on corn was reduced in 1849 to a nominal figure; in 1869 it was entirely repealed.

[2] PAGE, *op. cit.*, p. 99.

members of companies under certain conditions. By this time Adam Smith's idea that joint-stock companies, except in business and banking, could not be successful without monopoly privileges[1] had been abandoned. In 1862 the Joint-stock Companies Act made registration compulsory where the company consisted of 20 or more persons. Twenty-four years later, in 1884, there were 8,692 registered companies in Great Britain with paid-up capital of £475,551,000.[2] In 1900 the number had increased to 29,730 registered companies with paid-up capital stock of £1,622,641,000.[2]

Manufacturing industry in Great Britain increased rapidly during and after the period of downward tariff revision. In 1835 there were 3,156 textile factories in the United Kingdom employing an aggregate of 355,000 persons. By 1870 the number of textile factories had increased to 6,807 and the number of persons employed to 907,000.[3] Pig-iron production increased from 1,000,000 tons in 1835 to approximately 6,000,000 tons in 1870.[4] The value of exports of cotton and woolen goods and yarns increased from approximately £29,000,000 in 1835 to approximately £98,000,000 in 1870.[5] Between these dates, 1835 and 1870, the value of iron and steel exports increased from £1,600,000 to £23,500,000; that of cutlery, hardware, implements and instruments from £1,800,000 to £4,100,000. Agricultural growth did not keep pace with manufacturing. Total acres in the United Kingdom in crops between 1866[6] and 1890 declined from 11,494,000 to 9,574,000. Wheat production between 1884[7] and 1900 declined from 10,258,000 quarters to 6,790,000 quarters.[8] Wheat imports to the United Kingdom increased from 242,000 quarters in 1836 to 8,611,000 quarters in the eighteen seventies. Wool imports increased from 64,240,000 pounds in 1836 to 263,250,000 pounds in 1870.[9]

[1] Most of the early trading companies, the East India Company for example, enjoyed certain monopoly rights.

[2] PAGE, *op. cit.*, p. 124.

[3] *Ibid.*, p. 229.

[4] *Ibid.*, p. 180.

[5] *Ibid.*, p. 133.

[6] *Ibid.*, p. 184; data for years before 1866 not readily available.

[7] *Ibid.*, p. 185; data for years before 1884 not readily available.

[8] *Ibid.*, p. 216. Wheat prices were 48*s* 6*d* in 1836 and 46*s* 11*d* in 1870, per quarter.

[9] *Ibid.*, p. 140.

A complete balance sheet of international payments for Great Britain extending back to the beginning of the nineteenth century is not available. The fragmentary data that are available indicate that capital exports (foreign loans) played an important role in determining the direction of net merchandise movements. Merchandise exports exceeded merchandise imports every year from 1815 to 1853 inclusive; thereafter, imports exceeded exports each year from 1854 to 1914 inclusive.[1] During the first period capital exports appear to have exceeded interest receipts and collections of principal on earlier loans. During the second period interest and principal receipts appear to have increased in relation to new issues. In the early stages of a country's experience with an increasing volume of foreign loans, when payments of interest and repayment of principal by borrowing countries are less, annually, than new loans, the effect is to increase merchandise exports in relation to imports. As time goes on and the loans continue, the cumulation of principal becomes so large that annual payments of interest made by the borrowing countries to the lending country exceed new loans. At this point merchandise imports of the lending country tend to exceed merchandise exports.

During the period from 1815 to 1853 British capital flowed east and west, to Europe and to America, for the financing of governments, the building of transportation systems and the equipping of industrial undertakings with improved machinery. The magnitude of capital movements from England to Europe and America during the first decade following the end of the Napoleonic Wars is suggested by the amount of loans raised in England for foreign governments from 1818 to 1825. These data are summarized in Table 3.

Here is an aggregate of some 44 million pounds of loans to governments. In addition some 5 or 6 million pounds of loans were made to Mexico and Central American governments during this period and investments of an indeterminate amount were put into mining companies, shipping companies and other industrial undertakings in foreign countries. After about 1825 loans extended by the British for the construction of canals and establishment of a banking system in the United States increased at a rapid rate. It has been estimated that European holdings of

[1] *Ibid.*, pp. 70, 72.

TABLE 3.—LOANS MADE BY ENGLAND TO FOREIGN GOVERNMENTS OF EUROPE AND SOUTH AMERICA, 1818–1825[1]

Country	Amount of loan
Europe:	
Prussia	£6,540,000
Spain	£7,320,000
Naples	£6,426,000
Russia	£2,250,000
Denmark	£4,219,000
Portugal	£1,305,000
Austria	£2,870,000
Greece	£1,610,000
South America:	
Colombia	£5,844,000
Chile	£ 700,000
Peru	£1,491,000
Buenos Aires	£ 850,000
Brazil	£2,500,000

[1] HOBSON, C. K., *The Export of Capital*, Archibald Constable & Company, Ltd., London, 1914, p. 101, by permission of the publisher.

United States Government and corporation bonds and stocks in 1839 (a large part of which were held in Great Britain) amounted to 200 million dollars.[1] In the eighteen forties and eighteen fifties Great Britain made large loans to Continental countries—Belgium, France and Germany—for railway construction. Even though the records are not complete the fact is obvious that British capital flowed out in large amounts during the 38 years after 1815 prior to the shift in merchandise trade balance.

After 1853 capital exports continued to increase in amount but not, apparently, at a rate of acceleration sufficiently great to prevent a constantly accumulating volume of annual receipts on account and a swing from a merchandise export balance to a merchandise import balance. Hobson[2] estimates British capital exports from 1870 to 1909 to have been of the following magnitudes:

Years	Exports of Capital
1870–1879	£288,900,000
1880–1889	£422,400,000
1890–1899	£362,000,000
1900–1909	£653,900,000

[1] HOBSON, *op.cit.*, p. 111.
[2] *Ibid.*, p. 223.

In connection with the question of capital exports and British trade balance, Taussig draws the following conclusion:[1]

The excess of imports which developed during the second half of the century is easily explained, or at least easily interpreted. It was the natural result of two circumstances. One was the stage which Great Britain had reached as an international lender—the stage of maturity so to speak. The process of making loans to foreigners had been going on for many years, and had been on a large scale from 1830 to 1850. Capital had been invested in the Continent of Europe, especially for railway construction, and it had been invested also over-seas, in North and South America. The American borrowings of all kinds were heavy after 1830; some of them with profitable results, others with disaster. Taking the operations as a whole, they had been remunerative, and a growing stream of payments of interest and income was setting in toward the lending country. . . .

A second factor was the new position which Great Britain's shipping trade attained, or, to be more precise, the accenuation of its already dominant position. British ships had long done more than their share—their "fair" share of one half—in carrying the imports and exports. With the advent of steam, and especially with the advent of iron steamships, an even greater part of the country's own carrying to and fro was done in British ships and in the outside carrying trade—that between third countries—a similar extension took place. This item also reflected itself in the excess of merchandise imports.

SUMMARY

British free trade was something more comprehensive and complex than a mere change in import tariff rates and more or less shifting about of labor and capital from one industry to another. The phrase "external economic expansion" is more accurately descriptive of what was happening to the economy of the United Kingdom in the nineteenth century than is the narrower phrase "free trade." Agriculture gave way to manufacturing. Human labor was supplemented with steam-driven mechanical labor. Political domination of a landlord class was superseded by political domination of a banking-trading-manufacturing class. British machines were sold on credit to less industrialized

[1] TAUSSIG, F. W., *International Trade*, The Macmillan Company, New York, 1927, pp. 237–238. Quoted by permission of the publishers.

regions in all parts of the world while British culture and influence expanded in an ever-widening circle.

British investors exported between 1815 and 1875 a capital surplus amounting to about half a billion pounds. . . . To a considerable extent the surplus consisted in enterprise, in creations of credit, in capital goods. . . . It involved financing on a large scale. It gathered great resources under the control of bankers who were more interested in employing them abroad than at home. . . . Imperialism was not a prominent factor in the movement of British capital. Nor was political authority interposed to ensure its profits abroad. Only sporadically, in Canada, in India, in Turkey and Egypt, London capitalists showed a disposition to control the economic life of distant countries thru the action of their money market, or less directly, thru the policy they could persuade statesmen to adopt. . . . London was able to remain until 1914 the world's leading money market. . . . Foreign income and capital were incessantly withdrawn from Europe and put to work in South America, in the Dominions, in the United States, and finally in the development of the tropics and the Far East. They were put to work in the interest of binding markets to the British mill and in developing sources of supply for foodstuffs and raw materials.[1]

Capital flowed from Great Britain to less intensively cultivated parts of the world in response to forces which economists describe as the "principle of proportionality of the factors of production." This principle calls attention to a tendency for additions of any one production factor, in the productive process, at a more rapid rate than additions of associated factors, to result in less than proportionate increases in output. The United Kingdom is a small country measured in square miles of area. The area of the United Kingdom in the nineteenth century was only about 94,000 square miles. The population increased from approximately 19 million in 1811 to approximately 27 million in 1850 and to 40 million in 1900. Capital appears to have increased about as fast as population or possibly at an even greater rate.[2] Natural

[1] JENKS, LELAND HAMILTON, *The Migration of British Capital to* 1875. Alfred A. Knopf, Inc., New York, 1927, pp. 333–335, by permission.

[2] Population in the United Kingdom increased at a rate of 12 to 15 per cent per decade in the nineteenth century. Capital also increased. The rate of increase of capital is less definite than that of population. In fact any estimate of the rate of increase in capital can be little more than a guess based upon such data as new capital issues and growth in miles of railroads,

resources in certain foreign countries, the United States for example, were much greater in relation both to capital and to labor than in Great Britain. With the employment of techniques of production in such countries comparable with those employed in Great Britain both capital and labor migrated thence because of the possibility of greater opportunities for high productivity. The greater productivity of capital was reflected by a combination of high interest rates and opportunities for speculative gain sufficient to induce British citizens to send some of their savings abroad in place of investing all of them at home.

In attempting to draw analogies between a desirable twentieth century policy for a country like the United States, and the achievements of the British nineteenth century free-trade policy, a number of dissimilarities between the two situations and a number of consequences not altogether beneficial even for Great Britain as she finds herself in the twentieth century may well be taken into account. In the first place, free trade contributed to the development in Great Britain of a lopsided, top-heavy industrial structure. Great Britain's textile industry, for example, is relatively too large for her twentieth century circumstances. Against nineteenth century profits which she made during the course of developing her export industries must be charged certain costs of twentieth century liquidation and readjustment. In the second place, Great Britain cannot, at the moment, be sure that certain of her capital investments in various parts of the world, Asia for example, will not be confiscated by political revolution in decades immediately ahead and for this reason cease to be of much value to the British. In the third place, the industrial reorganization, in a twentieth century nation like the United

number of merchant vessels built for home and colonial use, numbers of factories, etc. The following estimates are suggestive:

Year	Capital in United Kingdom	British capital abroad	Total
1875			£ 8,545,000,000
1885	£ 8,735,000,000	£1,302,000,000	£10,037,000,000
1895	£ 9,063,000,000	£1,600,000,000	£10,663,000,000
1905	£11,009,000,000	£2,025,000,000	£13,036,000,000

SOURCE: HOBSON, *op. cit.*, p. 207.

States, necessary to the success of a free-trade policy may be much more costly than was the reorganization for free trade in nineteenth century Great Britain. In the fourth place, opportunities for profitable foreign investments may not be so great in relation to amounts of capital seeking investment as they were in the nineteenth century; in this event the factor of risk may be larger in relation to possible gains than it was in the nineteenth century. In the fifth place, there is no certainty that a policy involving large foreign loans can be administered as wisely when some three or four highly industrialized nations are competing with one another—United States, Great Britain, France, Germany—as foreign investments were administered during the nineteenth century when London dominated the money markets of the world. In the sixth place, we are not sure as yet whether free trade or protection will contribute most to industrial and employment stability in a highly industrialized nation. Possibly stability is more important than gains from greater territorial division of labor. These are only a few of the considerations to be taken into account in applying the records of British experience of the nineteenth century to problems of twentieth century nations. A general drift in twentieth century United States toward the British type of policy would appear on the surface to be a wise course of procedure for at least one reason if for no other: *viz.*, such a policy contributes to the development of an international point of view toward the larger world problems. However, there is much ground yet to be covered before we have at hand all the information necessary to a final judgment. We need to examine the historical antecedents of international commercial policies in leading twentieth century nations other than Great Britain and to acquaint ourselves with streams of economic reasoning other than that of the classical school.

CHAPTER XI

PROTECTIONISM TO PROMOTE NATIONAL INDUSTRIAL DEVELOPMENT

Nineteenth century protectionism followed in detail neither the pattern of earlier mercantilism nor that of contemporaneous free trade. Like mercantilism in England, the protectionism of nineteenth century Germany and the United States fostered a strengthening of the sinews of national unity. Like British free trade it fostered the development of a power-machinery economy. Having attained political stability and economic unity under the mercantile system, Great Britain was in position to devote her best energies to improvement of her economic machine at a time when Germany and the United States were still occupied with problems of attaining political solidarity. With the introduction of steam power in British factories and the cheapening of carrying costs through the use of steam transportation, early in the nineteenth century, Great Britain's trading horizon was enlarged. At this juncture Ricardo and later Mill came forward to supplement Smith's laissez-faire philosophy and to enlarge upon the advantages of division of labor as applied particularly to world trade. Great Britain stood to gain immense wealth through international trade, exchanging as she did her fuel resources and her advanced technical skills embodied in manufactured goods for raw materials of the sparsely settled West and for fineries produced by cheap labor in the East. So it was that the classical system of international free trade came into being. It is well to emphasize the fact that nineteenth century free-trade theory came from a set of political and economic circumstances peculiar to Great Britain. Circumstances, policies and doctrines in America and Europe (particularly Germany) during the nineteenth century were different from those of Great Britain. Alexander Hamilton and Friedrich List rendered for the United States and for Germany services in the nature of nineteenth century policy formulation similar in some respects to the services rendered by Smith and

Ricardo in England. Economic policy in nineteenth century France took a middle course. France enjoyed greater political solidarity than Germany and was economically more self-sufficient than Great Britain. A compromise policy was the logical outcome of French circumstances, political and economic. At times during the nineteenth century France leaned toward British free trade; at other times she pursued more nearly the ideals of American and German protectionism. American and German protectionist policies are selected for illustrative purposes because they are better suited than those of other European countries for drawing sharp contrasts between Continental and American protectionism and British free trade.

HAMILTONIAN NATIONALISM

Alexander Hamilton (1757–1804) was the first Secretary of the United States Treasury. In a report on manufactures submitted to the House of Representatives in 1791 he formulated a body of arguments that were to have a profound influence upon this country's national commercial policy. The United States at that time comprised approximately 900,000 square miles and supported a population of about 4,000,000 people—some 4½ persons per square mile. The country was young industrially, and its parts were loosely bound together politically. Hamilton was faced with a problem of economic statesmanship essentially different from that with which Adam Smith had dealt in Great Britain; different also from that with which Ricardo was soon to deal. Great Britain in the seventeen nineties comprised an area of 94,000 square miles upon which was concentrated a population of some 16,000,000 people—170 persons per square mile. As already stated, production techniques were more advanced in Great Britain than in any other nation; the British banking system was centralized and comparatively stable; Britain's national defenses were adequate for the times and she was faced with no serious problems of political decentralization that threatened to separate the nation into numerous politically sovereign units. Hamilton's first problem in the United States was to foster political cohesion of the 13 American states into a strong federal body.

Two features of Hamilton's report on manufactures are of particular significance. In the first place, being a statesman

capable of glimpsing his country's destiny, he voiced a policy of national protectionism for the purpose of making the 13 states economically more interdependent among themselves and less dependent upon foreign nations. In the second place, he recognized more clearly, possibly, than any of his contemporaries the possible future importance of the use of nonhuman energy in manufacturing pursuits. He called particular attention to

> circumstances . . . that materially diminish everywhere the effects of a scarcity of hands [among them] the vast extension given by late improvements to the employment of machines, which, substituting the agency of fire and water, has prodigiously lessened the necessity of manual labor.[1]

Hamilton's reasoning started with the hypothesis that development of manufacturing in the United States would promote national unity, foster production and promote the accumulation of national wealth. Next an assumption was made to the effect that manufacturing in the United States would not grow, under conditions of free trade, so rapidly as it could be encouraged to grow by restricting the sale of foreign manufactures in the home market and by encouraging the development of domestic manufacturing enterprises in other ways. Among expedients available for use in the promotion of domestic manufacturing enterprise the following were cited:

1. Protecting duties, or duties on those foreign articles which are the rivals of the domestic ones intended to be encouraged.
2. Prohibitions of rival articles or duties equivalent to prohibitions.
3. Prohibitions of the exportation of materials of manufactures.
4. Pecuniary bounties.
5. Premiums.
6. The exemption of the materials of manufacture from duty.
7. Drawbacks of the duties which are imposed on the materials of manufacture.

Hamilton had, apparently, carefully read and thoughtfully considered Adam Smith's *Wealth of Nations* before committing himself to a policy of national protection for the United States. The advantages of division of labor and of trade so clearly

[1] Report on Manufactures submitted to the House of Representatives in 1791.

expounded by Smith were recognized. In fact extension of division of labor in the United States was one of Hamilton's arguments for the encouragements of manufacturing.

> . . . the principal circumstances from which it may be inferred that manufacturing establishments not only occasion a positive augmentation of the produce and revenue of the society, but that they contribute essentially to rendering them greater than they could possibly be without such establishments . . . are:—
>
> 1. The division of labor.
> 2. An extension of the use of machinery.
> 3. Additional employment of classes of the community not ordinarily engaged in business.
> 4. The promotion of immigration from foreign countries.
> 5. The furnishing of greater scope for the diversity of talents and dispositions which discriminate men from each other.
> 6. The affording of a more ample and various field of enterprise.
> 7. The creating in some instances of a new and securing in all of a more certain and steady demand for the products of the soil.[1]

It was only in regard to international free trade that Hamilton discarded Smith's doctrines. With regard to international free trade Hamilton explained that Smith's doctrine was a theory of universal free trade which chanced to favor Great Britain's ends. He contended that restrictions upon the free importation of manufacture were not so necessary in Great Britain as in the United States and that restrictions upon the free importation of crude produce would deprive British industrialists of their greatest gains from international commerce.

Having pronounced himself in favor of protection, Hamilton set himself to argue the point. Amplifications of his original seven reasons for the encouragement of manufacturers[1] embraced a number of protectionist arguments that have been in use over and over during the period of almost a century and a half since Hamilton's time. One contention was that tariff-fostered industries would draw skilled technicians from Europe and thus promote immigration into the United States of a class of persons needed for maximum development of the young nation. Another of Hamilton's arguments for protection was that promotion of manufacturing industries by tariffs would encourage in the United States division of labor, invention of machinery and other

[1] *Ibid.*

benefits inherent in Adam Smith's free-trade system. A third argument was that tariff-fostered manufacturing industries would encourage fuller utilization of the country's labor by affording employment for women, children and persons otherwise idle either from bias of temper, habit, infirmity of body or some other cause. A somewhat similar argument called attention to a diversity of latent talents and dispositions which manufacturing afforded opportunities for exercising. In fact, Hamilton had a whole series of arguments that were based upon the central theme of manufactures affording a diversity of opportunities and thus calling workers into action. Some workers might be called into action during idle and otherwise wasted periods; others might be stimulated in the employment of latent human talents that without manufacturing would remain dormant and unproductive. The objections of farmers to tariff protection for manufactures was met with the so-called "home-markets" argument.

> The creating in some instances of a new, and securing in all a more certain and steady demand for the surplus produce of the soil . . . is a principal means by which the establishment of manufactures contributes to an augmentation of the produce or revenue of a country and has an immediate and direct relation to the prosperity of agriculture.[1]

This conclusion rested both upon the difficulty of selling farm produce in tariff-protected foreign markets, and upon the belief that foreign markets were more uncertain and less stable than the domestic market. In this connection Hamilton suggested also the economies of diversified agriculture which a home market would promote.

> It cannot be denied that the interests even of agriculture may be advanced more by having such of the lands of a State as are occupied under good cultivation than by having a greater quantity occupied under a much inferior cultivation.[1]

Finally Hamilton met boldly one of the most convincing arguments advanced for free trade, *viz.*, the argument that manufacturing would develop if a country's natural advantages warranted, even under conditions of free commerce.

> Against the solidarity of this hypothesis, in the full latitude of the terms, very cogent reasons may be offered. These have relation to the

[1] *Ibid.*

strong influency of habit. . . . Experience teaches that men are often so much governed by what they are accustomed to see and practice; that the simplest and most obvious improvements in the most ordinary occupations are adopted with hesitation, reluctance and by slow gradations. The spontaneous transition to new pursuits in a community long habituated to different ones may be expected to be attended with proportionably greater difficulty.[1]

A corollary argument was that unless new pursuits were encouraged and fostered by protection much of the country's latent natural resources would lie dormant as had been the case when the land was occupied by aboriginal "Indians."

In evaluating Hamilton's ideas it is well to remember that he was a practical statesman faced with the necessity of solving immediate political issues. It is well also to remember that the problems of the struggling American republic of the seventeen nineties were quite different from those of the United States of the nineteen thirties—a nation highly industrialized, wealthy and powerful in world diplomacy.

LIST'S PHILOSOPHY OF PROTECTIONISM

After Hamilton came List (1789–1846), an equally able exponent of protectionism. Friedrich List was born at Reutlingen in Württemberg in 1789. At the age of fourteen he entered his father's tannery. Finding tanning a most distasteful trade, young List left his father's business to become a clerk in the Württemberg bureaucracy. Later he was made professor at Tübingen, from which post he was discharged because of political activities that were distasteful to the Württemberg government. After leaving Tübingen University, List's fortunes went from bad to worse until he found himself in jail—a political prisoner. His next move was to America. Arriving in the United States in 1825 List's ill fortunes changed. Within the short space of five years he amassed a moderate fortune in the coal business of Pennsylvania and gained national political recognition through advocacy of protective tariffs. A political appointment as European representative of the United States Government enabled him to return to Europe in 1830.

Faced with economic realities in Germany and in the United States that were similar in many respects, List's economic doc-

[1] *Ibid.*

trines were formulated with these two countries primarily in mind.[1] That tariff policies should be made to fit the needs of countries in different stages of economic development was a theme that ran like a silver thread through all List's reasoning on the subject. He recognized four stages of industrial development in countries endowed with resources necessary to the attainment of the highest grade of wealth and power. The first stage was one of barbarism. In the second stage improved agricultural methods adopted from more advanced nations were to be fostered by a free-trade policy. In the third stage manufactures, fisheries, navigation and foreign trade were to be fostered by means of commercial restrictions. For the fourth and last stage, when the country had reached a high state of wealth and power, List recommended gradual transition to a free-trade policy. He conceded the fact that countries tended to evolve from one stage to another even though handicapped by free competition with more mature and stronger rival countries. But why wait for the slow process of industrial evolution to take its natural course if the process may be accelerated by judicious commercial policy, he argued. Is there any more reason for a people to wait for industries to develop in backward regions as a result of freely competitive forces than for the forester to wait on the wind to bear the seeds of trees to waste moorlands?

CONDITIONS IN GERMANY DURING LIST'S GENERATION

List began his study of economic and political conditions in Germany early in the nineteenth century. Political consolidation of the German Empire under William of Prussia did not occur until 1871. At the beginning of the nineteenth century the territory which we think of as modern Germany was separated into many politically sovereign states; on the economic side feudalism persisted in quite an objectionable form. In Prussia, for example, as late as 1805 a large part of the population were serfs, some of whom lived in a condition of almost absolute slavery. In addition to the peasant class, which included the serfs, there were nobles and citizens. Every man's place in society was determined at birth by the status of his family. These social rigidities together with the wretched condition of

[1] See LIST, FRIEDRICH, *Das Nationale System der Politischen Ökonomie*, (1841) or one of the English or American editions.

internal communication in Germany and the numerous tariffs and other trade restrictions between the several states prevented early nineteenth century Germany from developing industry and trade as rapidly as they were being developed in France and in Great Britain. Political and economic solidarity had not been attained during the mercantile period in Germany as it had in Great Britain and to a less extent in France.

List was a reformer. He wished to see the German states united politically; he desired to see internal tariffs and other internal trade restrictions obliterated and a tariff wall built around the German states to shield young manufacturing industries in Germany against British competition. List was not so much an early prophet of these developments as he was a part of them. It is true that political unity in the German Empire was not attained until after List's death. However, when he was only seventeen years of age (1806) an edict was ordered to free the serfs in Prussia, and in 1811 another edict provided for the setting off of portions of land representing the property rights of peasants. Tradesmen, too, were being freed from the burdens of guild restrictions and apprenticeship about this time. The Zollverein, or customs union, among the German states had its beginning in 1818, and by the year 1834 most of the German states were included in it. Inasmuch as the Zollverein (the support of which put List into prison and later drove him into exile) was in a sense a system of free trade between sovereign states one can understand why List drew a distinction between what he conceived to be a free-trade policy for Germany and the British commercial policy, which he termed cosmopolitan free trade.

NATIONALISM AND INDUSTRIALIZATION THE GOAL OF BOTH HAMILTON AND LIST

Need of a political system formulated for the promotion of nationalism stands out in bold relief in the writings both of Hamilton and of List. During the lives of these men, the United States and Germany were less prosperous than Great Britain. The United Kingdom was, in fact, the wealthiest and most powerful nation in the world during the last quarter of the eighteenth century and the first three quarters of the nineteenth century. The United Kingdom was therefore envied by other nations and

the secrets of her power and wealth were sought by competitors. The secret of British wealth and power appeared to rest in her possession of efficient manufacturers. It is not surprising, therefore, that Hamilton and List should have desired that manufacturing be promoted in America and in Germany. These two men (trained in economics and experienced in politics) formulated policies for the promotion of political solidarity and manufacturing efficiency. The political solidarity theme was in part a product of the times and in part a heritage from mercantilism. The protectionist theme appears to have been influenced by desire to emulate the United Kingdom in the development of manufacturers. Early nineteenth century protectionism in Germany and in the United States of America thus rested upon two pillars: the one was a desire for national self-sufficiency, national safety and political perpetuity; the other was a desire for development of manufacturing systems to promote national wealth. List and Hamilton had visions of vast wealth that could be produced by employment, through manufacturing, of natural resources lying dormant in Germany and in the United States; both advocated protectionist policies to hasten the development of manufacturing and a balanced national economy. Hamilton advocated protection to encourage the development of young industries in an industrially backward country; List did likewise, but went a step further in advocating the discontinuance of protection when the young industries had matured.

Although the Hamilton-List brand of protectionism and the earlier mercantile doctrines were alike in that one essential objective common to both was national political and economic solidarity, the doctrines were different in a number of essential respects. Whereas mercantilism emphasized foreign commerce, favorable trade balance and accumulation of precious metals, Hamilton and List gave less attention to these considerations and placed much greater emphasis upon full employment of a nation's dormant resources through the development of manufacturing and internal commerce. At this point one has a fleeting glimpse of a bent which the introduction of power machinery in Great Britain gave to political philosophy all over the world. When the wealth-creating significance of power machinery began to be realized, countries everywhere, one after another, began to take natural-resource inventories and to formulate policies to

encourage manufacturing. List did not believe that all countries were suited to manufacturing pursuits. His thought was that countries with natural resources and climate suited to the development of manufacturing were the ones to develop manufacturing industries. Other countries, particularly those lying in the tropics, might well confine their energies to primary production.

The idea that all nations are not equally well suited to all occupations is an essential part of British free-trade doctrine as well as that of List. This conception of natural difference between regions from a point of view of their best adaptability to different types of industry has been strengthened in recent decades by the findings of mineral surveys and analysis of apparent tendencies for heavy industries to center about coal- and iron-producing regions. List's reasoning to the effect that torrid regions were unsuited for manufacturing is still recognized to be of some importance but of much less importance than it was once believed to be.

One is impressed by the fact that the Hamilton-List protectionist policies were fostered with an eye to the best interests of particular nations. But what of that? The same may be said for the Ricardo-Mill doctrines. The free-trade doctrines of Mill are capable of broader interpretation than the protectionist doctrines of List partly because Mill's Great Britain was more advanced both economically and politically than List's Germany and partly because Mill was more of a scholar than List and less a creature of misfortune in a turbulent stream of political conflict. Inasmuch as the present-day world is made up of countries in many stages of industrial evolution, political unification and national responsibility, it may be well in evaluating tariff tendencies in various countries to keep both types of reasoning in mind.

PART IV

INDUSTRIAL FOUNDATIONS OF TWENTIETH CENTURY COMMERCE

INTRODUCTORY

International trade is a result of industrial peculiarities of the many countries and nationalities into which the world and its population are divided. Among the principal reasons for national industrial peculiarities are (1) concentration of populations in some regions and concentration of particular natural resources in other regions and (2) differences in technical knowledge on the part of various national population groups. In this part geographical distribution of the world's population, location of leading industries and industrial migration tendencies will be examined in relation to international commerce.

CHAPTER XII

POPULATION DISTRIBUTION: ITS RELATION TO COMMERCIAL POLICY

One of the most characteristic differences between nations of the world as now constituted is to be found in numbers of persons supported per square mile of land area.[1] Statistics of population

TABLE 4.—POPULATION DENSITIES IN SELECTED COUNTRIES[1]

Country	Year	Population	Area, sq. mi.	Persons per sq. mi.
Belgium	1935	8,300,000	11,754	706
Netherlands	1936	8,474,000	13,481	629
United Kingdom	1935	47,030,000	94,281	499
Japan Proper	1935	69,254,000	147,611	469
Germany	1935	67,068,000	180,999	371
Italy	1936	42,438,000	119,744	354
Czechoslovakia	1935	15,158,000	54,244	279
Switzerland	1935	4,160,000	15,944	261
British India	1931	271,749,000	1,107,968	245
China Proper	1930	462,387,000	1,900,000	243
Denmark	1935	3,706,000	16,576	224
Poland	1936	33,823,000	149,959	226
France	1935	41,940,000	212,928	197
United States	1936	128,429,000	2,973,776	43
Sweden	1935	6,249,000	158,393	40
Norway	1935	2,884,000	119,148	24
Mexico	1936	18,596,000	760,290	24
U.S.S.R. (Russia)	1933	170,500,000	8,176,054	21
Persia (Iran)	1935	15,000,000	628,000	24
New Zealand	1935	1,568,000	104,015	15
Brazil	1935	47,795,000	3,286,170	15
Argentina	1935	12,373,000	1,079,965	12
Canada	1935	10,949,000	3,466,793	3
Australia	1935	6,753,000	2,974,581	2

[1] SOURCE: *U. S. Department of Commerce, Foreign Commerce Yearbook*, 1936.

[1] See population map, front cover.

densities for a group of representative countries are given in Table 4.

At the top of the table are densely populated countries such as Belgium, with more than 700 persons per square mile, and Netherlands, with more than 600 persons per square mile. At the bottom of the table are sparsely populated countries such as Australia, with only 2 persons per square mile, and Canada, with only 3 persons per square mile. Countries vary in fertility and in capacity to support dense populations. However, with existing methods of production, no country can comfortably support an unlimited number of persons per square mile because land is subject to diminishing returns.

THE PRINCIPLE OF DIMINISHING RETURNS

The principle of diminishing returns as initially stated was concerned with the numbers of people who could be supported upon a given amount of land in countries where agriculture was the chief industry. This consideration must have occupied the attention of thoughtful men at one time or another in every densely populated country. The principle in question was clearly stated by John Stuart Mill in 1848 as follows:

> After a certain, and not very advanced stage, in the progress of agriculture it is the law of production from land, that in any given state of agricultural skill and knowledge, by increasing the labour the produce is not increased in equal degree.[1]

The idea of diminishing returns, as applied to agricultural land, may be illustrated with assumed figures for production of wheat. Suppose, for example, that 15 million acres of land are planted to wheat in Italy and that no improvements such as the discovery of higher yielding varieties, more effective methods of culture or better ways of fertilizing are made. Suppose also that the Italian population continues to grow, that Italy's demand for wheat increases but that no more land is planted to wheat. More and more labor may be applied to the 15 million acres of wheat land and a time may come when additional labor produces less and less wheat per worker (Table 5).

[1] MILL, *Principles of Political Economy*, Bk. I, Chap. XII. Quoted by permission of Longmans, Green & Co.

TABLE 5.—ILLUSTRATION OF PRINCIPLE OF DIMINISHING RETURNS
Given: 15 million acres of land for wheat growing

Numbers of wheat growers equally supplied with capital, thousands	Total amount of wheat produced, millions of bu.	Average amount of wheat produced per grower, bu.	Production per additional grower, bu.
250	175	700	
300[1]	225	750[1]	1,000
350	255	729	600
400	280	700	500
450	297	660	340
500	300	600	60

[1] Point of diminishing returns.

According to this illustration the amount of product per grower decreases after 300,000 growers are employed. Since the Industrial Revolution the principle of diminishing returns has been generalized to apply to any factor of production, the supply of which is more limited than are other productive factors associated with it. Given a fixed supply of natural resources of all kinds and a fixed technique of production, a time will come in the growth of populations when per capita product must diminish if the number of people continues to increase.

POPULATION PRESSURE

In Thomas Robert Malthus' time (1766–1834), Europeans were gravely disturbed over the possibility of overpopulation, scarcity of food and inability of the low-income masses of the people to improve their conditions of life. Malthus[1] called attention to what he believed to be a great impediment to mankind's continued progress toward greater happiness and well-being. This obstacle was a constant tendency in all animate life to increase beyond the nourishment available for it. Evidence at hand indicated that the human race was increasing in numbers at a surprising rate. The increase has continued since Malthus' time, and the population problem is still with us though in a somewhat different form from that conceived by Malthus. Since

[1] Thomas Robert Malthus (1766–1834) first published his *Essay on the Principle of Population As It Affects the Future Improvement of Society* in 1798.

Malthus' time vast improvements in techniques of production have been brought into use. Steam engines, gas engines, and electricity have enabled industrialists to tap reservoirs of non-human energy little used before 1800. Improved transportation facilities have permitted economical movement of foodstuffs and fabricating materials from sparsely settled regions of the world to centers of dense population and the conversion of greatly increased amounts of crude materials per worker into forms suited to human consumption. These and other improvements in methods of production permitted widespread improvement in standards of living during the nineteenth century in spite of the fact that the world's population increased within the century about 100 per cent.[1] Whether improvements in the twentieth and succeeding centuries will continue to permit enlargement of supplies of material goods at a more rapid rate than populations grow, no one can foretell. Even if supplies of goods do become increasingly abundant, their apportionment among national population groups with unequal access to natural resources will be a problem of the gravest economic and political importance.

The two principal means of alleviating population congestion in a particular country are (1) emigration and (2) foreign trade. European countries sent large numbers of emigrants to America, Africa and Oceania during the nineteenth century. In recent decades the Japanese have been emigrating to the continent of Asia and elsewhere. If, in the future, migration is to relieve overpopulation in particular countries there must be thinly settled regions available for habitation. A century ago the Americas and Oceania were open to great numbers of immigrants and much of Africa could be had for the taking. When sparsely populated regions are parts of a great empire they are not easily appropriated. Even if owned by weak nations such areas are not ordinarily accessible to all comers because international jealousies form barriers against the covetous. Peaceful penetration may continue in some areas but in most countries the time appears to be approaching when no kind of immigration will be

[1] The world's population was approximately 850,000,000 in 1800 and 1,700,000,000 in 1900. It took mankind half a million years to produce the first 850,000,000 people and then but a century to double the number. SOURCE: DUBLIN, LOUIS I. (ed.), *Population Problems in the United States and Canada*, Houghton Mifflin Company, Boston, 1926, p. 77.

regarded as an unmixed blessing. In recent decades country after country has raised legal barriers against unrestricted inflow of foreigners.

International commerce is the second mode of relief for overpopulated nations. International trade enables a densely populated country to import raw materials and foodstuffs in exchange for labor embodied in fabricated goods. Since manufacturing is a more intensive industry than agriculture, a nation can support a larger population by manufacturing for export than it can if all its foodstuffs are produced at home. However, international trade is not unrestricted. Nearly every important nation of the world maintains tariff barriers against the free importation of fabricated goods from low-wage countries. If foreign commerce is to relieve population pressure in overcrowded parts of the world there must be a willingness on the part of the people of sparsely settled areas to accept fabricated goods requiring relatively large quantities of labor in their production in exchange for foodstuffs. fuels, metals, textile fibers and other fabricating materials. At present, none of the densely populated nations is able to find satisfactory outlets for all the goods that it might produce for export because such goods are a constant menace to industrial stability elsewhere. If provision for the absorption of merchandise exports from low-wage countries is made gradually, international trade need not reduce wage levels and living standards in the high-wage, importing nations. For this reason commerce is probably a more permanent form of relief for congested areas than is emigration. However, without some means for restricting population growth many nations as now constituted can scarcely hope, by commerce alone, to circumvent the dangers and misery of extreme poverty on the part of large numbers of their underprivileged inhabitants.

Possibly freer commerce must go hand in hand with population restriction policies in the more densely populated countries, if living standards[1] of all nationalities of underprivileged peoples are to be improved. The process of raising low living standards of great masses of people is slow; so slow, that emigration from

[1] Standard of living is not a concept that lends itself to accurate and precise definition. One definition or measure of standard of living is the aggregate of decencies and comforts which a class of people deem more essential to their happiness and self-respect than uncurbed increase in offspring.

overpopulated countries or rapid increase in their wealth may have no other appreciable effect than to increase the birth rate. India is a case in point. In this country of ancient tradition, early marriage and high birth rate there is an endless debate as to whether the lot of the masses has really improved under British rule. Railways, irrigation works, tea gardens, silk culture, cotton, jute and steel mills supplied with British capital have created new wealth during the last half century. But, it is claimed, the Indian masses are provided with economic goods no more plentifully than they were before British rule. The claim seems not unreasonable because India's population in the last 40 years has increased 50 million, or about 20 per cent. This increase in numbers has required more food, shelter and other necessities of existence, and here may be India's missing dividend from the economic development the British have instigated.[1] There are numerous other illustrations of populations which do not curb their rates of growth sufficiently to raise their living conditions far above the margin of subsistence. Japan may be taken for an example. At the end of the first quarter of the eighteenth century the population of Japan was between 26 and 27 million. A century later another census showed the population to be approximately 27 million. For 100 years or more the population of Japan had been almost stationary because want drove the people to extreme practices of infanticide.[2] In the latter part of the nineteenth century, however, when Japan was opened to Western ideas and world trade, economic progress increased her food supply and the population doubled in a half a century.

POPULATION DANGER ZONES

India, China, Japan, Europe and eastern United States are the areas of the world of greatest population density. In some of these areas rising living standards are tending to check population growth; in others the populations tend to increase in response to every increase in productivity, with the result that extreme poverty continues to exist among the masses. Population growth in France, Germany, Great Britain and the United States appears

[1] Ross, E. A., *Standing Room Only?* Century Company, New York, 1927, pp. 94–95.

[2] *Ibid.*, p. 100, and Orchard, J. E., "The Pressure of Population in Japan," *Geographical Review*, Vol. XVIII, No. 3, July, 1928, published by the American Geographical Society of New York.

to be under control in the sense that increase in numbers has not prevented substantial improvement in living standards in these countries during the last half century. In the United States, the country where population increase has been most rapid, immigration laws have been made more stringent and birth rates have declined as the country approached a condition of industrial maturity. Between 1870 and 1880 population in the United States increased about 30 per cent. Between 1920 and 1930 the increase was only about 16 per cent. Likewise in France, Germany and Great Britain population growth rates have been regressing during recent decades. In general, nations may be divided into three groups from the point of view of population status:

1. Nations with a pent-up population resulting either in birth control as in France or in overcrowding and a high death rate as in China and India.
2. Sparsely settled regions with populations expanding to make fuller use of available natural resources as in Russia.
3. Thickly settled regions in which population expansion is a cause for internal tension requiring either territorial expansion or trade expansion for its alleviation. Italy is an example.

If a workable system of collective peace could be established and trade restrictions relaxed throughout the world, economic conditions in Italy might be materially improved. In the industrially backward countries with pent-up populations—China for example—the misery of poverty-stricken masses may, in time, be reduced by introduction of improved production techniques and parallel reduction in birth rates.

Technical improvements in methods of production during the nineteenth century contributed to industrial growth and improved living conditions in Great Britain, France and Germany. Introduction of improved methods lagged in Russia and China. Russia is now in process of rapidly adopting power-machine techniques. The possible effect of increasing productivity upon living standards in Russia and the character of her international trade are questions which the whole civilized world may well take into account. Japan, also, is undergoing an industrial revolution. Unlike Russia, Japan is already overpopulated. She is attempting, by a process of external territorial and commercial expansion, to improve the conditions of life of

some 70 million people congregated upon an area of about 147,000 square miles of land that is relatively unproductive from an agricultural point of view and relatively poor in mineral resources. Italy, another densely populated nation, supports some 41 million people on approximately 119,000 square miles of land—354 persons per square mile. Neither Japan nor Italy has an abundance of mineral resources; neither nation can reasonably hope to provide a rapidly increasing population with improved conditions of life unless recourse is had to external expansion in some form. Even in the case of Great Britain, where birth rates have been reduced and living standards are relatively high, the population problem is a vital factor in world economy. Great Britain, with approximately 500 persons per square mile, depends upon foreign trade for a large part of the income upon which her people live. International competition that deprives Great Britain of a substantial portion of her foreign markets will put a serious strain upon her internal economic and political system.

RELATION BETWEEN POPULATION PROBLEMS AND COMMERCIAL POLICY

International commercial policies and population problems are inextricably related. Great Britain in the nineteenth century demonstrated the possibility of supporting a dense and growing population by improving her production methods and expanding her foreign trade; Japan and, to a less extent, Italy are endeavoring to do likewise. Since the latter nations are inadequately supplied with practically all kinds of natural resources, their foreign trading policies are likely to encourage imports of fuels and fabricating materials and exports of manufactures requiring large amounts of low-wage labor in the production processes. Russia's situation is more like that of nineteenth century United States. She has unused supplies of coal, iron and petroleum and a large amount of fertile agricultural land. Her foreign trading policy in decades immediately ahead is likely to encourage imports of capital equipment in exchange for wheat, timber and other products of the soil. Industrially mature nations like Great Britain, Germany, France and the United States, with fuel resources, an abundance of capital and relatively high living standards, will probably find that their most profitable lines of foreign trade are in exporting products of heavy industries and mechanical

specialties, in exchange for fabricating materials,[1] foodstuffs not produced at home and manufactures which require relatively large amounts of labor per unit of value. Obviously, future international trading policies of the various nations of the world will be conditioned by opportunities for economic growth. These in turn will be influenced by such factors as population densities of the different countries, abundance and location of agricultural and mineral resources and the skill and rapidity with which countries succeed in adjusting their national economies to a changing world environment. A cross section of existing world industry and dominant tendencies, which appear to be in process of modifying the industrial *status quo*, are presented in chapters to follow.

[1] Wood pulp, leather, textile fibers, metal alloys, rubber, etc.

CHAPTER XIII

THE WORLD'S FOOD RESOURCES

During the last century and a half improvements in methods of production and transportation have relieved somewhat the dark shadow of dread associated with the dangers of food shortage and famine. In general, prices of food staples have declined during the last century in relation to prices of other goods. However, in densely populated parts of the Orient and in some parts of Europe, where per capita buying power is low and little surplus of any kind of goods over current subsistence needs is produced, serious food shortages continue to occur from time to time. Sufficient food can be produced to supply the needs of everybody. Production is not so crucial a problem as distribution—distribution not in the physical sense so much as distribution in the economic sense. Even though populations in sparsely settled regions are capable of producing wheat, meat and other foodstuffs in ample abundance for the unsupplied needs of people in densely populated regions, the incentive to feed the world is not present unless the food-importing countries have goods to offer in exchange—goods acceptable to the people in the food-exporting countries. So long as the world's population is as unequally apportioned among the several continents as it is at the present time, so long as immigration is restricted and national objectives conflict, the problem of finding ways and means of providing sufficient food for all will continue to be a challenge to the greatest political and economic leaders of every age and generation.

FOOD REQUIREMENTS

A grown person doing ordinary work consumes daily amounts of digestible proteins, fats and carbohydrates about as follows:[1] protein, 0.24 pounds; fat, 0.12 pounds; carbohydrates, 1.07 pounds.

[1] *U. S. Department of Agriculture, Farmers' Bulletin* 142.

In addition to proteins, fats and carbohydrates, less determinate amounts of vitamins enter into the diets of typical persons. In Table 6 are listed a few customary foods together with approximate percentages of digestible proteins, fats and carbohydrates which each kind of food contains.

TABLE 6.—NUTRIENTS OF DIGESTIBLE PORTIONS OF SOME COMMON FOODS[1]

Food	Protein, per cent	Fat, per cent	Carbohydrates, per cent
Beef, fresh	15.7	14.5	0
Fish, fresh cod	10.8	0.2	0
Eggs, uncooked	12.7	8.8	0
Milk, whole	3.2	3.8	5.0
Rice	6.8	0.3	77.4
Wheat flour	9.7	0.9	73.6
Potatoes	1.5	0.1	14.0
Granulated sugar	....	....	98.0
Soy beans	30.7	14.4	22.8

[1] For the first eight items in the table see *U. S. Department of Agriculture, Farmers' Bulletin* 142, pp. 27, 28; for soy beans see Henry and Morrison, *Feeds and Feeding*, Madison, Wis., 1917, p. 656.

Fortunately it is possible for people to get properly balanced diets from a great number of different combinations of foodstuffs. Rice, wheat and potatoes, for example, are partial substitutes for one another; the same is true of meat, fish and soy beans (foods rich in protein). Orientals eat more rice and soy beans than Western people; the Westerners eat more wheat, potatoes and meat than the Orientals. Europeans eat more potatoes than Americans; Americans eat more wheat and meat than Europeans. Before the Industrial Revolution food habits in different countries appear to have been greatly influenced by population density and local climatic and soil characteristics. The climate of China, for example, is better suited to rice production than to wheat production; the reverse is true in Europe. Meat was relatively cheap in Colonial America because there was an abundance of fertile land in relation to the human population. Before the coming of modern means of transportation and refrigeration, meat was dear in densely populated regions because meat production required a relatively large amount of land. An area of fertile, well-watered land, planted to grain and soy beans for

human consumption, will support a population several times as large as the same area will support if used for producing meat for human consumption.[1]

TRADE ENCOURAGES DIETARY DIVERSIFICATION

At the present time foodstuffs of all kinds—perishable and nonperishable—are transported long distances at costs which are low in relation to initial production costs. As a result, dietary habits are being modified; fuller use is made of agricultural land in sparsely settled regions; and the volume of international trade in foodstuffs tends to increase. Possibly the best way to get an idea of the world's food production by geographical regions, its movements into consumption and the tendencies for centers of greatest production of particular classes of foods to shift from one region to another is to divide foodstuffs into groups and examine each group separately. The groupings employed in this volume are as follows: (1) cereals, (2) potatoes and sugar, (3) meats and fish, (4) dairy and poultry products, (5) fruits and vegetables, and (6) miscellaneous foodstuffs.

CEREALS

The word "cereal" originally meant something pertaining to Ceres, the goddess of agriculture, worshiped in Italy some 2,500 years ago.[2] It is now defined as any grass-yielding grain used for food, or the grain so produced.[3] The two cereals of first importance are wheat and rice.

Wheat.—As already stated, more wheat is produced and consumed in Western than in Eastern countries. Per capita consumption is estimated to range from less than ½ bushel per year

[1] Five or six pounds of corn, or its equivalent in food value, are required to make a pound of pork, and about 10 pounds of corn supplemented with some kind of fodder are required to make a pound of beef. (See *U. S. Department of Agriculture Yearbook*, 1922, p. 182.) Five pounds of corn may constitute the greater part of a man's food consumption for a period of three or four days, whereas he may eat a pound of meat at one or two sittings.

[2] BULLER, A. H. R., *Essays on Wheat*, The Macmillan Company, New York, 1920. See also KILLOUGH, HUGH B. and LUCY W., *Raw Materials of Industrialism*, Thomas Y. Crowell Company, New York, 1929.

[3] *Webster's Dictionary.*

in China to 8 or 10 bushels per year in Italy and France. British and United States consumption per capita is 5 or 6 bushels a year; German consumption is lower—about 3 bushels, rye, barley and potatoes serving as substitutes. In India and Japan per capita wheat consumption is only about 1 bushel or less per year.[1]

Wheat-producing regions are determined largely by climatic and economic factors. The crop is not grown extensively in warm, humid climates because of damage from diseases that thrive under these conditions. Production in extremely arid regions is likewise limited because the grain will not mature in abundance without irrigation where annual rainfall is less than 9 inches. The principal centers of wheat production are northern and central India, western and southern Europe, southern Asia, the United States, Canada and Argentina.

Wheat is an excellent illustration of the way in which the principle of diminishing returns operates to cause certain industries to migrate from regions where population is dense and land is relatively scarce to other regions where land is relatively abundant. The point of diminishing returns in wheat cultivation is soon reached in densely populated countries, and the amount of labor required for increased production tends to rise. Sparsely settled countries with climate and soil favorable to wheat growing are thus afforded an opportunity to profit from relatively greater efficiency in the wheat-growing industry. The extensive margin of wheat cultivation has been moving westward for thousands of years. In Roman times it was in the territory which is now France and Germany, then the western frontier of civilization. Two thousand years later the Americas became an important source of wheat supplies. During the last century new areas of wheat production have been opened so rapidly, and world wheat supplies have increased so largely, as to cause a reduction in the price of wheat in relation to prices of many other commodities. In Fig. 2 is an index of wheat prices superimposed upon an index of average prices of all commodities at wholesale, 1856 to 1936. Prices of wheat were appreciably lower in relation to the general index of wholesale prices during the period 1890 to 1936 than

[1] These data are based upon wheat production, exports and imports of wheat and flour, wheat carry-over, and population statistics from *Commerce Yearbook*, U. S. Department of Commerce, 1926, Vol. II, and *U. S. Department of Agriculture Yearbooks*.

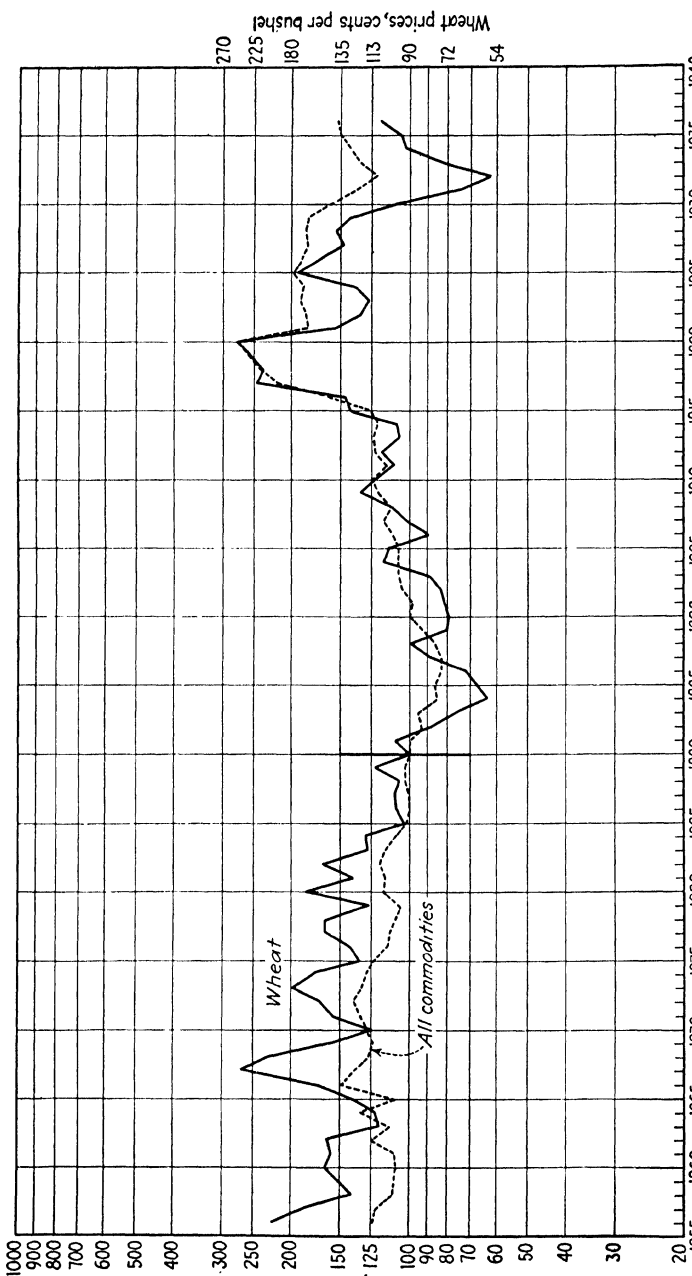


FIG. 2.—COMPARATIVE PRICES OF WHEAT AND ALL COMMODITIES, 1856 TO 1936

SOURCES: All commodity wholesale price index of the United States and wheat prices from *Aldrich Report*, *U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 3 in Killough and Killough, *Raw Materials of Industrialism*, p. 39, Thomas Y. Crowell Company, New York, with permission of the publishers. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

they had been during the earlier period—1856 to about 1880.[1] The opening of low-cost wheat-growing areas in the West, during the nineteenth century, contributed to a general reduction in wheat prices and to a substantial increase in movements of wheat from the Americas to Europe.

At the present time wheat ranks among the principal exports of 13 countries and is an important import of more than 29 countries.[2] In Table 7 is a list of the principal wheat-exporting and -importing countries with average annual amounts exported and imported for the periods 1910 to 1914 and 1925–1929, and for the crop year 1934–1935. Of the exporting countries Canada, Argentina, the United States and Australia rank first. The United Kingdom is far in the lead of the importing countries and is followed by Germany, Italy, Belgium, France and the Netherlands. In wheat-importing countries that produce some portion of their requirements at relatively high costs, political pressure is from time to time exerted by agricultural classes in favor of imposing high import tariffs on wheat. Other groups—particularly manufacturers seeking export outlets—are likely to favor low wheat tariffs or free trade in wheat with a view to reducing costs of living and wages. In consequence of conflicting interests on the part of different producing groups, a number of countries have experienced bitter political controversies over agricultural tariffs as the extensive margin of wheat cultivation has moved westward. Such a controversy was at the heart of the "corn law" issue in Great Britain at the middle of the nineteenth century and the "agrarian versus manufacturing state" issue in Germany about the end of the nineteenth century. Also the present-day United States "farm problem" centers about a conflict somewhat similar in character. In this case United States wheat farmers, suffering from the competition in European markets of low-cost grain from Canada, Argentina and elsewhere, are clamoring for

[1] In England about the middle of the nineteenth century two days' wages of a building laborer were required to purchase a bushel of wheat; in 1914 only one day's wages for a similar class of work were required to purchase a bushel of wheat. Data from J. R. McCulloch, *The British Empire*, London, 1854, Vol. I, p. 696, *The Ministry of Labour Gazette*, London, October, 1925, p. 342, and John Kirkland, *Three Centuries of Prices of Wheat, Flour and Bread*, published by the author at Borough Polytechnic Institute, London, 1917, p. 33.

[2] *Agricultural Statistics*, U. S. Department of Agriculture, 1936, p. 23.

TABLE 7.—INTERNATIONAL TRADE IN WHEAT[1] (INCLUDING FLOUR)
(Thousands of 60-pound bushels)

Country	1910–1914 Average		1925–1929 Average		1934–1935	
	Imports	Exports	Imports	Exports	Imports	Exports
World total[2]	692,995	796,981	770,057	849,010	542,129	629,479
Principal exporting countries:						
United States	1,834	107,103	15,815	170,077	25,134	21,532
Canada	447	94,286	796	307,640	970	169,630
Argentina	3	85,220	10	159,377	.....	187,000
Hungary	7,214	49,116	8	23,539	0	12,499
U.S.S.R. (Russia)	556	164,862	0	20,319	2,198	4,286
Rumania	196	54,630	79	6,528	7	3,432
British India	332	50,821	8,635	10,080	540	2,318
Australia	7	49,732	3	83,268	.....	108,010
Principal importing countries:						
United Kingdom	219,474	3,736	215,665	11,369	209,789	7,690
Germany	91,851	23,300	85,668	11,527	14,743	3,547
Italy	56,431	3,637	76,212	2,014	19,023	8,599
Belgium	72,877	21,965	43,482	2,452	42,843	3,092
France	44,081	1,230	46,574	4,170	29,122	46,508
Netherlands	80,702	58,435	30,050	943	20,555	1,310
Brazil	20,495	0	32,839	0	33,768	0
Japan	4,116	28	23,158	5,989	17,983	16,419
Totals	600,616	768,101	578,994	819,292	416,675	595,872
Per cent of world total	86	96	75	96	77	95

[1] SOURCES: 1910–1914 and 1925–1929 averages from *Foreign Commerce Yearbook*, U. S. Department of Commerce, 1933, p. 317; 1934–1935, *Foreign Commerce Yearbook*, U. S. Department of Commerce, 1936, p. 361.

[2] World totals cover 35 to 41 countries, depending upon numbers reporting for the various years. They are, therefore, not strictly comparable, although sufficiently so for most purposes.

legislation that will permit some form of wheat dumping. Their idea is to raise wheat prices in the United States market above prices at which competitors sell in Europe. Obviously, growers in wheat-exporting countries must submit to prices in their domestic markets no higher than those which their export surpluses will command abroad, unless some form of unified sales

control, accompanied by import tariffs, is resorted to. United States wheat farmers are protected by import tariffs, but they lack unified sales control; hence, their desire for some kind of legislation that will enable them to achieve this end. The struggle for protective wheat legislation in the United States is basically just another chapter in the age-old story of the effects of opening up new producing areas and the crowding out of high-cost growers in older regions. High-cost producers do not give way without a struggle.

Rice.—China ranks first among the countries of the world in production and consumption of rice. The rice-growing industry, as carried on in China, is much more intensive than most of the agricultural industries with which Westerners are familiar. This condition is partly a result of the fact that technological developments have been slow in China and few alternative opportunities have been open to increasing numbers of Chinese rice growers. The rice-growing industry affords a sharp contrast between modern Western and ancient Eastern methods of doing things. In China, rice is set out by hand in small flooded plots of ground by men and women who wade in mire that is sometimes knee-deep. The fields have been carefully prepared with a crude plow, resembling the shovel of an American corn planter, which is drawn by an ox, or the soil may have been dug by hand with a large four-pronged mattock. Water is pumped into the rice field from a canal or river by the usual Chinese pump. This is an endless chain of square wooden paddles working in a box trough through which the water is drawn. Power is supplied by an ox hitched to a horizontal wheel that turns as the ox tramps round and round, or by men and women who lean on a stout rail and turn the pump with their feet, keeping time to lively music or a noisy gong. When ready for harvest, the Chinese rice is cut with a sickle or billhook, threshed with a flail and beaten out of the sheaves by a buffalo which drags a stone roller over them. The rice is winnowed by tossing the grain and chaff into the air against the wind, and hulled in stone mortars by heavy hammers worked with the foot or swung with the arm. Such of the grain as finds its way to market is carried thence on the human back or drawn in antiquated carts over almost impassable roads, unless by chance the rice farm is near a river or canal that can be used as a means of transportation.

In contrast with the Chinese method of production, rice is grown in the United States in large fields that have been plowed with a tractor or a modern horse-drawn plow. Instead of setting rice shoots out by hand, American farmers plant the seed with a tractor-drawn or horse-drawn seeder. Water is pumped to the field by a gasoline engine or is run by gravity from some great reservoir. Before harvesttime the water is drained from the fields; the land dries out, and the crop is cut with a mechanical self-binding reaper. The sheaves are threshed in a mechanical thresher operated by a gasoline engine and the grain is cleaned and polished with mechanical equipment. It may even be sacked with the aid of mechanical devices and is drawn to the railway station or shipping dock in rubber-tired, gasoline-motivated trucks. In spite of China's cheap labor, American farmers export rice to China, Japan and Europe to sell in competition with the Oriental product. This fact does not lead to the conclusion that machine methods and high wages will be successful in producing rice in the West so cheaply as to offer serious competition to the Chinese coolie in his rice-growing occupation. Nevertheless, the fact that American-produced rice is being sold in Far Eastern and European markets, in competition with the Oriental product, does suggest that costs of producing rice in this country are not a great deal higher than costs of producing it in the Orient, in spite of the fact that American wages are many times greater than the wages of coolie labor employed in the Oriental rice fields.

Annual world production of rice is estimated to aggregate about 150 to 200 billion pounds as compared with a world wheat crop amounting to around 200 billion to 300 billion pounds (roughly, 3½ to 5 billion bushels of 60 pounds each). Less than 10 per cent of the world's rice crop enters international trade as compared with international trade in wheat, amounting to 20 per cent of the crop or more. Among the leading rice-importing countries are British Malaya, Dutch East India, China, Ceylon, Germany and France. The principal rice-exporting countries are British India, French Indo-China, and Siam.[1]

Other Cereals.—Aside from wheat and rice, the more important cereal crops are rye, barley, oats and maize (Indian corn). With the exception of rye, these grains are produced primarily

[1] SOURCE: *Foreign Commerce Yearbooks*, U. S. Department of Commerce, and *U. S. Department of Agriculture Yearbooks.*

for domesticated animals. They are all used, however, in greater or less amounts for human food, and substantial quantities of each enter the channels of international trade. Rye and barley are produced in greatest abundance in northern Europe; maize in North America, and to a less extent in South America; oats in Europe and North America. Argentina exports more maize than any other country (200 million bushels or more some years). Argentina's exports of maize go principally to European countries. Lesser amounts of barley, rye and oats enter the channels of international trade. In general, the directions of movement of these crops between nations is similar to that of wheat, *viz.*, from Russia and the Americas to Europe and the Orient with some flow from the predominantly agricultural countries of Europe to the more highly industrialized nations of Europe.[1]

POTATOES AND SUGAR

Potatoes.—Potatoes may be divided into two large families: sweet and white or Irish. The sweet potato belongs to the morning-glory family. It occupies much the same position in humid, warm, middle latitudes that the Irish potato occupies in humid, cool, middle latitudes. The Irish potato at the present time is the more important of the two because it thrives in the more densely populated parts of the world and is produced and consumed in much greater quantities than the sweet potato.

Potatoes, like cereals, are rich in starch; they serve a purpose similar to that of rice or wheat in balancing rations. About 90 per cent of the world's potatoes are produced in Europe. The potato crop of Europe exceeds in volume and approaches in value the wheat crop of the world. A reason for Europe's large potato output is the fact that potatoes produce more food value per acre than any other staple crop except maize (corn).[2] Because

[1] SOURCE: *U. S. Department of Agriculture Yearbooks.*

[2] One hundred bushels of potatoes (an average yield per acre for the United States and a low yield for European countries) have a fuel value of approximately 2,300,000 calories (large) in comparison with about the same for 27 bushels of corn (an average per acre yield) and only about 1,800,000 calories (large) for 20 bushels of wheat, a fair yield per acre for either Europe or America. During the 5-year period 1921–1925 average yields per acre of wheat in producing countries ranged from a low of 10 bushels in Russia to a high of 44 bushels in Denmark. The yield per acre in Argentina was 12 bushels, in Canada, 17 bushels, in United States, 14

TABLE 8.—SUGAR: PRINCIPAL EXPORTING AND IMPORTING COUNTRIES[1]
(Thousands of short tons of 2,000 pounds)

	1909–1913 Average	1925–1929 Average	1932	1934
World total exports	7,135	12,543	9,730	8270[4]
World total imports	6,692	12,158	9,355	8342[4]
Net exports				
Principal exporting countries:				
Cuba[2]	1,991	5,032	2,890	2,861
Dutch East Indies (Java included)[2]	1,406	2,377	1,666	1,204
Dominican Republic[2]	92	354	485	369
Germany[3]	870	82	62	15[6]
Czechoslovakia[3]	.....	792	435	179
Poland[3]	.....	251	196	111
Philippine Islands[2]	176	610	1,120	1,271
Net imports				
Principal importing countries:				
United States	2,083	4,428	2,922	2,861
United Kingdom	1,814	2,135	2,321	1,816
British India	689	865	435	211
China	329	821	390	275
Canada	297	435	428	423
Japan	117	210	53[5]	26[5]
France	Net export	209	139	142

[1] *U. S. Department of Agriculture Yearbooks.*
[2] Cane sugar.
[3] Beet sugar.
[4] Data incomplete.
[5] Net export.
[6] Net import.

of this fact wheat culture tends to give way to potato culture in thickly populated regions. At a time when sentiment for self-sufficing nationalism is sweeping over the world the possibility

bushels, in Germany, 27 bushels, in France, 22 bushels, and in Italy, 17 bushels.—*U. S. Department of Agriculture Yearbook*, 1930, p. 602.

A calorie (large) is the amount of heat necessary to raise one liter of water one degree centigrade.—PEARL, RAYMOND, *The Nation's Food*, W. B. Saunders Company, Philadelphia, 1920, p. 29.

of a substantial increase in the European potato crop is a consideration of no little importance to countries like Argentina and Canada which depend for substantial portions of their annual income upon the sale of wheat in European markets. Potatoes can be produced in Europe under intensive systems of cultivation and at a cost per unit of food value not much greater than that of imported wheat.

Sugar.—Sugar has two principal sources of supply at the present time, *viz.*, the beet-sugar industry, centered in temperate Western countries, and the cane-sugar industry of the tropics and semitropics—Cuba, Java, India. World annual production of sugar (cane and beet) rose from approximately 17 million short tons for the crop year 1909–1910, to approximately 32 million short tons for the crop year 1930–1931. Among the cane-sugar-producing countries Cuba, India, Java and the Philippine Islands rank first. Among the beet-sugar-producing countries Germany, Czechoslovakia and the United States rank first, with France and Poland not far behind.

TABLE 9.—PRINCIPAL SUGAR-PRODUCING COUNTRIES[1]
(Thousands of short tons)

Cane sugar				Beet sugar			
Country	1909–1910 to 1913–1914 Average	1928–1929	1935–1936	Country	1909–1910 to 1913–1914 Average	1928–1929	1935–1936
World total	10,539	20,459	20,038	World total	8,824	10,292	10,887
Cuba	2,287	4,527	2,800	Germany	2,340	2,054	1,817
India	2,649	3,032	6,614	U.S.S.R. (Russia)	1,557	1,411	2,315
Java	1,513	3,238	546	Czechoslovakia	1,221	1,163	616
Hawaii	567	914	1,008	Poland	703	824	488
Philippine Islands	294	825	1,200	France	808	984	1,065
Puerto Rico	362	587	896	Italy	116	236	340
Taiwan (Formosa)	192	870	1,100	United States	655	1,141	1,258
Brazil	333	826	879				
Peru	203	399	442				
Dominican Republic	105	397	484				

[1] *U. S. Department of Agriculture Yearbook*, 1932, and *Agricultural Statistics*, U. S. Department of Agriculture, 1936.

Thirty-five to fourty per cent of the world's annual output of sugar enters the channels of international trade. The leading sugarexporting and -importing countries are listed in Table 8. Cuba, Dutch East Indies, the Philippine Islands and the Dominican Republic are the leading exporters of cane sugar. Germany, Czechoslovakia and Poland are the leading exporters of beet

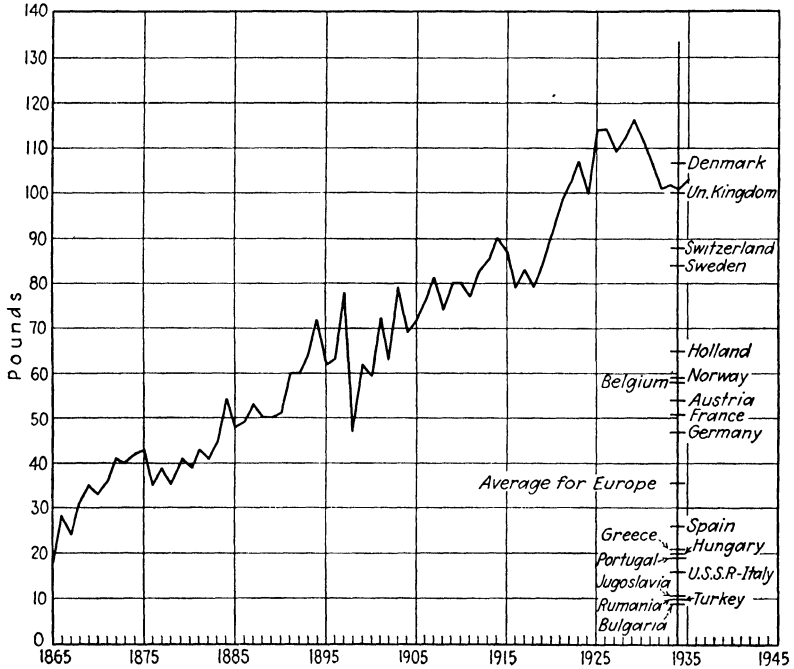


FIG. 3.—PER CAPITA CONSUMPTION OF SUGAR IN THE UNITED STATES, 1865 TO 1935, AND IN EUROPEAN COUNTRIES FOR THE YEAR 1934

SOURCES: Statistical data from *Statistical Abstracts of the United States* and the *Annual Report of The American Sugar Refining Company*, 1934. The figure is patterned after Fig. 4 in Killough and Killough, *op. cit.*, p. 60.

sugar. India and United States appear in the list of principal sugar importing countries (Table 8) and also in the list of principal sugar-producing countries (Table 9). India's large population and the long-established use of sugar in India probably account for her large aggregate consumption. Relatively high incomes and ability of all classes to afford "sweets" in a variety of forms account for the large annual consumption in the United States. Per capita consumption of sugar in the United States, and a number of European countries, is shown in Fig. 3. In the early

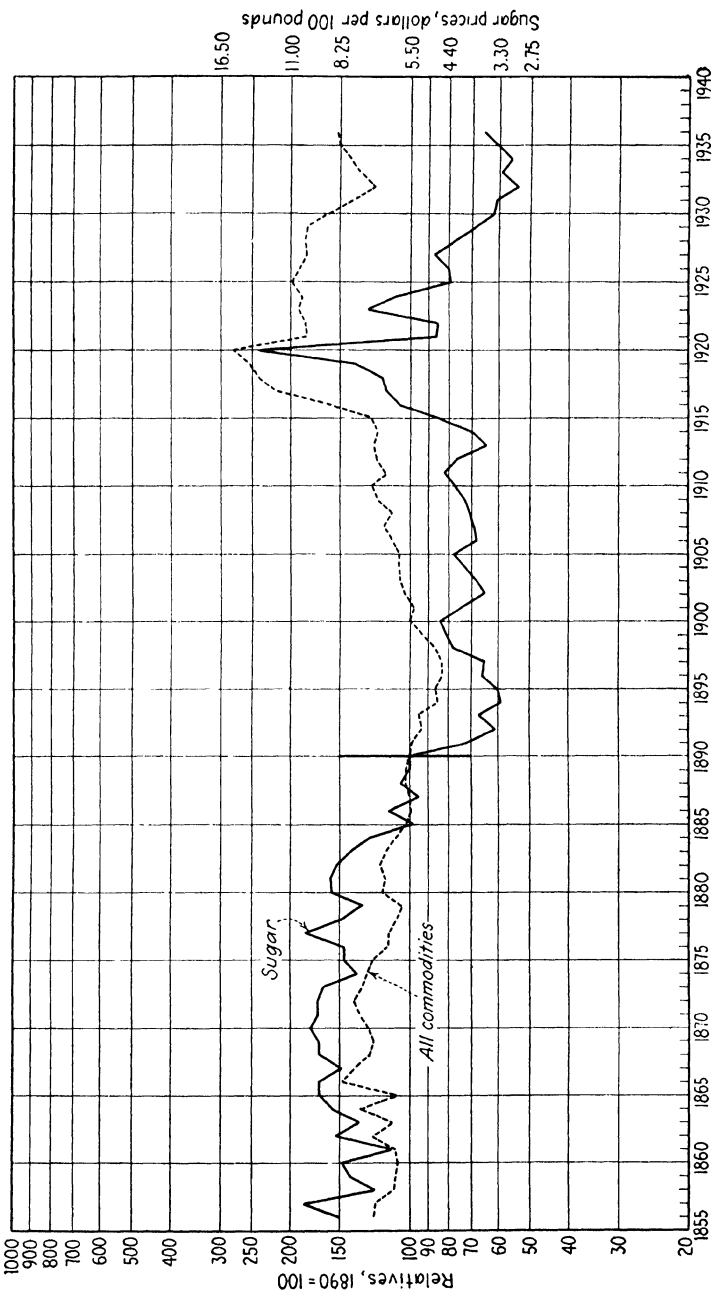


FIG. 4.—COMPARATIVE PRICES OF SUGAR AND ALL COMMODITIES, 1856 TO 1936

SOURCES: All-commodity wholesale price index of the United States and sugar prices from *Aldrich Report*, *U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 5, in Killough and Killough, *op. cit.*, p. 62. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

nineteen thirties, average annual consumption of sugar in the United States, Denmark and the United Kingdom was more than 100 pounds per capita; in Switzerland and Sweden, between 80 and 90 pounds per capita; in Germany, Norway, France and Belgium, 40 to 60 pounds per capita, and in the less wealthy countries of Europe, 10 to 30 pounds per capita.

The cost of production and exchange value of sugar have been substantially reduced during the last half century by improved technical methods and the opening of new producing areas. The movement of sugar prices in New York from 1856 to 1936 in relation to the wholesale price index of all commodities in the United States is shown in Fig. 4. Clearly, sugar was much cheaper in relation to other commodities in the nineteen twenties than it had been in the eighteen seventies; it was cheaper in the nineteen thirties than in the nineteen twenties. The abnormally low prices of sugar in the early nineteen thirties caused much distress in cane-sugar-exporting countries, particularly Cuba, where economic and political stability were largely dependent upon one industry (sugar production). During the two decades immediately preceding the nineteen thirties, flows of American capital to Cuba encouraged rapid expansion of sugar-producing facilities with capital values resting upon exaggerated ideas of future earnings. As a result of this overexpansion of the industry in Cuba and similar overexpansion elsewhere, sugar-producing countries all over the world (particularly cane-sugar-producing countries) have been subjected, in recent years, to serious economic disturbances which have contributed not a little to confusion in the conduct of international commerce the world over.

MEATS AND FISH

Meat.—Meat is consumed in greatest abundance in sparsely settled regions where economic development is in its early stages and in countries of great industrial wealth.[1] In a few old and

[1] The countries with greatest annual per capita consumption of meat in the 1920's were New Zealand, Australia, Argentina, United States, Canada, United Kingdom, Denmark, France and Germany, in the order named. The nineteen twenties are probably more representative than the depression years of the early thirties. Consumption of meat ranged in the nineteen twenties from around 300 pounds per capita per year in New Zealand to about 100 pounds in Germany.—McFALL, R. J., *The World's Meat*, D. Appleton and Company, New York, 1927, pp. 576–577.

densely populated countries like China, India and Japan, tradition and habit deeply rooted in years of poverty and an ever-increasing pressure of population upon limited supplies of land have created a strict economy that almost excludes meat from the human diet. In sparsely settled regions men hunt, fish and collect whatever in the way of food nature offers for the taking. In America, and to a less extent in Europe also, hunting is still a pastime—a relic of an earlier epoch when people were more or less dependent upon wild creatures for a livelihood. The advance of Western civilization has not caused carnivorous habits to be discarded; instead, it has encouraged a resort to domesticated animals for meat supplies. At the present time, cattle, sheep and hogs are the principal sources of the world's meat.

Cattle are most numerous in western Europe, North America, South America (Uruguay and Argentina) and India. India has twice as many cattle as the United States, three or four times as many as Argentina and more than all European countries combined, but most of India's devout and superstitious inhabitants would rather starve than kill an animal for its meat. Indian cattle are beasts of burden and to some extent suppliers of milk. In other parts of the world cattle are raised primarily for meat and milk. In Europe and America, dairy cows are more numerous in proportion to beef animals than in South America. Increasing numbers of people per square mile and intensified methods of agriculture have tended to crowd beef animals toward the extensive margins of cultivation. From these regions meat moves in refrigerator cars and ships to densely populated consumption centers.

Sheep, like cattle, are not all raised for the same purpose. Merino sheep are raised primarily for their wool. They are grazed on semiarid lands that are poorly suited to intensive cropping. Dual-purpose sheep, such as the Shropshire and Southdown, are better suited to farming areas. They feed, in part, upon weeds and grasses that grow upon untillable hillsides and ditch banks and in fence corners, and yield income in the form of both mutton and wool. Sheep abound in Great Britain, in the Mediterranean countries of southern Europe, in eastern Australia, New Zealand, southern Africa, Uruguay and Argentina. The United States, central and northern Europe, Asia and northern Africa also have goodly numbers of sheep, although

the numbers per square mile in these areas are not so great as in the regions first cited.

The swine is not a range animal. Originating in the forest and later domesticated, its habits are adapted to a rich and concentrated diet of grains, nuts and garbage. Swine for pork production are most numerous in the thickly populated regions of western Europe and the United States. China has a great many hogs but they are scrawny creatures which serve chiefly as scavengers of a densely populated region without modern facilities for the disposal of waste rather than as a source of food supply.

Cattle, sheep and swine are raw materials of meat packing, a modern Western industry. At the present time, the largest meat-packing centers are to be found in the United States and Argentina. Prior to about 1870 the meat trade of the world was localized owing to restricted transportation facilities. Before the era of modern transportation and refrigeration, densely populated cities were supplied with meat from adjacent rural communities. If the animal industries in the hinterlands of great cities could not supply meat in abundant quantities, prices increased and consumption decreased. At the same time millions of meat animals were being killed in sparsely settled lands like Argentina and western United States for their skins—the meat serving no better purpose than food for vultures. With the commercial development of artificial refrigeration in the eighteen seventies and eighteen eighties, and improvement in transportation facilities, international trade in fresh and preserved meats began to supplement an old but relatively small commerce in

TABLE 10.—DEVELOPMENT OF THE MEAT-PACKING INDUSTRY IN UNITED STATES[1]

Year	Numbers of wage earners	Value of products, dollars
1870	6,500	62,000,000
1899	68,400	784,000,000
1909	87,800	1,356,000,000
1929	122,505	3,435,000,000
1931	106,707	2,181,000,000
1933	113,193	1,490,000,000

[1] *Statistical Abstracts of the United States.*

salt pork and dried beef. The rapidity of development of the meat-packing industry is suggested by the figures in Table 10.

Between 1870 and 1909 the numbers of persons engaged in the meat-packing industry in the United States increased more than thirteenfold in spite of the introduction of a great many labor-saving devices during the period. The value of packer products turned out in 1909 was about twenty times as great as that for the year 1870.[1] Since 1909 the meat-packing industry has been expanding but not at so rapid a rate as in earlier decades.

Principles of refrigeration applied in storage and transport have fostered the development of great centralized meat-packing plants not only in the United States but also in Canada, South American countries, Australasia and elsewhere. From these great packing centers, dressed meats move to all parts of the world. The leading meat-importing countries are the United Kingdom, Germany, France and Italy. Statistics of international trade in meat and meat products among the leading exporting and importing countries are given in Table 11. Argentina and the United States lead in meat exports; the United Kingdom imports more meat than any other country.

One of the conditions essential to growth of a great meat-packing industry—cheap land for producing livestock—has been undergoing significant change during the last half century. In the United States, land values have increased; the days of free range have gone forever. In South America and Africa, new regions for the grazing of cattle, sheep and goats and for the production of hogs are being opened. Because of increasing costs of its principal raw material, the United States meat-packing industry will not, in all probability, grow very rapidly during the next quarter century. In fact, increasing competition in European markets from packer products originating in South America, British South Africa and elsewhere may force the meat-packing industry of the United States to contract. Already this country's packers have lost most of their export market for beef. Unlike raw rubber, silk, cotton or wool, fat livestock cannot economically be shipped great distances to processing centers. For this reason the meat-packing industry tends to develop near the source of supply of butcher stock and to export its finished

[1] The general price level was somewhat higher in 1870 than it was in 1909.

TABLE 11.—INTERNATIONAL TRADE IN MEAT AND MEAT PRODUCTS[1]

	Net exports, thousands of pounds	
	Average, 1925–1929	1934
Principal exporting countries:		
Argentina	2,027,661	1,401,275
United States	1,273,289	673,195
Denmark	613,776	600,203
New Zealand	441,469	624,789
Uruguay	396,102	.....[2]
Australia	373,471	428,529
Netherlands	328,445	141,090
Canada	117,415	133,245
Brazil	120,492	140,821
Other countries	234,053	192,992
Total	5,926,173	4,336,139
	Net imports, thousands of pounds	
	Average, 1925–1929	1934
Principal importing countries:		
United Kingdom	3,699,568	3,673,511
Germany	796,573	298,540
France	236,658	69,141
Italy	214,947	132,779
Cuba	179,842	54,649
Belgium	153,614	84,253
Austria	115,967	12,846
Czechoslovakia	91,941	37,615
Japan	68,521	31,074
Other countries	235,071	186,172
Total	5,792,702	4,580,580
Total beef	2,569,270	1,784,338
Total pork	2,130,342	1,676,750
Total mutton and lamb	676,171	781,679
Total unclassified	416,919	337,813

[1] SOURCE: *U. S. Department of Agriculture Yearbook*, 1932, and *Agricultural Statistics*, U. S. Department of Agriculture, 1936.

[2] Data incomplete.

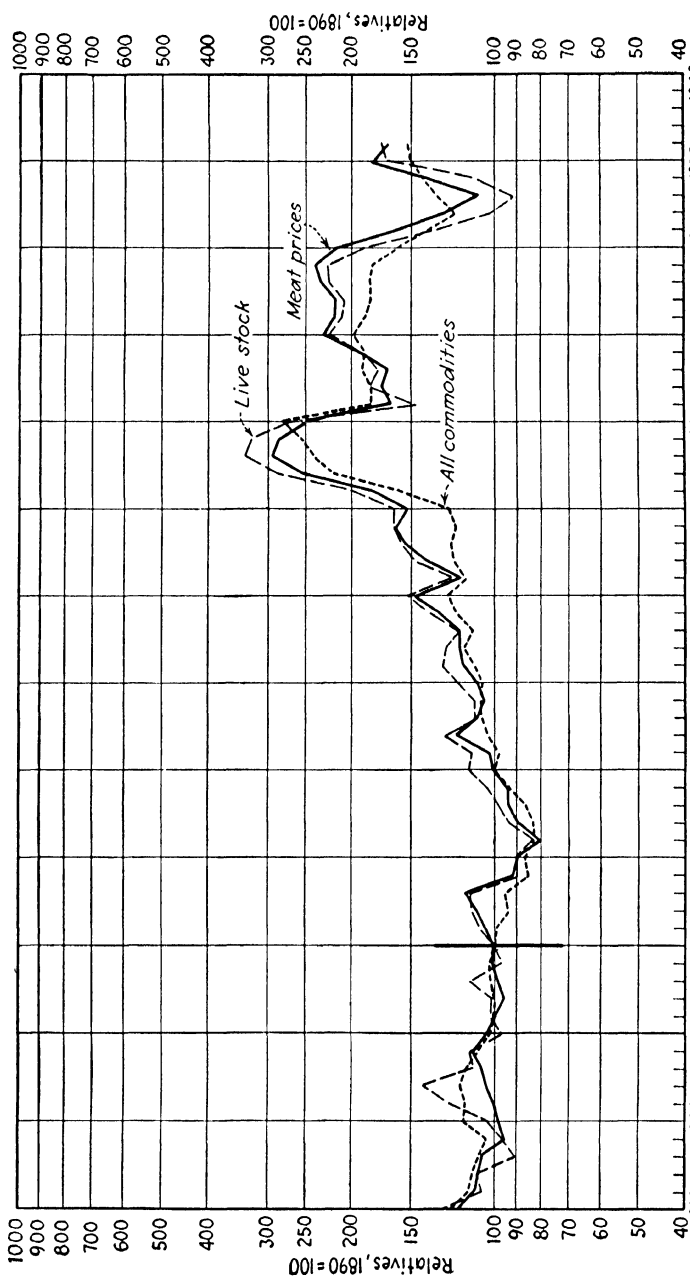


FIG. 5.—COMPARATIVE PRICES OF LIVESTOCK, MEAT AND ALL COMMODITIES, 1875 TO 1936

SOURCES: The meat index is an average of fresh beef, dressed mutton and cured pork prices in Chicago and New York. U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins* and the *Aldrich Report*, U. S. *Senate Report* 1394, 52d Congress, 2d Session. The figure is patterned after Fig. 7, in Killough and Killough, *op. cit.*, p. 72. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

products rather than to import its principal raw material. Consequently, development of meat-packing industries during the next half century is most likely to occur in the southern hemisphere, where land is relatively cheap.

The opening of new producing areas has not reduced meat prices as was the case with sugar. However, meat supplies have increased fast enough to prevent a great increase in price. Comparative prices of meat and all commodities at wholesale in the United States from 1875 to 1936 are shown in Fig. 5.

Fish.—Fish serves about the same purpose as meat in the human diet. The proteins and fats in fish are easily digested and compare favorably in nutritive value with beef. Fish fat, and especially fish livers, also contain valuable vitamins which are essential in the prevention of rickets and other diseases. In many countries where dairy products are high priced and vegetables scarce, as in Alaska, Labrador and Iceland, all the common foods, with the exception of fatty fish, are deficient in vitamin A.[1]

Most of the world's fishing is carried on within a few hundred miles from shore, where marine life is more abundant than in midocean. The Atlantic coast of North America, more especially the region from New England north, and the Atlantic shores of Europe, are bases for the fishing fleets of many nations, which bring in annually several hundred million dollars' worth of cod, haddock, halibut, herring, mackerel and other fish. In the Pacific Ocean the two fishing regions of first significance are the shores of the United States and Canada, from northern California to Alaska, and the coasts of Japan in the Far East. The greatest salmon fisheries of the world are on the Pacific coasts of Alaska, Canada, Washington, Oregon and northern California. The Japanese fisheries are more like those of the Atlantic coast of North America. They are of profound significance in the lives of Oriental peoples who have little or no meat to serve as an appetizer and to supplement the bean in supplying protein as balance for a rice diet.

In comparison with leading industries of the world the fishing industry is small.[2] In the United States, for example, among 10,000 working people in 1931 about 2,400 on the average, were

[1] TRESSLER, DONALD K., *Marine Products of Commerce*, The Chemical Catalog Company, Inc., New York, 1923, Chap. XIV.

[2] *Ibid.*, p. 16.

engaged in primary production. Of these, some 2,150 were farmers, about 200 were miners, approximately 35 were lumbermen, and only 15 were fishermen. Furthermore the value of the world annual fish catch is exceeded by that of the world annual wheat crop, the rice crop, the potato crop and other food-producing enterprises. From the point of view of particular regions, however, fishing and fish canning constitute a very important occupation and source of income. Alaska, for example, with a total population of only 60,000 persons in 1931, employed some 23,000 persons in fishing and fish canning during the fishing season.[1] Of the total value of Alaskan shipments to the United States in 1931, fish and fish products constituted more than 85 per cent. Fishing is also an important industry in Denmark, Iceland, Newfoundland and Labrador. Among the leading commercial nations of the world, Great Britain, France, Spain, Portugal, Norway, Canada, the United States and Japan take first rank in size of their fishing industries. These eight nations collectively account for three-fourths of the total value of the world's annual fish catch.

DAIRY AND POULTRY PRODUCTS

Dairy Products.—In Europe, North America and Oceania are to be found the world's principal centers of milk production. The dairy industry is a product of modern improvements in agricultural methods. This fact accounts, at least in part, for the insignificant place that milch cows occupy in Oriental agriculture. In Oriental countries, the change from an extensive type of agriculture to the intensive type of Far Eastern agriculture as we know it[2] came before scientific breeding and selection developed cows giving high annual yields of milk.[3] Another

[1] Many of these workers are not counted as residents of the territory inasmuch as they reside in Alaska only during the fishing season. Nevertheless, the fishing and fish-canning industry obviously represents a large part of Alaska's industrial life.

[2] See FIELD, FREDERICK V., *Economic Handbook of the Pacific Areas*, Doubleday, Doran & Company, Inc., Garden City, N. Y., 1934, and LEE, MABEL PENG-LUA, *The Economic History of China: A Study of Soil Exhaustion*, Columbia University Studies in History, Economics and Public Law, New York, 1921.

[3] Intensive dairying of the kind found in some of the European countries followed seventeenth and eighteenth century improvements in agricultural methods.

probable reason for retarded development of dairying in the Orient is the fact that the keeping of milk and milk products without ice, artificial refrigeration or cool spring water is so difficult that people in hot climates were virtually unable to make good butter or cheese before the recent development of artificial cooling. In China and Japan, milk production is of little significance. In India, the large cattle population is about as useless toward a source of milk for human consumption as it is toward a source of beef supplies.

Because cattle serve as milk producers, beef producers and beasts of burden, no hard and fast lines can be drawn between numbers of dairy cows and numbers of cattle for other uses. In a few countries efforts have been made to separate statistics of milch cows from those of other cattle. In other countries only statistics or estimates of total numbers of all kinds of cattle are to be had. In general, regions may be classified according to

TABLE 12.—MILK YIELDS PER COW PER YEAR IN VARIOUS COUNTRIES[1]
(Pounds)

Country	Year	Milk yield
Friesland, Netherlands	1922	9,632
Normandy, France	1928	8,282
Denmark	1931	7,300
Netherlands	1923	6,800
Switzerland	1930	6,600
Germany	1931	5,614
New Zealand	1927	5,131
England	1930	4,965
Sweden	1931	4,850
France	1929	4,278
Austria	1926	4,667
United States	1929	4,499
Hungary	1930	4,327
Czechoslovakia	1928	4,058
Canada	1930	4,010
Norway	1930	3,307
Italy	1927	2,976
Rumania	1930	2,970
Poland	1928	2,866
Russia (U.S.S.R.)	1928	2,318
Chile	1927	2,132

[1] SOURCE: *A Handbook of Dairy Statistics*, U. S. Department of Agriculture, 1933, p. 2.

the dominance of the dairying or the beef-producing phases of the cattle industry. The available statistics indicate that there are about 650 million cattle of all kinds in the world. Rough estimates indicate that of this total less than one-third are dairy cattle. Europe (including Great Britain and Ireland) and the United States are estimated to have considerably more than half of all the dairy cattle in the world, Europe having more than twice as many as the United States. European countries and the United States produce an even larger part of all dairy products than numbers of cows suggest because production per cow is relatively high in these regions. Statistics of average annual production of milk per cow in a few representative countries are given in Table 12.

Table 12 indicates that the average yield of milk per cow per year tends to decrease as distances from centers of intensive Western agriculture increase. Dairying has tended to increase in the Western world as agriculture became more intensive. In the United States, for example, per capita production of milk is estimated to have increased more than 25 per cent during the last 15 years. Similar tendencies are evident in other countries: Canada, Australia, Argentina and Europe.

The largest per capita consumption of milk, butter and cheese is to be found in Sweden, Denmark, Switzerland, Germany and United States; smaller amounts of milk and its products are consumed per capita by the British and the French, and still less amounts by the Spanish, peoples in southeastern Europe and the inhabitants of less populated countries in the New World, such as Argentina, Brazil and Chile. Consumption of whole milk is largely confined to producing regions and adjacent cities. Derivative products such as butter, cheese, condensed milk and evaporated milk do not deteriorate so quickly as whole milk; consequently they are better suited to international commerce. The aggregate value of international trade in dairy products is in the neighborhood of half that of sugar, and somewhat less than half that of wheat. These comparisons suggest the fact that world trade in dairy products is of a magnitude of no small importance. Directions of the flow of world commerce in classes of dairy products which are highly mobile from an international point of view are indicated in Table 13. In general, butter, cheese and various classes of whole or processed milk move

TABLE 13.—INTERNATIONAL TRADE IN DAIRY PRODUCTS[1]
(Thousands of pounds)

	Condensed and evaporated milk and cream		Butter		Cheese	
	1925–1929 average	1933	1925–1929 average	1933	1925–1929 average	1933
Net exports						
Principal exporting countries:						
New Zealand	1,471	1,957	156,173	295,148	171,971	222,090
Netherlands	319,540	371,039	95,762	61,102	196,751	140,000
Denmark	55,649	53,716	308,811	331,482	13,761	22,141
Australia	20,782	19,789	97,016	211,523	5,512	10,836
Italy	8,507	3,683	2,385	Imp. 3,864	76,486	42,609
Sweden	negligible	negligible	37,474	37,685	Imp. 931	Imp. 286
Irish Free State	7,060	14,384	52,194	45,210	Imp. 2,296	Imp. 346
U.S.S.R.	negligible	negligible	62,901	82,022	461	62
Canada	32,146	23,054	Imp. 1,628	3,060	127,187	73,201
Switzerland	76,656	20,312	Imp. 17,915	Imp. 1,144	60,698	46,568
United States	115,385	35,972	Imp. 1,669	169	Imp. 71,330	Imp. 47,116
Argentina	Imp. 1,403	Imp. 668	50,403	30,657	Imp. 2,819	1,676
Net imports						
Principal importing countries:						
United Kingdom	259,638	253,585	645,885	978,225	326,592	337,278
Germany	13,119	4,503	248,471	130,370	145,714	87,047
Belgium	negligible	negligible	3,358	26,673	37,546	48,068
Dutch East Indies	27,250	24,844	9,755	13,178	1,881	2,138
Egypt	1,003	1,293	2,288	1,553	6,718	5,995
Austria	1,001	311	1,989	2,445	5,287	Exp. 2,641
Greece	6,644	2,987	1,251	603	3,940	Exp. 713
Cuba	47,460	5,096	1,775	negligible	4,759	255
Philippine Islands	25,819	29,294	1,200	1,356	negligible	negligible
France	4,619	4,503	9,025	14,275	6,114	Exp. 17,700

[1] SOURCES: *U. S. Department of Agriculture Yearbook*, 1932, and *Agricultural Statistics*, U. S. Department of Agriculture, 1936.

from the periphery of highly industrialized regions to thickly populated manufacturing centers. Denmark, Netherlands, New Zealand and Australia rank highest in the export of dairy products; the United Kingdom and Germany take first rank among the importing nations.

Poultry Products.—Common domesticated fowls,[1] turkeys, ducks, geese, swans, ostriches, pheasants and guinea fowls, are all classed as poultry. Such breed names as Peking and Muscovy ducks, Brahma, Leghorn, Hamburg, Minorca, and Plymouth Rock fowls (chickens) and Brabant geese are significant of the world-wide distribution of poultry. The common barnyard fowl occupies the most important place, from an economic point of view, among the various classes of poultry. Turkeys and ducks are also important. The United States has in the neighborhood of one-third of all poultry in the world. China ranks second in numbers of poultry. These two countries together have about one-half of the world's poultry. Large numbers of poultry are also to be found in Russia, Japan, Greece, Turkey, Italy, Germany, Austria, Denmark, Poland, United Kingdom, Spain and various other countries of western Europe, Canada and South Africa.

The ordinary barnyard fowl is one of the most efficient creatures on earth from the point of view of converting grains and other animal foodstuffs into edible human food with a minimum of waste. For this reason, poultry raising and egg production are suited to intensive systems of agriculture in densely populated regions. The poultry industry is equally well suited to extensive forms of agriculture prevailing on isolated farms and ranches, where the fowls live upon grains unrecovered in the process of harvesting, grass seeds, grasshoppers, bugs and other wastes, and practically take care of themselves.

Before the development of cold storage the market, both for eggs and for poultry, was limited by their perishability. Now, however, eggs and poultry are widely distributed. More than half a billion dozen eggs in the shell and a hundred million pounds of eggs in other forms enter the channels of international trade each year. Among the leading exporting nations Netherlands, Russia, Poland, Denmark, China, the Irish Free State and Belgium

[1] Fowls are sometimes referred to as chickens in agricultural regions of the United States.

rank high. The United Kingdom and Germany rank at the top of the list of importing countries.[1]

FRUITS AND VEGETABLES

Fruits and vegetables are generally recognized to be necessary to a satisfactory diet although their contributions to bodily welfare are not always subject to precise chemical measurement. Laymen have acquired a habit of lumping the relatively unknown food qualities of fruits and vegetables under the blanket designation "vitamins." Most of the fruits and vegetables supply one or more of the various vitamins, and in addition serve as appetizers and suppliers of acids and mineral substances.

Vegetables.—In common usage the term "vegetable" signifies a plant cultivated for food. Potatoes might be included in this category; however, potatoes have been accorded separate treatment because of their outstanding importance as a source of carbohydrates. The diversity and small individual importance of other vegetables precludes separate and extended treatment of each. Some kind of vegetable is adapted to every climate and every type of soil where human habitation is large. A list of a few of the more common varities follows.

	Vegetables of American Origin		
Beans	Peppers	Squash	Potato
Corn	Pumpkins	Tomatoes	Sweet Potato
	Vegetables of Old-world Origin		
Cucumber	Beet	Kale and collard	Parsnip
Eggplant	Brussels sprouts	Kohlrabi	Pea
Muskmelon	Cabbage	Leek	Radish
Watermelon	Carrot	Lettuce	Salsify
Okra	Cauliflower	Onion	Spinach
Asparagus	Celery	Parsley	Turnip

Fresh vegetables rank among the leading exports from the Netherlands, but their value amounts to less than 5 per cent of the total value of all Netherlands' exports. Fresh vegetables occupy an even less important place in the foreign trade of other countries. Canned vegetables and dried vegetables (beans and peas, for example) also enter the channels of international trade. However, when international trade in all types of green and

[1] For statistics see *U. S. Department of Agriculture Yearbooks* and *International Yearbooks of Agricultural Statistics.*

There is a comprehensive article on the world's poultry industry in the *U. S. Department of Agricultural Yearbook* for the year 1924.

prepared vegetables is taken into account, the aggregate is not equivalent to world trade in a staple foodstuff like wheat. Japanese importation of soy beans is an outstanding illustration of a relatively large commerce in an important vegetable. Nevertheless, Japan's annual imports of wheat exceed her imports of soy beans, despite the fact that Japanese wheat imports are small in comparison with quantities of wheat imported by other countries. Examination of the world's vegetable-producing and -distributing industry leads to the conclusion that international trade in vegetables is relatively small. The reasons for this fact are obvious. In the first place, one or another kind of vegetable can be grown economically under almost any condition of climate suited to large populations; in the second place, vegetable production is an intensive industry well adapted to thickly populated regions; in the third place, fresh vegetables are highly perishable, and transportation is costly in proportion to their value.

Fruits.—Fruits, like vegetables, are of so many kinds that one kind or another is suited to every condition of climate and soil existing in the environs of large human populations. Lemons, oranges, apples and grapes are among the more important kinds of fruits from the point of view of world trade. Oranges, lemons and other members of the citrus fruit family (including limes, grapefruit, etc.) thrive in Spain, Italy, Sicily, Syria, Greece, Japan, India, the United States, Cuba, Mexico and South Africa. Among the principal citrus-fruit-exporting countries Spain, Italy, the United States[1] and Palestine rank first. Among the citrus-fruit-importing countries the United Kingdom, Germany, France and Belgium take high rank.

The apple is one of the most widely distributed of the tree fruits. Originating in Europe, it has been transplanted all over the world. The principal apple-exporting countries are the United States, Canada, Australia, France, Netherlands, Belgium and Italy. Among the leading apple-importing countries are the United Kingdom and Germany. These two countries absorb about three-fourths of the world's exports of apples.

Grapes are indigenous to Asia Minor, southern Europe and America. Grapes enter the channels of international trade in the fresh state, as raisins and in the form of wine. Wine constitutes 1 to 3 per cent in value of the total exports of both France and Italy.

[1] The United States imports lemons and exports oranges and grapefruit.

In addition to citrus fruits, apples and grapes, there are many other kinds of fruit which contribute to the world's food supply: peaches, pears, plums, cherries and various kinds of berries, for example. In general, international trade in fruits is greater than international trade in vegetables, but not so great as world trade in many of the food staples such as wheat.

MISCELLANEOUS FOODSTUFFS

Coffee.—About two-thirds of the world's annual exports of coffee originate in Brazil, and about one-half of the world's

TABLE 14.—WORLD TRADE IN COFFEE[1]
(Thousands of pounds)

	Net exports		
	1900–1913 Average	1929	1934
Principal exporting countries:			
Brazil	1,672,282	1,889,032	1,871,293
Venezuela	111,328	141,907	193,336
Colombia	104,398	375,101	407,961
Guatemala	85,951	97,394	106,943
El Salvador	61,237	103,137	109,935
Dutch East Indies	49,922	178,121	180,496
Total	2,085,118	2,784,692	2,869,964

	Net imports		
	1909–1913 Average	1929	1934
Principal importing countries:			
United States	863,648	1,475,532	1,523,994
France	245,711	374,728	388,556
Germany	398,208	326,471	332,517
Netherlands	94,346	74,103	93,420
Italy	57,820	103,324	86,871
Belgium	78,111	85,260	105,168
Sweden	74,462	90,331	100,123
Total	1,812,306	2,529,749	2,630,649

[1] *Foreign Commerce Yearbooks*, U. S. Department of Commerce.

imports are taken by the United States. The record of coffee exports and imports of leading countries for a period of years is shown in Table 14. Parts of Brazil, Venezuela and Colombia, where about 90 per cent of the world's exports of coffee originate, are particularly well suited to coffee growing. In these regions are high plateaus with well-drained soil, rich in iron and potash and watered by heavy rainfall that comes mostly in summer months. This combination of natural conditions is rare.

Tea.—Most of the tea consumed in Western countries originates in the Orient. Economical tea culture requires a large amount of cheap hand labor as well as favorable soil and climate. British India, Ceylon, Dutch East Indies, China and Japan are among the leading tea-exporting countries.

Other Foodstuffs.—In addition to the food products mentioned in the foregoing pages, a great many others—spices, nuts and bananas, for example—make contributions to the streams of international commerce and constitute reasons for territorial specialization of occupations.

A CONCLUDING STATEMENT CONCERNING THE WORLD'S FOOD INDUSTRIES

At the present time the principal carbohydrate foodstuffs are wheat, potatoes, rice and sugar. Wheat is produced largely in Europe, the Americas and Oceania. Europe, exclusive of Russia, is a deficit wheat-producing area. Russia, the Americas and Australia are the principal wheat-exporting areas. Europe is the greatest potato-growing area in the world. International commerce in potatoes is confined largely to movements from one European country to another. Rice production is largely confined to the Orient. Oriental rice exports to the West are offset by imports of wheat from the West. Sugar moves from semi-tropical islands to Europe and America.

The principal protein foodstuffs are meat, dairy and poultry products, fish and soy beans. Fish and soy beans are the principal protein foods of Orientals. The volume of international trade in these foodstuffs is comparatively small. In the West meat and dairy and poultry products are the principal protein foodstuffs. Meat is tending to move in increasing amounts from South America, Africa and Australia to the densely populated parts of Europe. Dairying and poultry raising are more inten-

sive forms of agriculture. Consequently the great volume of commerce in these commodities is between the densely populated manufacturing centers and near-by agricultural hinterlands.

Vegetable growing and fruit raising, like dairying and poultry raising, are intensive forms of agriculture. International commerce in vegetables and fruits is not, therefore, so great as international trade in the great staples like wheat, meat and sugar. Minor foodstuffs, such as spices, coffee and tea, are assembled from distant regions in the Orient, South America, tropical islands and elsewhere for consumption in dense population centers, particularly those in Europe and North America.

CHAPTER XIV

POWER RESOURCES

Inventions are making possible progressively greater utilization of natural power. Already each of the world's wealthy nations has a high per capita utilization of nonhuman energy. A rough but very illuminating comparison has been made of the ratios of mechanical energy to human energy expended in a few of the leading countries of the world.[1] According to this estimate, 35 manpower of mechanical energy are utilized in the United States to every manpower of physical human labor. In Great Britain the ratio is about 23 to 1; in Germany, 14 to 1; in France, 9 to 1; in Italy and Japan, only 2 or 3 to 1. In other words, the worker in America where per capita income is greatest has at his disposal 30 or 40 mechanical slaves, whereas the Englishman has only 20 to 25, the German 14, the Frenchman 9 and the Italian or Japanese but 2 or 3 such helpers. The extensive adaptation of mechanical energy to human use is a comparatively new achievement. The steam engine was not utilized for generating power for factories until near the end of the eighteenth century. The upper stratum of wealth and culture in ancient civilizations was made possible by the drudgery of human slaves. Wealth today is more largely dependent upon the exploitation of nature's reserves of energy stored in coal and petroleum and embodied in the rush of falling waters than it is upon the exploitation of human beings.

SOURCES OF ENERGY SUPPLIES

The ultimate source of energy is one of the many unsolved mysteries of nature. For our purposes it is sufficient to say that man's chief source of energy is the sun. Solar energy is available for use in two forms: day-by-day radiation, and stored-up heat. The daily sunshine contributes to the growth of plant and animal

[1] The compilation was made in the 1920's. See an article by Thomas T. Read, in *Mechanical Engineering*, May, 1926, p. 531, and *Commerce Yearbook*, U. S. Department of Commerce, 1928, Vol. I, p. 265.

life and transfers water from oceans, lakes and other low-lying places to mountain peaks and plateaus, whence it rushes downward exerting, as it falls, force that may be converted into electricity. The principal sources of stored-up energy that engineers thus far have found means for utilizing are coal and petroleum. Water power, coal and petroleum drive the world's machinery. Inasmuch as transmission of large quantities of electricity great distances is a very expensive process, water power is largely used within a few hundred miles of the power site. Coal and petroleum are more mobile. They are shipped all over the world. Of these three primary sources of industrial power, *i.e.*, falling water, coal and petroleum, coal ranks first in amounts of energy supplied, petroleum probably ranks second, and water power third. Complete data on this point for the whole world are not available; however, the following estimates for the United States are suggestive.

TABLE 15.—SOURCES OF ENERGY USED IN THE UNITED STATES[1]

	Per Cent of Total
Coal	58
Petroleum	21
Natural gas	6
Water power	6
Firewood	5
Work animals	3
Wind	Less than 1

[1] WYER, S. S., *Man's Shift from Muscle to Mechanical Power*, Prepared for Fuel-power-transportation Educational Foundation, Columbus, Ohio, 1930, p. 3.

The United States obtains from coal and petroleum about four-fifths of the nonhuman energy which she consumes annually. This country is the extreme example of a nation which depends primarily upon the inanimate energy of coal and oil for its motive power. The United States consumes about one-third of the world's annual output of coal and more than one-half of the world's annual output of petroleum. The population of the United States is only about 6 per cent of total world population. Thus 6 per cent of the world's population (that 6 per cent residing in the United States) consumes a third of the coal which is produced annually, and more than one-half the petroleum. Other nations obtain larger proportions of their motive power from animate energy. Furthermore, they combine coal, petroleum

and water power in different proportions. Europe,[1] with an area equal to about two-thirds that of the United States and a population approximately three times that of the United States, uses annually about 40 per cent more coal, 20 per cent more water power and less petroleum than is used in the United States.[2] The so-called "vegetable" civilizations of the Orient—particularly China and India—have not progressed so far as Western nations in substituting the inanimate energy of coal, petroleum and water power for the animate energy of human labor in the performance of heavy work. Mechanization of Oriental countries is probably one of the next great scenes in the panorama of industrial evolution.

GEOGRAPHICAL DISPERSION OF POWER MACHINERY

During the nineteenth century, systems of power-machinery mining, transporting and manufacturing spread in all directions from Great Britain as a center. A vital part of the British free-trade system of the nineteenth century was the extension by British bankers of capital loans to facilitate industrialization of the less mechanized countries. During the twentieth century Germany, France and the United States have taken places alongside Great Britain and have vied with her in efforts to spread to the four corners of the earth Western capital and Western techniques. So long as unused resources remain to be exploited, improved mechanical methods will, in all probability, continue to spread to industrially backward regions as fast as the stabilization of political conditions in these regions will permit.

Mechanization of industrially backward regions need not follow lines exactly parallel to those of Great Britain, the United States, Germany or France. Nations that are not abundantly supplied with power resources may concentrate their efforts upon the development of more light industry and less heavy industry than is found in Europe and America. This suggestion does not necessarily imply that the people of countries with a dearth of power resources are doomed to a condition of low living standards. In a world where commerce is possible, wealth depends as much upon scarcity values of goods produced as upon physical volume

[1] Russia excluded, Great Britain included.

[2] See *Foreign Commerce Yearbook*, U. S. Department of Commerce, 1933, pp. 312, 332, 337 for data upon which the foregoing generalizations are based.

of amounts of goods produced. Furthermore, the contribution of mechanical power to physical volume of goods produced is conditioned by degrees of engineering and economic efficiency achieved in the utilization of such power. Much of the original energy of falling water, petroleum and coal is lost in the process of conversion into useful forms. Even after the primary energy has been converted, there is possibility of huge wastes resulting from creation of unwanted goods or maintenance of plant capacity that is not fully utilized. Also, it is possible that new sources of energy supplies may someday be made available. Having recognized intangible and unpredictable factors of this kind, we can probably do no better than to base calculations on the probability that limitations of known fuel resources will be among the factors which condition territorial patterns of industry. Countries deficient in water power, petroleum and coal will, in all probability, be compelled to import fuels, forego the development of heavy industries or work them under relatively unfavorable circumstances.

WATER POWER

In contemplating the growth of trade between highly industrialized nations and more backward regions, recognition of the truism that buying power is limited to selling power drives home

TABLE 16.—SUMMARY OF THE WORLD'S POTENTIAL AND DEVELOPED WATER POWER[1]

	Potential horsepower	Horsepower developed	Per cent developed
Africa	190,950,000	32,980	Less than 1
South America	43,700,000	902,100	About 2
Oceania	16,700,000	368,260	About 2
Asia	70,700,000	4,026,150	About 5
Europe	55,122,000	18,436,000	About 34
North America	68,550,000	21,825,400	About 32
Totals	445,722,000	45,590,890	About 10

[1] SOURCE: *Foreign Commerce Yearbook*, 1933. In most, if not all, cases figures for developed water power represent the rated capacity of water wheels or turbines installed and those for potential power represent the total power that could be obtained at ordinary low water, and an efficiency of 70 per cent in the plants. The installed capacity of machinery at constructed plants averages two to three times the potential power under conditions at low flow.

the idea that people of undeveloped regions must be assisted to produce more goods if they are to buy more goods. Some of the undeveloped regions of the world are rich in coal; others are poor in coal, but rich in the possession of water-power resources or petroleum. In Table 16 is a summary of the potential water-power resources of the world by continents with estimates of percentages developed.

Inasmuch as the figures for developed water power in Table 16 represent the rated capacity of water wheels or turbines installed, and those for potential power represent the total power that could be obtained at ordinary low water and an efficiency of 70 per cent in the plant, the percentages of potential water power developed are probably high. Possibly five or six times as much water power can be developed in Europe and North America as these regions now have installed capacity to use. The figures, as given, are more suggestive of relative developments in different regions than they are of the absolute extent to which power resources in any of the regions are utilized. The significant facts which the table brings out are that Africa, South America, Oceania and Asia, each and all, have large amounts of unused water power, and that Europe and North America have a long way to go before industrial expansion may be limited by shortage of potential hydroelectric energy.

Water-power Resources of Africa.—Africa ranks first among the continents in water-power resources. In Africa, great waterfalls are located in dark jungles so dense that man can never conquer them with his own puny strength. Stanley Falls, a series of seven cataracts, located several hundred miles from the mouth of the Congo River, is an example. Stanley Falls is surrounded by the Great Congo Forest, a tract of land in Central Africa some 25,000 square miles in area. The forest is so dense in places that passage may be effected only by forcing a way through innumerable creeping plants and between giant trees whose interlacing branches shut out the sun. In the northern and southern parts of Africa rainfall is comparatively light and potential water-power resources are less abundant.

Water-power Resources of Asia.—Asia is believed to have about one-sixth of the world's potential hydroelectric power. In both India and China are mountainous areas whence rivers rise and rush down to the plains below. India has almost as much

water power as the United States; China has one-half to two-thirds as much; Asia Minor and Iran (Persia), once the seat of civilization, have very little water power and practically no coal, and their reserves of petroleum are fast being exhausted by Western powers.

Water-power Resources of North and South America.—North America ranks third among the continents in water-power resources. The fact that a large part of North America's unused water power is located upon rivers rising in the Rocky Mountains and flowing toward the Pacific coast may someday encourage greater industrialization of the Pacific coast area.

South America has about 10 per cent of the world's potential hydroelectric energy. The great Andean mountain system paralleling the west coast of South America and the central plateau extending from the Andes across the center of the continent to the Atlantic coast are origin points of rivers running west, northeast and southeast. The midcontinent plateau divides the drainage area of the Amazon, running northeast, from that of the Rio Paraná, which runs south. In general, rainfall in the northern half of South America is heavier than that in the southern half, and water-power sites are more numerous. In Argentina, rainfall is relatively light and power sites are not so numerous as they are farther north.

Water-power Resources of Europe and Oceania.—Norway, the Caucasus region, Sweden, France, Spain, Italy, Austria and Russia are the parts of Europe with greatest water-power resources. The United Kingdom is less well supplied with water-power sites than are many of the less industrialized countries on the Continent.

The Pacific Islands which rank highest in water-power resources are New Guinea, New Zealand, Borneo and Sumatra. New Zealand has 10 to 15 per cent as much potential hydroelectric energy as the United States.

UTILIZATION OF WATER-POWER RESOURCES IN VARIOUS COUNTRIES

Water-power resources are most fully utilized in countries which are in advanced stages of industrial development. Figures indicating for various countries the proportions of potential

water power yet unused are not very accurate because of the lack of uniformity in stream flows and because changes in technique cause estimates of the potential amounts of available water power to undergo modification. Roughly, Germany uses in the neighborhood of one-half to three-fourths of the potential water-power supply that is reasonably available under existing conditions. Great Britain, France, Italy and the United States use in the neighborhood of one-third of their potential water-power supply which is reasonably available under existing conditions, while other countries use lesser amounts. The term "reasonably available" has no precise economic significance. The general idea to be conveyed is that increased demand for hydroelectric energy can call into use large increases in supply even in the most highly industrialized nations of the world, not to mention Asia, Africa and South America.

On the one hand, it is well to know that large potential reserves of water power remain to be harnessed in many parts of the world. On the other hand, there is a danger of overestimating the relative importance of water power as a prime mover in industrialized nations as now organized. In the United States, for example, water power represents but a small proportion of the total motive power of all prime movers in use. Full use of all the potential water power available for use in this country would, in all probability, be insufficient to generate as much power as is now being generated by coal and petroleum. During the last quarter century, coal as a source of energy has tended to decline in relative importance in the United States while relative amounts of energy derived from oil, gas and falling water have tended to increase. Data from which these conclusions are drawn are shown in Table 17. Inasmuch as energy from these several sources is competitive in many important uses, the extent to which the trends indicated in Table 17 may continue during decades ahead will probably depend upon relative costs of production. Costs cannot be estimated far into the future with accuracy.

Although data comparable with those in Table 17 are not available for the whole world, such scattered information as is available suggests that water power is also increasing in relative importance in other parts of the world. The explanation of this fact is probably to be found in improvements in methods of generating and distributing hydroelectricity.

TABLE 17.—ANNUAL SUPPLIES OF ENERGY OBTAINED FROM MINERAL FUELS AND WATER POWER IN THE UNITED STATES[1]
(Equivalents of heating power in trillions of British thermal units)

Annual average or year	Total		Coal		Oil and gas		Water power	
	Amount	Per cent	Amount	Per cent	Amount	Per cent	Amount	Per cent
1906–1910	13,867	100	11,990	86	1,508	11	369	3
1921–1925	21,308	100	14,722	69	5,481	26	1,105	5
1926–1930	25,002	100	15,679	63	7,542	30	1,781	7
1935[2]	21,443	100	11,063	52	8,173	38	2,207	10

[1] SOURCE: *Statistical Abstracts of the United States*, 1933, p. 320, and 1936, p. 348.
[2] Preliminary.

WATER POWER VERSUS PETROLEUM AND COAL

The range of substitution among petroleum, coal and water power is wide. Water power does not supply lubricating oil, liquid fuels for automobiles and airplanes or the raw materials of a chemical industry. These needs are supplied by petroleum and coal. Water power in the form of electricity does, however, actively compete with petroleum and coal in heating, lighting and the supplying of energy for mechanical uses. In the operation of automobiles and airplanes, gasoline is still the principal source of energy. The high efficiency of the Diesel engine gives crude oil an advantage in certain classes of shipping. In other classes of shipping, coal is the principal source of primary energy. Thus coal and petroleum are better suited than hydroelectric energy for some uses; but in the motivation of electric railway trains, subways, streetcars and factory machinery, and in the operation of electric lighting systems, telephone, telegraph and broadcasting stations, hydroelectricity is no less serviceable than coal- or oil-generated electricity. The extent of substitution among coal, petroleum and water power is, therefore, as already stated, largely a question of relative costs of different methods of generating energy.

PETROLEUM

Within the last half century, petroleum has made a unique place for itself in commerce and industry. It supplies the motive power for automobiles, airplanes and increasing numbers of the

world's ships and is the principal source of lubricating oil necessary to efficient operation of high-speed machinery. The product has been known for thousands of years, but organized extraction and widespread industrial utilization had their beginnings less than a century ago.

Petroleum occurs in many parts of the world. It is secured by drilling through rock formations beneath which gas and oil in the natural state are confined. Figure 6 suggests the nature of geological formations in which oil and gas occur.

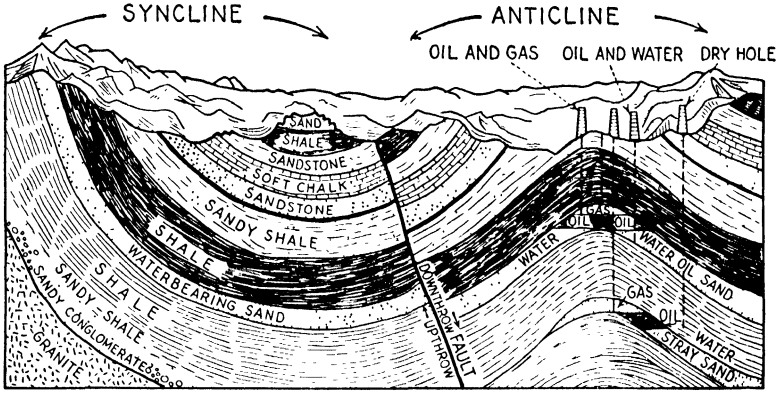


FIG. 6.—TYPICAL GEOLOGICAL FORMATIONS SHOWING POSITIONS OF PETROLEUM AND GAS

SOURCES: From ZIMMERMAN, ERICH W., *World Resources and Industries*, Harper & Brothers, New York, 1933, p. 488. Used by permission.

International Trade in Petroleum.—World trade in petroleum and its products is far flung and fraught with particular international significance because of the struggle on the part of strong nations to secure petroleum concessions in industrially backward regions in South America, Mexico, Iran (Persia) and elsewhere. The United States produces about 60 per cent of the annual world output of petroleum. This country's net imports of crude petroleum amount to only 4 or 5 per cent of her production. Her net exports of gasoline, illuminating oil, fuel oil, lubricating oil and greases are four or five times as great in numbers of barrels as her net imports of crude petroleum. United States net exports of petroleum and its products may, therefore, be considered to be in the neighborhood of 10 to 20 per cent of her production.[1]

[1] The figures, which represent the late nineteen twenties and early thirties, are subject to change as world conditions of supply and demand change.

Aside from the United States: Venezuela, Mexico, Peru, Argentina and Colombia in America, U.S.S.R. (Russia) and Rumania in Europe, and Iran (Persia) and Dutch East Indies in Asia, are the leading petroleum-producing countries (see Table 18).

TABLE 18.—WORLD PRODUCTION OF CRUDE PETROLEUM, 1913, 1926–1930 AVERAGE AND 1935[1]
(Thousands of barrels of 42 U. S. gallons)

Country	1913	1926–1930 Average	1935
World total[2]	385,345	1,316,382	1,642,605
America:			
United States	248,446	895,762	993,942
Per cent of world total	64.5	68.0	60.5
Mexico	25,696	57,782	40,235
Trinidad	504	7,234	11,671
Venezuela	.....	95,987	149,113
Peru	2,071	11,753	17,067
Argentina	131	8,789	14,253
Colombia	.....	16,417	17,595
Europe:			
U.S.S.R.	62,834	93,459	176,688
Rumania	13,555	31,594	61,371
Poland	7,818	5,314	3,808
Asia and Africa:			
Iran (Persia)	1,857	41,394	57,304
Dutch East Indies	11,172	32,366	43,722
India	7,930	8,484	9,227
Sarawak	141	5,061	4,974
Japan Proper[3]	1,940	1,826	1,846
Egypt	98	1,632	1,295

[1] SOURCE: *Foreign Commerce Yearbook*, 1936.
[2] Includes countries not shown separately.
[3] Includes Taiwan.

The aggregate exports of petroleum and its products from the countries listed in Table 18 (aside from the United States) equal about three-fourths of the production of these countries. From these principal producing regions, petroleum and its products move to the highly industrialized areas of western Europe and to Japan.

World's Oil Reserves.—World production of petroleum has increased fivefold in the last quarter century and more than two thousandfold since 1860. If utilization continues to increase at a rapid rate, may not the world's petroleum reserves soon be exhausted? No exact knowledge of the extent of petroleum reserves is available because of the possibility of discovering new fields and of introducing improved methods of extraction. Such data as are available provide little evidence as to when the world's petroleum reserves may be exhausted. The professional economist is more interested in economic changes that approaching scarcity of petroleum may cause than in the possibility of absolute exhaustion of reserves. Among the possible changes that may accompany depletion of petroleum supplies are higher prices for gasoline, shifts in principal sources of petroleum supplies, shifts from oil to coal and development of a shale mining industry. In general, the world's petroleum supplies are widely

TABLE 19.—ESTIMATES OF PETROLEUM RESERVES BY COUNTRIES[1]
(Millions of barrels)

Country	Production from the beginning of commercial utilization of petroleum to January, 1936	Proven reserves, January 1, 1936
United States	17,593	10,575
U.S.S.R.	3,364	2,830
Iraq (Arabia)	38	2,475
Iran (Persia)	642	2,150
Venezuela	1,160	1,350
Rumania	664	633
Dutch East Indies	680	450
Mexico	1,801	420
Colombia	167	275
Peru	185	138
British India	254	111
Argentina	138	92
Trinidad	115	91
Others	499	375
Total	27,300	21,965

[1] SOURCE: GARFIAS, V. R., and R. V. WHETSEL, in *Petroleum Development and Technology*, pp. 211–214, issued yearly by the American Institute of Mining and Metallurgical Engineers; reproduced with the permission of the publishers.

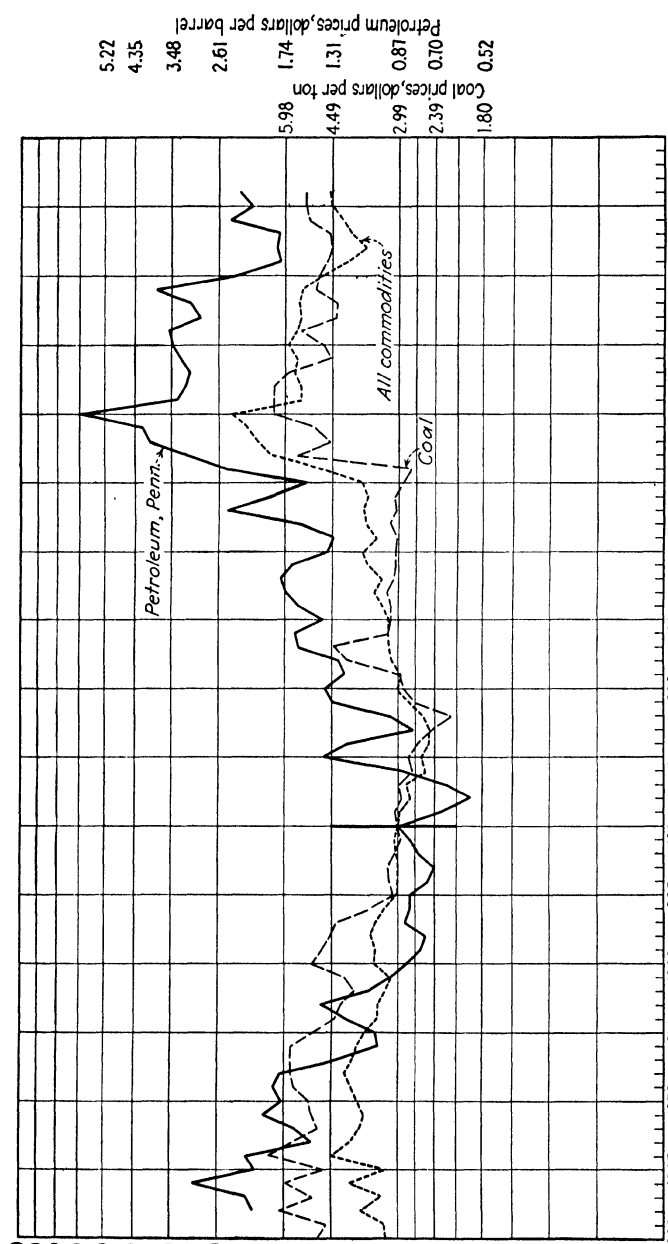


FIG. 7.—COMPARATIVE PRICES OF CRUDE PETROLEUM, BITUMINOUS COAL AND ALL COMMODITIES, 1860 TO 1936

NOTE: Prices of Kansas-Oklahoma petroleum are now quoted more frequently in financial journals than prices of Pennsylvania petroleum. However, the Kansas-Oklahoma prices are not available for the period covered in the figure. The Kansas-Oklahoma petroleum prices at the wells are substantially lower than Pennsylvania petroleum prices at seaboard. SOURCES: All-commodity wholesale price index of the United States from *Aldrich Report, U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. Petroleum and coal prices are from the same sources. The figure is patterned after Fig. 29, in Killough and Killough, *op. cit.*, p. 287. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

dispersed geographically. The foregoing table, although of little significance from the point of view of possible exhaustion of resources for reasons already cited, is suggestive of their wide geographical distribution.

The United States, U.S.S.R., Iraq, Iran and Venezuela are the countries which lead in "proven reserves" of petroleum. The term "proven reserves" means the proportion of known amounts of oil underground in proven fields at any time that may be economically brought to the surface and made available for use. Table 19 indicates that the proven reserves of petroleum are widely dispersed both in the absolute and in relation to past production.

Comparative Price Trends of Petroleum and Coal.—Prices of petroleum, coal and an all-commodity index from 1860 to 1936 are plotted in Fig. 7. Petroleum prices have increased as compared with prices of coal and other commodities since 1890. Already, substitutes are being sought for the motivation of internal combustion engines. One possible substitute is shale oil. An abundance of shale rock exists in the United States and other parts of the world from which a petroleum substitute may be extracted, but at a considerably higher cost per barrel than liquid petroleum pumped from the earth.

COAL

Coal serves a double function in modern industry. It supplies heat for steam raising, and carbon and heat for the smelting and working of iron. The nations with large iron and steel industries are those which consume the greatest quantities of coal; the United States of America, Germany, France and Great Britain are examples.

Kinds of Coal.—Coal is of four principal kinds: anthracite, bituminous, lignite and peat. Anthracite coal has a relatively high carbon content (90 to 95 per cent) and is extremely hard. Bituminous coal, lignite coal and peat are progressively lower in carbon content. Bituminous coal is more plentiful than anthracite; it is cheaper and is more generally used. Lignite coal is low in carbon content and heat value; it is used in relatively small quantities. Peat represents an early stage in the process of coal formation; it is seldom used where other kinds of coal are available.

Uses.—An original feature of the celebration of the Battle of Waterloo in London in 1815 was the use of coal gas for public lighting. In that year, the world's total output of coal was less than 15 million tons; in 1915, just a century later, coal production had increased to approximately 1,200 million tons—an eightyfold increase in the short space of 100 years. Coal is used for coke and gas making, for the motivation of industry, for rail and ocean transportation, for residential and business heating and for other purposes.

During recent decades, increased consumption of coke has paralleled a decline in production of anthracite coal, reserves of which are less abundant than bituminous coal reserves. Beehive coke plants have given way to by-product coke plants that make possible the conservation of gas, ammonium sulphate, benzol, tar and other by-products released in the process of converting bituminous coal into coke. The utilization of by-product coke plants is but one of a number of coal economies, introduced in recent years in coal-using countries. Natural scientists, chemists and fuel technologists are busily engaged in making one ton of coal generate as much usable energy as was obtained from two tons in years gone by. Between 1919 and 1935, the amount of coal consumed in the United States in the generation of electricity was reduced from 3.2 pounds per kilowatt hour to 1.5 pounds per kilowatt hour, a 53 per cent reduction.[1] Similar developments are under way in other countries.

Price Trends.—In an extractive industry such as coal mining, one would expect the time to come when continued applications of labor and capital would bring forth proportionately smaller amounts of product. Thus when continued demand for coal necessitates digging deeper into the earth and mining thinner seams to secure adequate supplies, the cost of coal would be expected to rise. However, coal costs have not risen; they have declined. In the United States, for example, the abundance of coal reserves, improvements in methods of mining and transportation and increased efficiency of utilization have counteracted the tendency for diminishing returns to raise coal values. In spite of the enormous industrial expansion in the country during the nineteenth and twentieth centuries, and the ever-increasing demand for fuel, coal prices have shown no substantial tendency

[1] SOURCE: *Statistical Abstract of the United States*, 1936, p. 348.

to increase in relation to the average price level of other commodities (Fig. 7, page 166). Anthracite coal mines in the United States (principally in Pennsylvania) are deeper and more difficult to work than most of the country's bituminous mines. During recent decades, the output of anthracite coal has not kept pace with the output of bituminous coal and the manufacture of coke. The difficulty of securing anthracite coal appears to have resulted in a relative price increase and in reduced consumption as compared with bituminous coal and coke. The statistical bases for the conclusion is given in Table 20.

TABLE 20.—UNITED STATES PRODUCTION AND PRICES OF ANTHRACITE COAL, BITUMINOUS COAL AND COKE, 1900–1935 BY FIVE-YEAR INTERVALS[1]

Production, millions of tons				Relative prices: 1926 = 100		
Year	Anthracite	Bituminous	Coke	Anthracite, Egg, tidewater, N.Y.	Bituminous, New River, mine run, f.o.b. Cincinnati	Coke, Beehive, Connellsville, furnace
1900	54	173	18	31	44	64
1905	65	249	21	42	58	55
1910	65	339	35	42	51	48
1915	89	442	42	44	55	44
1920	90	569	51	80	142	283
1925	62	520	51	97	93	99
1930	69	468	48	94	91	63
1935	57	369	32	79	98	87

[1] SOURCES: *Statistical Abstracts of the United States*, 1910, pp. 539, 541; 1933, pp. 74, 75 and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins.*

International Trade in Coal (Coke and Briquettes Included).—About 10 per cent of the coal which is produced annually throughout the world enters the channels of international trade. Among the leading exporting nations are the United Kingdom, Germany and the United States. These three countries export about three-fourths of all coal that leaves the country of origin. In terms of net exports,[1] an even larger proportion of the coal which enters the channels of world trade is mined in the United Kingdom,

[1] The difference between total exports and total imports.

Germany and the United States. France, Italy and Canada rank at the top of the list of coal-importing nations. These three countries take about half of the world's total imports of coal. France and Italy look to Great Britain and Germany as principal sources of supply; Canada looks to the United States.

In addition to these 6 leading coal-exporting and -importing countries, at least 40 or 50 other nations, scattered all over the globe, import or export appreciable amounts of coal. China sends coal to Japan. Asiatic Russia, Australia, Dutch East Indies and French Indo-China each have small annual export surpluses of coal. The Balkan states, Switzerland, Spain, Portugal, Denmark, Norway, Netherlands and Sweden secure coal from Great Britain, Germany and Poland and to a less extent from Russia. Cuba, Argentina, Brazil, Peru and other nations in South America import small quantities of coal from the United States, Great Britain and Germany. Ceylon, the East Indies and countries of the Near East—Persia, Turkey, etc.—purchase small quantities of coal from whatever sources of supply may be had at least cost.

World Coal Reserves.—The location of the world's principal coal reserves is of particular importance in relation to international trade because coal is exported and imported and also because the greatest centers of heavy industry have in the past tended to develop in proximity to coal-mining regions. Since the World War, improved transportation facilities appear to have altered somewhat the tendency in question. France, for example, has expanded her steel industry through the use of coal secured from Germany, and Japan has been securing increased amounts of coal from the Asiatic continent for steel manufacture. Nevertheless, the probability is that for some time to come nations with cheap coal will tend to develop heavy manufacturing industries in place of exporting their coal to distant countries less well endowed with fuel resources. Among the leading nations of the world that are deficient in coal reserves are France, Italy and Japan.

Knowledge of the world's coal reserves is not complete. The best available data are contained in an extensive compilation of various estimates prepared for presentation at the twelfth annual meeting of the International Geological Congress (Toronto, 1913), and corrected in conformity with information brought to

light since that time.[1] The data are even less exact for countries like China which have not been extensively surveyed than they are for the more progressive countries like Great Britain, Germany and United States. In general, the world's reserves of anthracite, bituminous and lignite coals are estimated to aggregate some 6,000 billion or 8,000 billion tons, enough to last, at the existing rate of annual consumption, for several thousand years.[2] Estimates and calculations of this nature are not sufficient grounds for dismissing the subject of reserves, however, for at least three reasons. In the first place, annual production of coal is increasing. Annual world production of coal has increased 7,000 or 8,000 per cent within the last century, and the end is not in sight. In the second place, because the best and most accessible reserves are being used first, coal mining in old regions becomes progressively more difficult and, unless improved methods are introduced, more costly. In the third place, the world's coal reserves are not uniformly distributed among all regions.

Of the estimated total world reserves of coal, about one-half is estimated to be bituminous, 40 to 45 per cent lignite, and only 5 to 10 per cent anthracite. North America is estimated to have approximately two-thirds of all known reserves. About three-fourths of North America's coal (one-half of the world's known reserves) is in the United States. Canada has most of the remainder. In general, North American coal is of average quality, nearly half of it being bituminous. North America has, therefore, the greatest reserve of high-grade coal to be found anywhere in the world. Either western Europe or Asia ranks second. The best available estimates indicate that Asia has as much or more coal than Europe, most of it being in Russia and China. However, the Asiatic figures are the most dubious of all. Europe (including the western portion of the U.S.S.R. and Great Britain) is estimated to have only about one-seventh as many tons of coal as North America (*i.e.*, about 10 per cent of the world's known reserves). Inasmuch, however, as less than 10 per cent of

[1] See *Trade Promotion Bulletin* 105, *The Coal Industry of the World*, U. S. Department of Commerce, 1930, pp. 13 *ff.*, and *Economic Handbook of the Pacific Area*, edited by F. V. Field, published by Doubleday, Doran & Company, Inc., Garden City, N.Y., 1934.

[2] Average annual production of coal for the whole world is estimated to have been about 1⅓ billion metric tons during the period 1921 to 1930 inclusive. SOURCE: *Foreign Commerce Yearbook*, 1933, p. 332.

Europe's coal is lignite, the comparison between Europe and North America is probably more nearly of a magnitude of 1 ton in Europe to 4 or 5 in North America.[1] About two-thirds of Europe's coal is in Germany and Great Britain. The remainder is scattered. Great Britain has in the neighborhood of half as much coal as Germany; European Russia has possibly a fifth to a half as much coal as Great Britain; Poland a third as much as Great Britain; and France possibly a tenth as much as Great Britain. Russia is believed to have more coal east of the Ural Mountains than she has west of the mountains, possibly five or ten times as much.[2] Australia is estimated to have about as much coal as Great Britain; South Africa is estimated to have possibly a third as much as Great Britain. The remainder of Africa and all South America are less well supplied with coal than any of the regions cited, with the exception of France. Colombia is believed to have more coal than all the other South American countries combined; she has possibly one-seventh as much coal as Great Britain, somewhat more than France.

Two of the world's greatest coal reserves are in use, *viz.*, those in North America and western Europe. The other possible reserves of gigantic proportions, those in Asiatic Russia and China, are not in use; in fact, there is no certainty that they exist. The coal reserves in Australia, Canada, the Union of South Africa and Colombia, South America, appear to be sufficient for more or less industrial development along old lines, but on no such gigantic scale as the industrial developments which have taken place in United States and western Europe.

Accessibility of Coal Reserves.—The accessibility of coal reserves depends upon transportation facilities, nearness of deposits to the surface of the earth and thickness, width and continuity of seams. Among the reasons for Great Britain's rapid industrial expansion in the nineteenth century was the fact that her coal reserves were near tidewater, easy to get at and well suited to her needs. Figure 8 shows the location of coal

[1] This is the approximate ratio of reserves of anthracite and bituminous coals in the two regions.

[2] See *Trade Promotion Bulletin* 105, pp. 170, 171.

MIKHAYLOV, N., *Soviet Geography*, Methuen & Co., Ltd., London, 1935, p. 33.

FERSAM, A. E., *The Scientific Study of Soviet Mineral Resources*, Inra Cooperative Publishing Society, Moscow, 1935.

fields in England and Scotland. Newcastle, Cardiff, Liverpool, Glasgow and Edinburgh were all in the midst of coal-mining regions whence coal could be had at tidewater for British shipping and for export. Newcastle coal, excellent for gas and coke, moved to Germany via Hamburg and Bremen, and up the Rhine

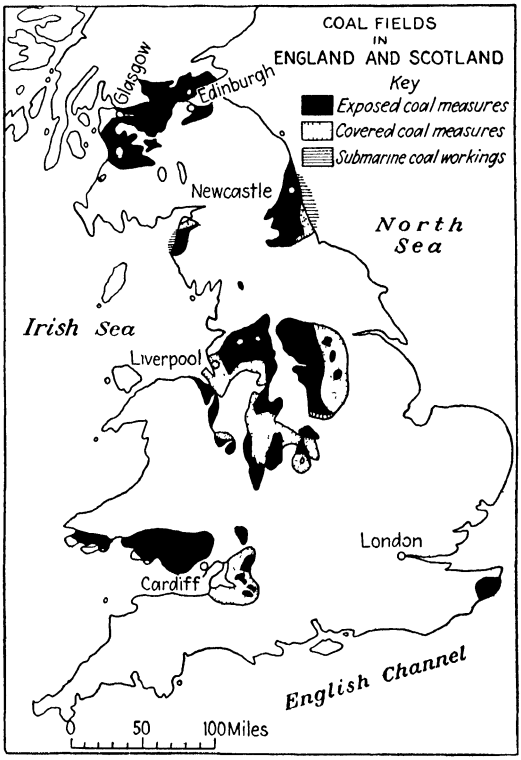


FIG. 8.—COAL FIELDS IN ENGLAND AND SCOTLAND
SOURCE: *Trade Promotion Bulletin* 105, U. S. Department of Commerce, 1930, p. 70.

as far as Cologne, to France via Havre and to other European ports. In the Midland region, coal suited for conversion into metallurgical coke lay in close proximity to iron ore. Birmingham, which was situated on the edge of the Black Country coal fields and which had had an iron-smelting industry long before charcoal smelting gave way to coal-coke smelting, became the largest city of the Midlands, and the center of the iron trade of this region. Manchester, center of cotton manufacturing, Shef-

field, noted for its cutlery, and Leeds, the city of woolen manufactures, were all surrounded by coal fields.[1]

Germany found excellent coking coal in the Ruhr district, but iron ore had to be transported to it from relatively long distances. The German Saar coals proved to be of poor quality for coke making, and the adjacent French Lorraine iron ore, because of its impurities, was not well adapted to early methods of iron making. Improvements in smelting technique and overland transportation gradually overcame these difficulties, but Great Britain's iron industry was well advanced before these improvements were realized. In America, as in Germany, concentration of industrial life about the coal fields lagged behind a similar development in Great Britain. The richest iron mines of the United States are in Michigan and northern Minnesota; the richest bituminous coal mines are in West Virginia, Pennsylvania, Kentucky and Illinois. Pittsburgh, Pennsylvania, and Birmingham, Alabama, are in close proximity to local coal and iron mines,

TABLE 21.—OUTPUT OF COAL PER PERSON EMPLOYED IN COAL MINING IN VARIOUS COUNTRIES, 1874 TO 1935

Period	United Kingdom	Germany	France	United States		
				Bituminous	Anthracite	Total
Yearly Average Output per Person Employed—Tons[1]						
1874–1878	270	209	154	341	323	327
1894–1898	287	262	208	511	336	447
1909–1913	257	256	195	698	449	636
Daily Average Output per Person Employed—Tons[2]						
1924–1928	0.98[3]	1.05	0.59	4.15	1.85	...
1931–1935	1.14	1.63	0.81	4.42	2.33	...

[1] *Report of the Royal Commission on the Coal Industry* (1925), His Majesty's Stationery Office, London, 1926.

[2] Data supplied by the Coal Economics Division of the U. S. Bureau of Mines. Data by years comparable with that in the top half of the table are not readily available for the later years and the daily figures are not readily available for the earlier years.

[3] Four-year average because of the strike in 1926.

[1] See RENNARD, T. A., *Atlas of British and World History*, A. Wheaton & Company, Ltd., Educational Publishers, London, 1924, or some other industrial atlas of Great Britain.

but both cities were handicapped by inadequate transportation facilities prior to the building of a railway system.

Before the end of the nineteenth century, rail transport had removed the location handicap to the extensive development of coal mines in the United States and Germany. Great Britain's initial advantage, derived from convenient location of her coal fields, had given way, and she is now handicapped by inaccessibility of coal reserves arising from depth of mines and difficulty of mining. The output of coal per miner in the United Kingdom is now less than a third that in the United States and somewhat less than that in Germany (Table 21).

More than half of the coal now being worked in the British Isles comes from depths greater than 900 feet and nearly a quarter comes from depths greater than 1,500 feet. Half of the output comes from seams less than 4 feet in thickness. In the United States, the deepest bituminous-coal-mining operations are less than 1,000 feet from the surface, and the average depth of shaft is only about 260 feet. Many of the mines have no shafts at all. Furthermore, 40 per cent of this country's bituminous coal output comes from seams 6 feet or more in thickness while only about 20 per cent comes from seams less than 4 feet thick.[1]

The coal reserves of France are less abundant and less accessible than those of either Great Britain or Germany.[2] In 1903, France produced approximately 34 million tons of coal and consumed approximately 48 million tons, 14 million tons being imported. In 1913, she produced approximately 41 million tons and imported about 24 million. French production for the period 1926 to 1930 averaged about 52 million tons a year; net imports amounted to about 15 million tons annually.[3]

Belgian coal is abundant in proportion to Belgium's size, and easily accessible, but Belgium is a very small country. Belgian production of coal for the period 1926 to 1930 averaged only

[1] *Report of the Royal Commission on the Coal Industry* (1925), His Majesty's Stationery Office, London, 1926, p. 127.

[2] This statement holds good for postwar France, after she had regained Alsace-Lorraine, as well as for prewar France.

[3] SOURCES: *Trade Promotion Bulletin* 105, p. 135; *Commerce Yearbook*, U. S. Department of Commerce, Vol. II, 1929, and *Foreign Commerce Yearbook*, 1933.

See *Foreign Commerce Yearbook* for production figures since the business depression of the early nineteen thirties.

about 27 million tons a year as compared with 52 million tons in France and 227 million tons in the United Kingdom.

Polish coal is located inland; full exploitation of the mines in upper Silesia, Teschen Silesia and the Dabrowa and Cracow basins is limited by inadequate transportation facilities. European Russia's principal coal mines are in the Donets Basin, which lies directly north of the northeastern projection of the Sea of Azov in the Ukraine. In this region, iron and limestone, as well as coal, are available within short distances of one another. Other coal deposits in the western part of Russia are to be found in the vicinity of Moscow, and in the Ural Basin. A number of coal deposits are known or believed to exist, in Asiatic Russia; among the largest are the Irkutsk deposit near Lake Baikal on the Siberian-Mongolian border, some 1,500 miles west of Vladivostok, and the Kuznetsk deposit some 500 or 600 miles west of Lake Baikal (see Fig. 9, page 177). A number of other deposits are believed to exist in Asiatic Russia. Some coal is to be found, for example, in the vicinity of Vladivostok and on Sakhalin Island. Rail, canal and river transportation have made European Russia's coal deposits available for use. Relatively little has been done, as yet, by way of developing Russia's Asiatic coal resources. Total coal production of the U.S.S.R. for the period 1926 to 1930 averaged about 37 million tons per year. U.S.S.R. production for the period 1931 to 1935 averaged about 80 million tons per year.[1]

In China, coal deposits are to be found in almost every province. One of the largest Chinese coal-bearing areas is in northern China, in Shansi Province, some 500 or 600 miles southwest of Peking. Another large deposit is in southern China, some 800 to 1,200 miles southwest of Shanghai. All the Chinese coal fields will require improvements in transportation facilities to make them fully available for use.[2]

Canada, like Russia and China, possesses coal fields that have not as yet been brought into extensive use because they are difficult to get at and because much of the coal is low in quality. In the aggregate Canada is estimated to have more coal than all the European countries combined. This comparison is misleading, however, because three-fourths of Canada's coal is subbituminous,

[1] SOURCE: *Foreign Commerce Yearbooks* 1933, p. 332, and 1936, p. 376.
[2] *Trade Promotion Bulletin* 105.

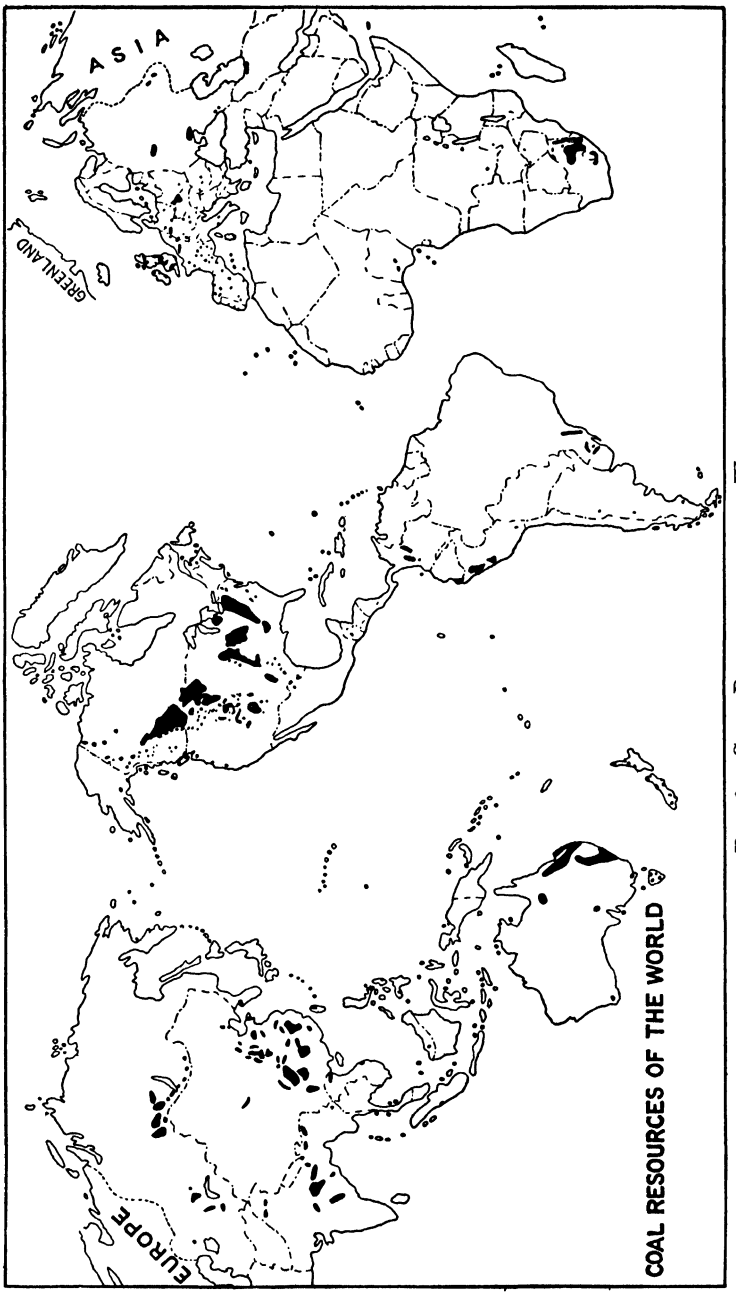


FIG. 9.—COAL RESOURCES OF THE WORLD

SOURCE: Reproduction of Fig. 1, *Trade Promotion Bulletin* 105, U. S. Department of Commerce, 1930, p. 14.

brown or lignite, whereas the greater part of Europe's coal is good bituminous. Canada has possibly from a third to a half as much good bituminous coal as is to be found in Europe. The largest Canadian reserves of high-grade bituminous coal are to be found in the Province of Alberta, the Rocky Mountain section of Canada (see Fig. 9, page 177). This region is inconveniently located from the point of view of both Atlantic and Pacific seaboard industry. The two most industrialized and populous provinces of Canada, *viz.*, Quebec and Ontario, are almost devoid of coal reserves.[1]

India has, in the aggregate, possibly half as much coal as Great Britain. Most of it is good-quality bituminous, located some distance from the eastern seaboard (see Fig. 9). India's average annual production of coal during the period 1928 to 1930 was approximately 23 million tons.

As already stated, substantial coal reserves are to be found in eastern Australia, southern Africa and northwestern South America (see Fig. 9). Australia has already built manufacturing industries in the vicinity of her coal mines. Australian output of coal for the period 1928 to 1930 averaged about 11 million tons per year. The South African coal reserves, which are believed to be less than half as great as those of Great Britain, wait to be exploited (see Fig. 9).

CONCLUSIONS

The most marked distinction between industry of ancient times and modern industry is our extensive use of nonhuman energy. Nonhuman energy in the form of coal, petroleum and falling water is converted into useful forms by means of engines devised and improved during and since the Industrial Revolution. With the help of these engines and the machines which they drive, people of our time work into finished goods vastly more material than it was possible for the ancients to use. Today huge quantities of raw materials are assembled from widely different points, to be converted into manufactured goods which, in turn, are dispersed to consumers in many and distant places.

Nonhuman energy has been employed by man in one form or another for many centuries. Not until the nineteenth and

[1] *Trade Promotion Bulletin* 105, U. S. Department of Commerce.

twentieth centuries, however, did steam engines, internal combustion engines and hydroelectric dynamos come into general use. Employment of these engines has placed a heavy demand upon the world's known reserves of coal, petroleum, iron, copper and other minerals. Competition for adequate supplies of them has increased, and, as a result, the whole fabric of pacific international relations is being subjected to severe strain.

CHAPTER XV

METALS AND METALWORKING INDUSTRIES

Increased utilization of natural power resources has made possible the development of gigantic metalworking industries in Western nations. This group of industries includes such undertakings as the mining, refining and fabrication of iron, copper, aluminum, lead, zinc, gold, silver and other metallic minerals of less importance. Metalworking industries are among the most characteristic features of modern civilization. Let us imagine an irreparable destruction of all metal goods and ask ourselves what would remain. Without goods made of iron, steel, copper, aluminum and other metals there would be no transportation and communication systems as we know them; there would be no power-driven manufacturing system; no steam engines; no electric dynamos; no precision tools. Deprived of its metalworking industries, civilization would, in all probability, revert to a simple type of handicraft economy. The all-pervasive importance of metals in modern industry and the unequal distribution of mining, refining and fabricating sites among civilized nations contributes to inequality in national wealth and political power and conditions the character of international trade. In general, nations with great iron and steel industries are, at the present time, the ones which are most wealthy and most powerful from a military point of view.

IRON AND STEEL

Location and Characteristics of Steel-manufacturing Regions.—The initial stages of the iron and steel industry tend to be concentrated in a few countries. For three-quarters of a century or more prior to the late nineteen twenties, upwards of four-fifths of the world's annual output of pig iron was obtained from the blast furnaces of four nations, *viz.*, the United States, Great Britain, France and Germany. Statistics of pig-iron production in these countries from 1850 to 1935 are indicated in Table 22.

TABLE 22.—WORLD PRODUCTION OF PIG IRON BY PRINCIPAL PRODUCING COUNTRIES[1]
(Thousands of gross tons)

Country	1850	1890	1900	1913	1920	1925	1930	1935
United States...	564	9,203	13,789	30,653	36,401	36,370	31,441	21,373
United Kingdom.	2,300	7,904	8,960	10,260	8,035	6,236	6,197	6,427
France.....	406	1,931	2,670	5,126	3,380	8,358	9,874	5,707
Germany.....	350	4,585	8,381	19,000	6,931	10,014	9,540	12,598
U.S.S.R.....	.....	.....	.....	4,181	158	2,087	4,933	12,283
All other.....	781	3,372	6,382	8,494	6,934	12,271	16,500	13,459
World totals...	4,401	26,995	40,182	77,714	61,839	75,336	78,485	71,847

[1] SOURCES: 1850 to 1920, from an article by Ohlin R. Kuhn, in *The Iron Age*, February 18, 1926, p. 484. Data after 1920 from *Foreign Commerce Yearbooks*, U. S. Department of Commerce.

In addition to indicating the extent to which the initial stages of iron and steel manufacturing are concentrated in a few countries, Table 22 suggests directions of change that have occurred in the center of gravity of the world's iron industry during the last century. At the middle of the nineteenth century, British producers dominated the world's steel-goods markets. The United States, Germany, France and lesser nations were just beginning, in 1850, to feel the surge of industrial might that for centuries had lain dormant in their little-used deposits of coal and iron. By 1913, just before the beginning of the World War, the United States had taken the leading position as a steel-producing nation; Germany had forged ahead of France and Great Britain; and Russian production had increased in magnitude sufficiently to command special attention along with production of the "big four." As a result of the World War, France obtained large iron-ore deposits in the Alsace-Lorraine district. With home-mined iron ore and coal, obtained from the Saar and on reparations account from Germany, France enlarged her iron and steel industry during and after the War until, in 1930, it ranked in pig-iron output second to that of the United States. After 1930, U.S.S.R. (Russian) production, which had been disorganized during the early twenties, forged ahead. German production also forged ahead in the early thirties. As a result, in 1935, Germany was second in pig-iron production to the United States; U.S.S.R., third; United Kingdom, fourth; and France, fifth.

The locations of large, modern steel industries are conditioned by such factors as (1) easy accessibility of huge quantities of coking coal, (2) accessibility of high-grade ore, (3) availability of capital, (4) demand for the product, (5) a suitable supply of labor and (6) business leadership. Steel may be produced in almost any part of the world where iron ore, and coal suited to coke making or wood for charcoal, occur, but it cannot be produced *en masse* and at low cost in regions where large amounts of iron ore are not easily accessible, or where coking coal is not plentifully available. At one time iron making was a widely diffused handicraft industry. Small charcoal furnaces were to be found in many parts of Europe, Asia and America prior to the time when charcoal smelting began to give way to coal-coke smelting.[1] The shift from charcoal smelting to coal-coke smelting initiated a concentration of great iron industries around the world's coal fields. At present, pig-iron and steel production[2] are excellent indices of the location of centers of heavy industry. Coal is mined near the great steel centers. Where there is coal there is power for the driving of motors and the generation of

[1] In England about the middle of the eighteenth century.

[2] Before the nineteen twenties, pig-iron and steel-ingot and -castings production were highly correlated. In spite of a tendency for steel-ingot and -castings production to pull away from pig-iron production since the World War, either figure remains a reasonably good index to the locations of heavy industry centers.

Year	World production of pig iron (millions of tons)	World production of steel ingots and castings (millions of tons)
1900	39	28
1910	65	60
1920	59	68
1925	75	89
1930	79	93
1934	61	80

SOURCES: Miller and others of the National Bank of Commerce, *Some Great Commodities*, p. 73, Doubleday, Page & Company, New York, 1923, and the *Mineral Industry*, McGraw-Hill Book Company, Inc., New York, annual. The increased use of scrap iron during recent decades has been a reason for the growing excess of steel production over pig-iron production.

electricity. Where there is steel there are machines and tools, rails, structural shapes and other basic supplies required in the building and operation of transportation systems, communication systems and factories. The world's most intensive industrial centers are to be found in eastern and north central United States, Great Britain, Germany, France and Belgium.[1] Russia, Japan, Australia, Canada, Italy and the lesser states of Europe, all have some manufacturing; in fact, almost every nation has more or less manufacturing of one kind or another, but in no other regions are manufacturing, commerce and finance so intensive as they are in the great steel areas of Germany, Great Britain, the United States, Belgium and, in less degree, France. The patterns of activity surrounding different centers of steel manufacturing are not alike as to detail, but all such centers are similar in important respects. The Pittsburgh-Cleveland-Detroit-Chicago area in the United States, the Birmingham-Liverpool-Sheffield area of Great Britain and the German Ruhr are each and all thickly populated; they have blast furnaces, rolling mills and factories that turn out a great diversity of iron and steel goods. Metalworking machinery, tools, engines, bolts, nuts, nails, wire, pipe, stoves, files, saws, scales, pumps, locomotives, rails, structural shapes and tin plate are but a few of the many familiar products made of steel. Other manufacturing industries have been attracted to the steel centers—some to provide mining and manufacturing accessories and building materials, others to take advantage of good labor markets and still others to provide dense populations with consumers' goods.

The time may be near at hand when fuels and fabricating materials will be moved in larger amounts to centers where populations are dense and labor relatively cheap. Italy and Japan may, one day, build giant steel industries with imported coal and iron ore. Another possibility is that coal-coke smelting of iron may give way to hydroelectric smelting. In this event, Brazil might become one of the leading steel-producing countries.

[1] Belgium has a very intensive manufacturing system but Belgium is a small nation. Belgium and Luxemburg combined have an area of less than 12,000 square miles as compared with an area of approximately 94,000 in the United Kingdom. The population of Belgium and Luxemburg is only about 8,000,000 as compared with approximately 46,000,000 in the United Kingdom.

Many reasons exist for anticipating possible shifts in the center of gravity of the world's steel-manufacturing industry. Few reasons there are to suggest that steel will not continue for a long time to be the "backbone" of modern industrial civilization.

Iron-ore Reserves.—Iron ore is associated with coal in the manufacture of iron and steel goods, but it does not always occur in proximity to coal in the natural state. Whereas the world's greatest reserves of coal are to be found in the United States, Germany, Great Britain, China and Russia, the world's largest known reserves of iron ore are in the United States, France, Brazil, Great Britain and Newfoundland. Germany is well supplied with coal, but relatively deficient in high-grade iron ore. Brazil has an abundance of high-grade iron ore, but little coal. Other countries that possess high-grade iron ore in relatively large amounts, but are deficient in coal, are Newfoundland, Spain and Sweden. China, like Germany, is believed to have an abundance of coal but to be relatively deficient in high-grade iron ore. China's reserves of iron ore are scattered and are believed to be of poor quality.

Owing to the facts that techniques of production are undergoing constant change, that political boundaries are unstable and that changes in customs and habits are difficult to predict, there is no certainty as to which of the less highly industrialized regions of the world are most likely to forge ahead in the building of iron and steel industries. India has sufficient reserves of both iron and coal for the development of a large steel industry, and already Western industrial methods have penetrated to some extent the shell of ancient custom and tradition that obstructs the introduction of modern methods. China has an abundance of coal and some iron ore. At present she is writhing and seething in an apparent effort to break the shackles of ancient modes of life and to create a politico-economic framework of institutions suited to modern industry. However, even if China soon succeeds in creating financial, political and economic institutions suited to the development of heavy industries, scarcity of high-grade iron ore may prevent any such concentration of heavy industry in China as that of the United States or western Europe. Russia has been forging ahead in the creation of a transportation system, the opening of mines and the building of factories. Russia's known reserves of coal and iron compare favorably with

those of Great Britain, and additional reserves are being found. However, the area of the U.S.S.R. is approximately eighty-seven times that of Great Britain and the Russian coal and iron reserves are scattered. Whether great distances and wide-open spaces will prove to be a handicap or a stimulus to the rapid growth of great steel-producing centers in Russia, only time can tell. Still another region where unexploited reserves of iron ore and coal occur in the same general vicinity is to be found in South Africa. South African iron-ore and coal reserves are possibly a fourth or a third as great as those of Great Britain. Rhodesia and the Transvaal may someday equip darkest Africa with barbed-wire fences, railroads, bridges and machines.

International Trade in Iron and Its Manufactures.—Iron enters the channels of international trade in the crude state (iron ore) and in the form of manufactures or semimanufactures constructed wholly or partly of cast iron or steel. In general, the United States, the United Kingdom, France and Germany take first rank among countries that export goods made of iron. Two of these four nations, *viz.*, Germany and Great Britain, import large quantities of iron ore.

TABLE 23.—WORLD TRADE IN IRON ORE[1]
(Thousands of tons)

	1929	1932	1935
Imports			
Principal importing countries:			
Germany	16,685	3,397	13,839
Belgium and Luxemburg	13,835	9,331	10,416
United Kingdom	5,689	1,795	4,548
Exports			
Principal exporting countries:			
France	16,146	9,902	16,369
Sweden	10,727	2,219	7,597
Spain	5,506	1,289	1,863
Newfoundland	1,334	470	629

[1] SOURCE: *Foreign Commerce Yearbooks*, U. S. Department of Commerce, 1933 and 1936, and *Commerce Yearbook*, U. S. Department of Commerce, Vol. II, 1931.

Large quantities of iron ore move from France to Germany and Belgium, and from Sweden and Spain to Great Britain, Germany

TABLE 24.—APPROXIMATIONS OF EXPORT AND IMPORT TRADE IN HEAVY IRON AND STEEL GOODS AND MACHINERY OF THE LEADING IRON- AND STEEL-PRODUCING NATIONS[1]

Country	Machinery, millions of dollars						Pig iron, steel ingots, shapes, bars and other heavy goods, thousands of tons					
	1929			1935			1929			1935		
	Exports	Imports	Net exports	Exports	Imports	Net exports	Exports	Imports	Net exports	Exports	Imports	Net exports
United Kingdom	282	93	189	120	37	83	4,380	2,822	1,558	2,372	1,152	1,220
France	86	112	−26[2]	26	32	− 6[2]	4,100	234	3,866	2,188	193	1,995
Germany	309	29	280	103	6	97	5,722	1,790	3,932	3,166	907	2,259
Belgium and Luxemburg	22	46	−24[2]	8	20	−12[2]	4,884	1,210	3,674	3,647	386	3,267
United States	419	35	384	154	12	142	3,038	1,030	2,008	3,064	450	2,614

[1] SOURCE: *Foreign Commerce Yearbooks*, 1933 and 1936, *Statistical Abstracts of the United States*, 1930 and 1936. Electrical apparatus, motorcars, ships and munitions are not included in the compilations in this table. Exports and imports for each country are roughly comparable but neither exports nor imports for the different countries are necessarily exactly comparable because of different methods of classifying statistics in the several countries.

[2] Net import.

and Belgium. Smaller quantities of iron ore move from Newfoundland to Europe, from Brazil to Europe and America and from iron mines to coal supplies in other parts of the world. Great Britain has an abundance of iron ore, but it is different in quality from the ores she imports from Sweden and Spain.

Manufactures of iron are of so many different kinds and classes, and the foreign trade statistics of leading commercial nations are classified in such a diversity of ways that the figures for international trade in iron goods are necessarily incomplete. Nevertheless, the data are sufficiently illuminating to serve as a guide in segregating the leading nations which produce a surplus of iron goods for export from nations which produce insufficient quantities of such goods to satisfy their own needs. The terms "exporting" and "importing" nations are not employed in this connection because all the highly industrialized nations carry on a large trade with one another in iron and steel goods. The data in Table 24 are indicative of the large volume both of export and of import trade in iron and steel goods of the United Kingdom, France, Germany, Belgium-Luxemburg and the United States, the world's leading iron- and steel-manufacturing nations.

Two significant facts are portrayed in Table 24. First, the five nations listed, *viz.*, the United Kingdom, France, Germany, Belgium-Luxemburg and the United States export large surpluses of iron and steel goods. Second, each of these highly industrialized nations is also a large importer of iron and steel goods. In general, these five nations import about one-third or one-fourth as much iron and steel goods as they export. The remainder of the exports go to less industrialized regions of the world. In Table 25 the net exports of heavy iron and steel goods and machinery of the five countries in question are contrasted with gross imports of such goods by a number of less industrialized countries. In general, surpluses of iron goods move between the great centers of concentrated iron and steel production and from them to less industrialized regions. Whether the trade in iron and steel manufactures among the highly industrialized nations is based upon cost differentials that will tend to disappear with industrial maturity is a question that cannot be satisfactorily answered. Up to the present time, differences in the stages of industrial development in Great Britain, France, Germany, Belgium and the United States have been sufficiently great to

TABLE 25.—WORLD TRADE IN IRON AND STEEL MANUFACTURES AND SEMIMANUFACTURES[1]

Leading Surplus-producing Countries and Representative Deficit-producing Countries

	Machinery, millions of dollars		Pig iron, steel ingots, shapes, bars, and other heavy manufactures and semimanufactures, thousands of tons	
	1929	1935	1929	1935
Net Exports				
Principal surplus-producing nations:				
United Kingdom	189	83	1,558	1,220
France	−26[2]	− 6[2]	3,866	1,995
Germany	280	97	3,932	2,259
Belgium and Luxemburg	−24[2]	−12[2]	3,674	3,267
United States	384	142	2,008	2,614
Gross Imports				
Selected deficit-producing nations:				
Japan	56	18	2,062	3,146
Italy	54	18	1,439	993
Canada	94	28	948[3]	601
China	37	13	352	586
U.S.S.R. (Russia)	71	19	122	385
India	75	33	796	401
Netherlands India	41	4[5]	346[4]	171[5]
Netherlands	56	18	1,438	797
Argentina	....	....	1,182	50
Australia	42	12	406	155
British South Africa	30	24	205	932

[1] SOURCE: 1929 *Commerce Yearbook*, Vol. II, 1930, *Foreign Commerce Yearbooks*, 1933 and 1936, and *Statistical Abstracts of the United States*, 1930 and 1936, U. S. Department of Commerce. As already stated, items included in the classifications for the several countries treated in the table are not necessarily comparable. In general, electrical machinery and automobiles and accessories are not included in either of the classifications given.

[2] Net imports.

[3] Plates and sheets only.

[4] 1930.

[5] 1934.

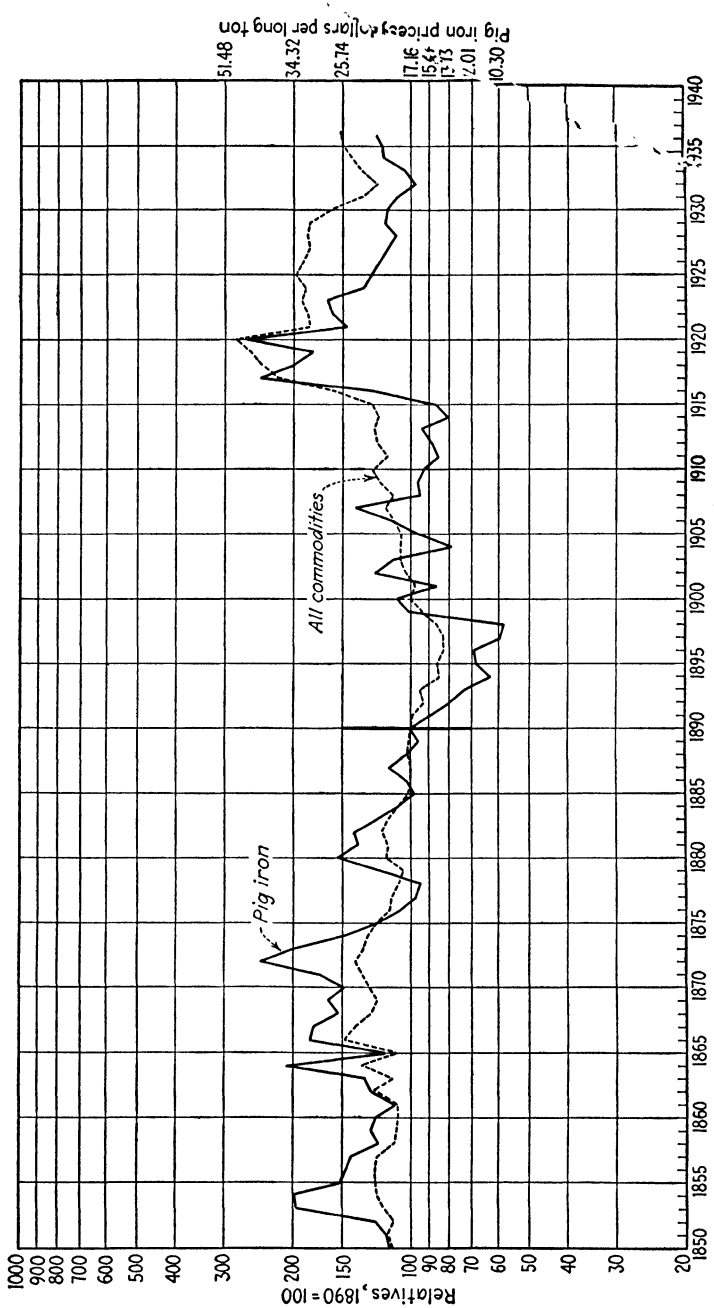


FIG. 10.—COMPARATIVE PRICES OF PIG IRON AND ALL COMMODITIES, 1850 TO 1936

SOURCES: All-commodity wholesale price index of the United States and iron prices from *Aldrich Report*, *U. S. Senate Report* 1394 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 27 in Killough and Killough, *op. cit.*, p. 248. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

warrant specialization and a large volume of trade in different types of iron and steel manufactures among these leading iron- and steel-producing countries.

Price Trends.— During the last century cost-reducing improvements in the iron and steel industry have made possible, at one and the same time, improvements in the quality of steel goods and reduction in their prices. General use of rust-resistant steel alloys is an example of improvement in the quality of steel. The decline in steel prices is suggested by the indices in Fig. 10. In this figure, pig-iron prices in the United States are compared with an all-commodity general price index from 1850 to 1936. In comparison with the general price index, pig-iron prices were lower during the period from 1890 to 1936 than they had been during the period 1850 to 1890. Inasmuch as the general price index shown in Fig. 10 includes prices of iron and steel goods (heavily weighted) as well as prices of other commodities, the decline in steel prices in relation to the decline in other commodity prices was even greater than the figure suggests. Reduction in costs of steel is one of the reasons for the large increase in its use during the last century. Whether steel will be able to maintain its present position of predominance in the machinery, transportation, and construction industries will depend to a large extent upon improvements that may bring the costs of substitute metals down to a point where their use is more profitable than the use of steel. Already aluminum is being substituted for steel in some industries. Shifts in large segments of demand from steel to aluminum may have an important bearing upon the location of centers of heavy industry and the currents of international trade. Changes of this character in the competitive positions of industries and regions is one of the reasons why the international trade policies of particular nations are seldom stable and permanent.

THE ALUMINUM INDUSTRY

The aluminum industry is comparatively new. First produced in laboratories early in the nineteenth century, aluminum became a commercial product in the eighteen eighties and eighteen nineties. Depending upon electrolysis for economical production, the increased use of aluminum followed commercial development and expansion of the electrical industry. About the middle

of the nineteenth century, aluminum sold for several hundred dollars a pound; in 1895, the price was down to around 60 cents a pound; in 1913, 25 cents a pound; and in 1935, 21 cents a pound. Refined copper in 1935 sold in the United States for 9 cents a pound and common bar iron for 2 cents a pound. During the 45-year period, 1890 to 1935, the price of aluminum declined more than 60 per cent, as compared with a reduction in copper prices of 40 to 50 per cent, and a small increase in iron prices.

Among the principal advantages of aluminum, as compared with steel, is its lightness. A cubic foot of mild steel weighs about 487 pounds; a cubic foot of aluminum weighs only 167 pounds; the specific gravity of the former metal is 7.8; that of the latter only 2.7. Aluminum is used in the manufacture of automobile pistons, connecting rods and various other automotive parts, in airplanes and airships, in the manufacture of certain kinds of paint, collapsible tubes for tooth paste and other compounds that are sold in tubes, in the making of kitchen utensils and in the compounding of various metal alloys.

Limitations to lower costs and greatly increased production of aluminum are to be found in the technology of refining, not in amounts of the metal occurring in the earth's surface. In fact, aluminum is one of the most abundant ingredients of the earth's crust. It constitutes about 8 per cent of the igneous rock in the earth's crust, as compared with only about 5 per cent for iron. At present, owing to refining difficulties, bauxite is the only

TABLE 26.—WORLD PRODUCTION OF BAUXITE[1]
(Thousands of metric tons)

Country	1929	1933	1936
France	666	488	512
Hungary	389	60	220
United States	366	154	238
Dutch Guiana	220	120	120
Italy	193	80	170
British Guiana	220	50	116
Yugoslavia	103	40	190
Other countries	20	13	34
Total	2,187	1,005	1,600

[1] SOURCE: *The Mineral Industry*, McGraw-Hill Book Company, Inc., New York, 1933, Vols. XLII, XLIV.

important commercial aluminum ore. However, the occurrence of this particular aluminum compound is widespread, a fact indicated by the distribution of world production in 1929, 1933 and 1935 (Table 26).

France ranks first in the production of bauxite, but the United States ranks first in the production of refined aluminum (Table 27).

TABLE 27.—WORLD PRODUCTION OF ALUMINUM[1]
(Thousands of metric tons)

Country	1925	1933	1935
United States	66	39	54
Canada	17	16	21
France	18	15	22
Germany	25	14	71
Norway	21	15	15
Switzerland	20	12	19
Great Britain	10	11	16
Italy	2	12	14
Austria	4	1	3
U.S.S.R.	...	4	25
Total	183	139	260

[1] SOURCE: *Ibid.*, Vols. XLII, XLIV.

The United States and Canada together produce 40 per cent or more of the world annual output of aluminum. Most of the remainder is produced in Europe. In addition to the bauxite mined in southern states of the United States (Arkansas, Georgia, Tennessee, etc.) this country imports bauxite from the British and Dutch Guianas. Large quantities of the compound undergo a first process of refining in St. Louis and vicinity. A first derivative of bauxite (alumina, Al_2O_3) moves from St. Louis to Niagara Falls and other hydroelectric sites in the United States and Canada, where it undergoes a further process of refining. Next to the United States, Canada, Germany, France, Norway and Switzerland are the highest ranking aluminum-refining nations.

At the present time, aluminum does not enter the channels of international trade in such large amounts as some of the other nonferrous metals—copper, for example. Its importance from the point of view of international trade lies more in its potentiali-

ties as a substitute for iron than in its existing volume of international commerce.

COPPER

The electrical industry upon which aluminum refining depends is in its turn dependent upon another nonferrous metal, *viz.*, copper. From an economic point of view, no other metal, at the present time, can take the place of copper in the electrical industry. Silver and aluminum have electrical properties somewhat similar to those of copper, but neither can compete successfully with copper on a price basis. Silver has a higher degree of electrical conductivity than copper, but its cost per pound is much greater than that of copper. In the case of aluminum, the electrical conductivity is so low that even at a relatively low cost per pound its use for transmission purposes would be more expensive than that of copper. If the electrical conductivity of copper be taken as 100, that of silver is approximately 106, and that of aluminum, 60.

Sources of Supply.—The leading copper-mining regions of the world are in the United States, Chile and Africa (Table 28).

TABLE 28.—WORLD PRODUCTION OF COPPER[1]
(Thousands of metric tons)

Country	1913	1925	1935
United States	555	775	345
Chile	42	190	267
Africa (Belgian Congo, Rhodesia)	18	108	269
Canada	35	51	189
Japan	67	66	66
Mexico	53	54	42
Spain and Portugal	37	58	32
Peru	28	37	30
Germany	49	22	25
U.S.S.R. (Russia)	34	7	63
Yugoslavia	..	7	39
Other countries	71	60	87
Total	989	1,435	1,454

[1] SOURCE: *The Mineral Industry*, Vols. XXXV, XLIV, McGraw-Hill Book Company, New York.

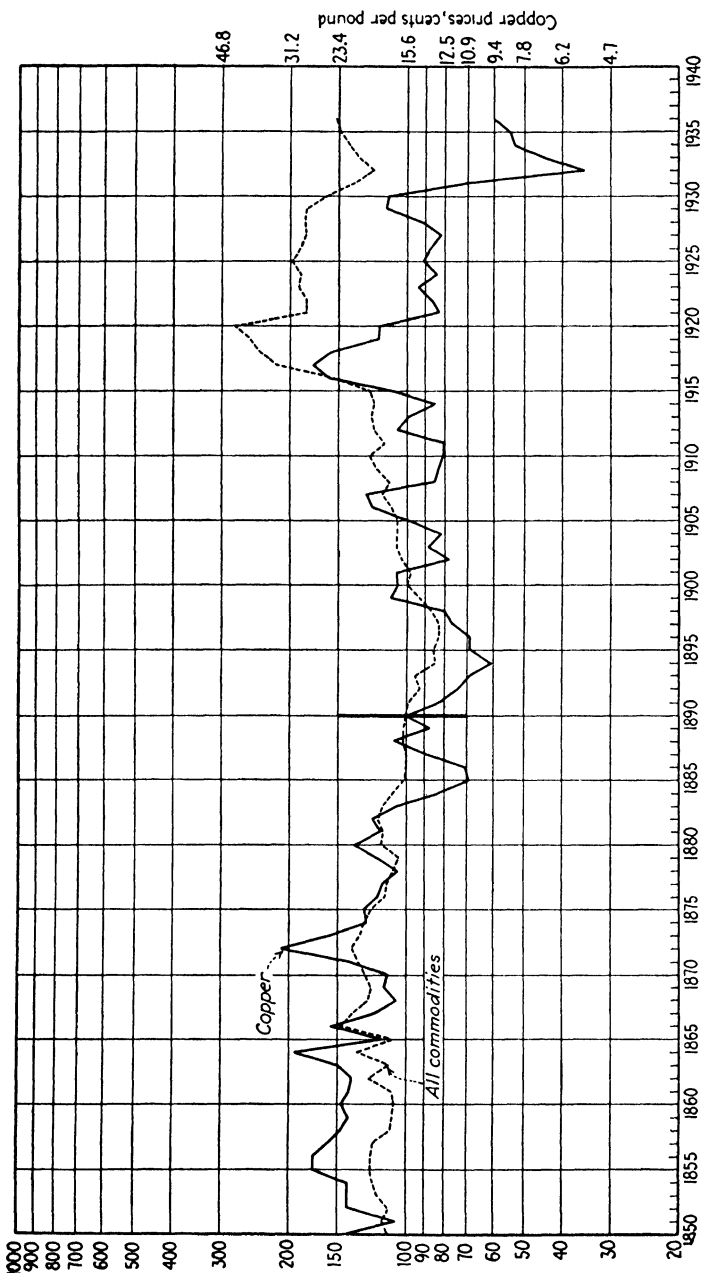


FIG. 11.—COMPARATIVE PRICES OF COPPER AND ALL COMMODITIES, 1850 TO 1936

SOURCES: All-commodity wholesale price index of the United States and copper prices from *Aldrich Report, U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins.* The figure is patterned after Fig. 24, in Killough and Killough, *op. cit.*, p. 226. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

In 1935, the United States produced about 24 per cent of the world's output of copper; Chile and Africa together produced about 37 per cent. During the last decade, the United States production of copper has declined while the production of Chile and that of Africa have increased. Because of their abundance of high-grade copper ore, crude copper can be mined in Africa and Chile at less expense per ton than in the United States. This fact taken in conjunction with the trend in copper prices during the last two decades (Fig. 11) helps to explain the tendency for the quantity of copper mined in the United States to decline.

International Trade.—The main streams of commerce in copper move in two directions. Ore, concentrates, matte and other forms of copper in a crude or partially refined state move from mining regions to processing plants located in the vicinity of hydroelectrical developments or of coal supplies. From the refining plants, copper moves into domestic and foreign consumption. The United States, Germany, Great Britain, France and Italy are among the more important copper-importing countries.

TABLE 29.—CONSUMPTION AND IMPORTS OF UNMANUFACTURED COPPER BY PRINCIPAL COPPER-CONSUMING COUNTRIES[1]
(Millions of pounds)

Country	Consumption	Imports	
	1935	1929	1935
United States	1,158	[2]	[2]
Germany	459	429	338
Great Britain	532	344	675
France	233	387	290
Japan	294	11	154
Italy	175	124[3]	48[4]
U.S.S.R.	204	56	71
Sweden	89	55	77
Canada	90	[2]	[2]
Belgium and Luxemburg	61	132[5]	92[5]
All other	296	...	...

[1] SOURCES: *The Mineral Industry*, Vols. XLII, XLIV, and *Foreign Commerce Yearbooks*, 1933 and 1936.
[2] Net exports.
[3] Alloys included.
[4] Alloys not included.
[5] Net import.

German, British, French and Italian imports approximate copper consumption in these countries. Japan produces a substantial proportion of the copper which she consumes; the United States and Canada produce for export. Copper consumption and net

TABLE 30.—UNITED STATES FOREIGN TRADE IN COPPER[1]
(Millions of pounds)

Imports of ore, matte, blister and black copper

	1929	1931	1933	1935
Country of origin:				
Chile	206	78	45	130
Canada	193	73	34	88
Mexico	170	110	86	94
Peru	125	88	52	74
Africa	63	2	30	7
Other countries	69	26	29	37
Total	826	375	276	430

Exports of refined ingots and bars

	1929	1931	1933	1935
Country of destination:				
Germany	179	58	35	50
United Kingdom	175	94	27	109
France	175	109	73	64
Italy	84	43	30	90
Belgium	45	24	14	26
Canada	39	7	Less than 1	Less than 1
Other countries	125	70	70	198
Total	822	405	249	537

Exports of ore, matte, blister and converter copper

	1931	1933	1935
Destination:			
All countries	0.3	45	15

[1] SOURCES: *The Mineral Industry*, Vols. XLII, XLIV, and U. S. Bureau of Mines, *Minerals Yearbook*, 1936, p. 125.

imports data for these and a number of other leading countries are given in Table 29.

The United States has a net export of copper on balance; nevertheless, she is the world's largest copper importer. This country imports crude copper, in various stages of preparation, from Chile, Peru, Africa, Mexico, Cuba, Canada and elsewhere, and exports refined copper and manufactures of copper to European, Asiatic and other consuming countries in various parts of the world. Statistics of copper imports to the United States and exports from the United States are shown in Table 30.

United States a Copper-refining Center.—Among the reasons why so large a part of the world trade in copper centers in the United States are (1) establishment of large refining plants in this country to process the crude copper output of American mines and (2) development of foreign sources of crude-copper supplies with American capital and under the direction of great American copper-mining and -refining companies. In 1935, for example, two American companies and their subsidiaries, *viz.*, Anaconda and Kennecott, produced between 25 and 30 per cent of the world's total output of copper. Total copper production of Anaconda and its subsidiaries in 1935 was approximately 567 million pounds, or 18 per cent of world production. Of this total, 203 million pounds represented the production of the company's domestic mines and 364 million pounds came from the mines of subsidiaries operating outside the United States.[1]

The technique of copper metallurgy is very complicated inasmuch as it varies with the type of ore to be reduced. In general, copper ore goes through one or more smelting processes before the copper concentrates move to electrolytic refining plants. Workable ore may contain only 1 or 2 per cent of copper. The product of the smelting furnace, called matte, assays on the average 40 to 50 per cent copper. The matte may in turn be converted into blister or pig copper that assays as high as 99 per cent pure, before going to an electrolytic refinery, where the last traces of impurities are removed. A large part of the copper refined in the United States undergoes the electrolytic process. Of the 1,475 millions of pounds of refined copper turned out by regular

[1] *The Mineral Industry*, Vol. XLIV, the McGraw-Hill Book Company, Inc., New York.

refineries in this country in 1935 approximately 1,400 million pounds[1] were electrolytic copper.

The greatest concentration of American copper refineries is found along the North Atlantic coast from New York to Baltimore. Plants in this area serve both domestic and foreign mines. A large refinery at Great Falls, Montana, serves primarily domestic mines; another large refinery at Tacoma, Washington, draws its crude copper largely from Alaska.

Influence of Technique upon Shifts in Copper-mining Centers. In examining world trade in metals, it is well for one to distinguish between regional advantages which rest upon natural deposits of valuable ores and those which rest upon technical advantages in methods of mining, refining and transportation. The development of the Chuquicamata copper mines in northern Chile is a case in point. Between 1900 and 1928, the United States mined annually about one-half and some years as much as two-thirds of the world's annual output of copper. In 1935, Chile mined three-fourths as much copper as was mined in the United States. The opening of the Chuquicamata mines contributed substantially to Chile's output. In 1911, a staff of American engineers reported that because of the presence of chlorine the Chuquicamata copper deposits could not be worked economically by any method known at the time. Within two decades, a new process for extracting the Chilean copper had been devised; the Panama Canal had been opened, providing low-cost transportation from Chile to Atlantic states refineries, a modern power plant had been erected on the Chilean coast for transmission of electricity several hundred miles to the mines and the exploitation of a formerly unavailable source of crude copper was under way.

OTHER INDUSTRIAL METALS

In addition to iron, aluminum and copper, which are treated in preceding sections, and to gold and silver, which, because of their monetary significance, are treated in a separate section to follow, the principal industrial metals are lead, zinc, tin and a group of steel alloy metals, including nickel, manganese, cobalt, chromium, antimony, tungsten, vanadium and molybdenum.

Lead.—Lead is produced in commercial quantities in 30 or more countries, among them Australia, Mexico, Canada, Ger-

[1] *Ibid.*

many, Italy, France, England, Belgium, Spain, Japan, United States, Poland, India, Peru and U.S.S.R. In 1934, United States production of lead aggregated about one-fifth of world production and exceeded that of any other country.

Lead is used in the making of storage batteries, paints, roofings, solder, pewter, ammunition, type metal and various other things. Because of its occurrence in most of the leading industrialized nations of the world, international trade in lead tends to be less than that of a commodity like copper, which is mined largely in industrially backward regions and consumed in the great industrial centers.

Zinc.—The principal uses for zinc are in the galvanizing of sheets, tubes, wire and shapes, and in the making of brass and die castings. United States, Belgium, Poland, Canada, France, Germany, Great Britain, Italy, Norway, Russia, Australia and Japan are among some 20 or more important zinc-producing countries. Among the principal zinc-importing countries are France, Germany and Great Britain. International trade in zinc, like that in lead, is small relative to world production.

Tin.—One of the principal uses for tin is in the manufacture of tin plate by applying a light film of tin to thin rolled sheets of steel. Tin also goes into the making of solder, babbitt, bearing metals, bronze, brass and chemicals. More than half of the world's annual output of tin comes from Malaya, Dutch East Indies and Siam. Other important tin-producing regions are Bolivia and China. Small amounts are produced in India, Nigeria, Australia, Great Britain, South Africa, Spain, Portugal, Japan and elsewhere. The principal tin-consuming countries are the highly industrialized nations of Europe and America. The United States alone consumes in the neighborhood of one-half of the world's annual production.

Nickel.—The bulk of nickel production, like that of tin, is concentrated in a few countries, hence, the volume of international trade is large in proportion to annual production. More than 80 per cent of the world's annual supply of newly mined nickel comes from one region, *viz.*, the Sudbury district in the Province of Ontario, Canada. The most important use for nickel is in the making of tough steel alloys for use in automobiles, machinery and other metal manufactures. The leading consuming countries are those with the large iron and steel industries.

Other Alloy Metals.—Like nickel, the other steel alloy metals find their largest sale and initial use in iron- and steel-manufacturing countries toward which they move through the channels of international trade from mines in various parts of the world. Canada and Belgian Congo are the principal sources of cobalt supply. It is used in the making of corrosion-resistant steel alloys. Chromium, used in making tough steel alloys, for the manufacture of springs, safes, cutlery and armor plates, comes largely from Rhodesia, South Africa, India, Russia, Yugoslavia and Turkey. Antimony comes from China, where about three-fourths of the world's annual supply originates. Among minor sources of antimony supplies are Mexico and Argentina. Antimony is used in the manufacture of such goods as type metal and antifriction bearings for machinery. China ranks high also in the production of tungsten. Other important sources of tungsten supplies are Burma, Argentina and the Federated Malay States. Tungsten is used in the making of tool steel and electric-light filaments. Another steel alloy on our list is vanadium. It has been in general use for industrial purposes for only about a quarter of a century. Much of the world's supply of vanadium comes from Peru and Rhodesia and other South African mines.

The steel alloys have a particular importance in modern international trade for two reasons. In the first place, the mines in many cases are far removed from the great industrial centers of primary consumption. In the second place, some, if not all, of the steel alloys are essential to efficient operation of machine industries as at present operated; hence, the alloy metals are essential for national defense. This fact and the fact that sources of supply are widely scattered clothe the metal alloys with greater international economic and political significance than their value in peacetime implies.

GOLD AND SILVER

Gold and silver are commonly classified as precious metals as distinct from industrial metals such as iron, copper, aluminum, lead and zinc. Although gold and silver have important industrial uses, these are secondary to monetary uses. Estimates[1] indicate that not more than 30 to 40 per cent of the gold and silver produced annually throughout the world finds its way into

[1] *Annual Reports of the Director of the Mint*, Government Printing Office, Washington.

industrial uses. Furthermore, much of the industrially consumed gold and silver goes into ornamental articles as distinct from the great variety of utilitarian articles made of iron, aluminum, copper, lead, zinc and metal alloys.

The large monetary use of gold and silver clothes these metals with peculiar economic significance. Price levels of the world tend to fall and rise with the ebb and flow of monetary stocks of gold and silver. Wealth ordinarily is measured and debts paid in terms of one or the other metal. Struggle for possession of gold and silver has been more or less continuous during the 5,000 years or more of recorded history; it continues as we write.

Principal Sources of Supply.—Metals may be divided into classes on a basis of durability: those like iron which rust away and disappear with time and exposure, and those like gold, silver and copper which endure indefinitely. The supplies of metals in the latter category accumulate with the ages until annual production becomes a small fraction of the world's existing stocks. No accurate estimates of the world's stocks of gold and silver are available. What little information exists concerning world stocks of these metals suggests that annual world production is but a fraction of world stocks in spite of the large annual increases in world production during the last century. In Fig. 12 are estimates of world annual output of gold from the beginning of the sixteenth century to the present time. Among the significant facts portrayed in Fig. 12 are (1) the large increases in annual output of gold beginning about the middle of the nineteenth century and (2) the large amounts of gold which have come from the Transvaal during the last three or four decades. At present,

TABLE 31.—WORLD PRODUCTION OF GOLD BY COUNTRIES[1]
(Thousands of fine ounces)

Country or region	1930	1934
Union of South Africa	10,878	10,480
United States	2,139	2,742
Canada	2,102	2,972
Australia	467	887
U.S.S.R.	948	4,263
All other	3,896	6,586
Total	20,430	27,930

[1] SOURCES: *Foreign Commerce Yearbooks*, 1933 and 1936.

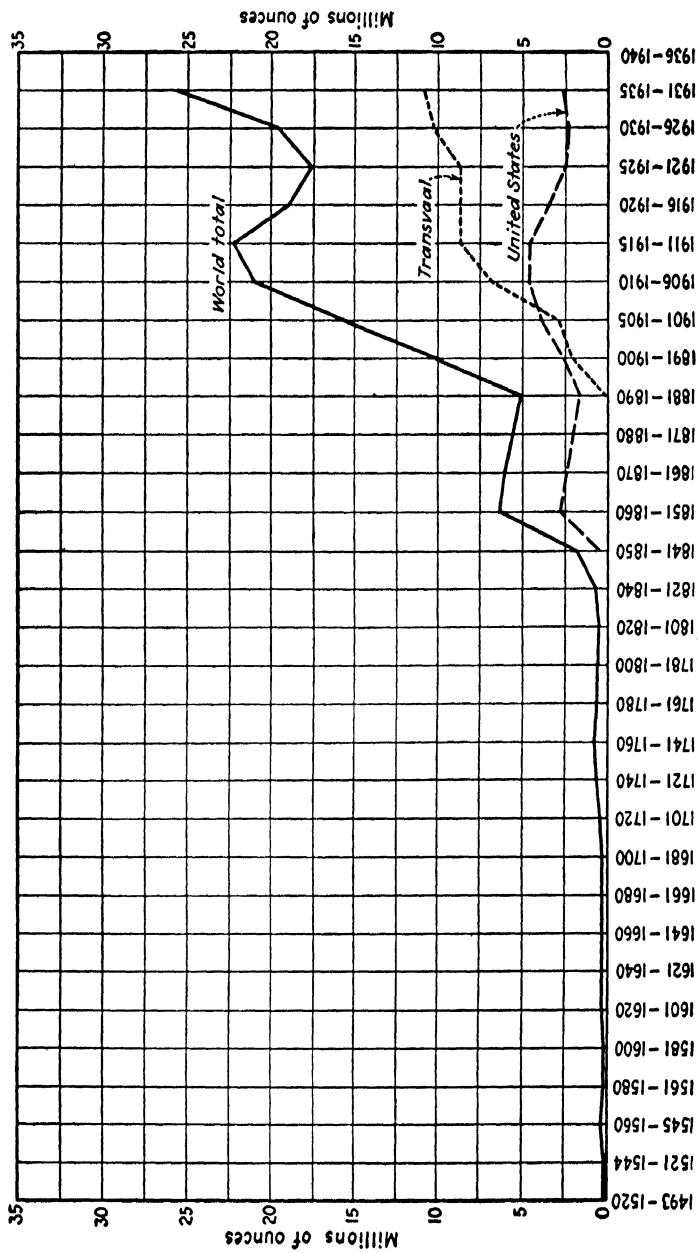


FIG. 12.—WORLD PRODUCTION OF GOLD, 1493 TO 1935

SOURCES: *Annual Reports of the Director of the Mint* and *Foreign Commerce Yearbooks*; De Launay, L., *The World's Gold*, G. P. Putnam's Sons, New York, 1905; p. 91; and *The Mineral Industry*, annual publication by McGraw-Hill Book Company, Inc., New York. The figure is patterned after Fig. 21 in Killough and Killough, *op. cit.*, p. 195.

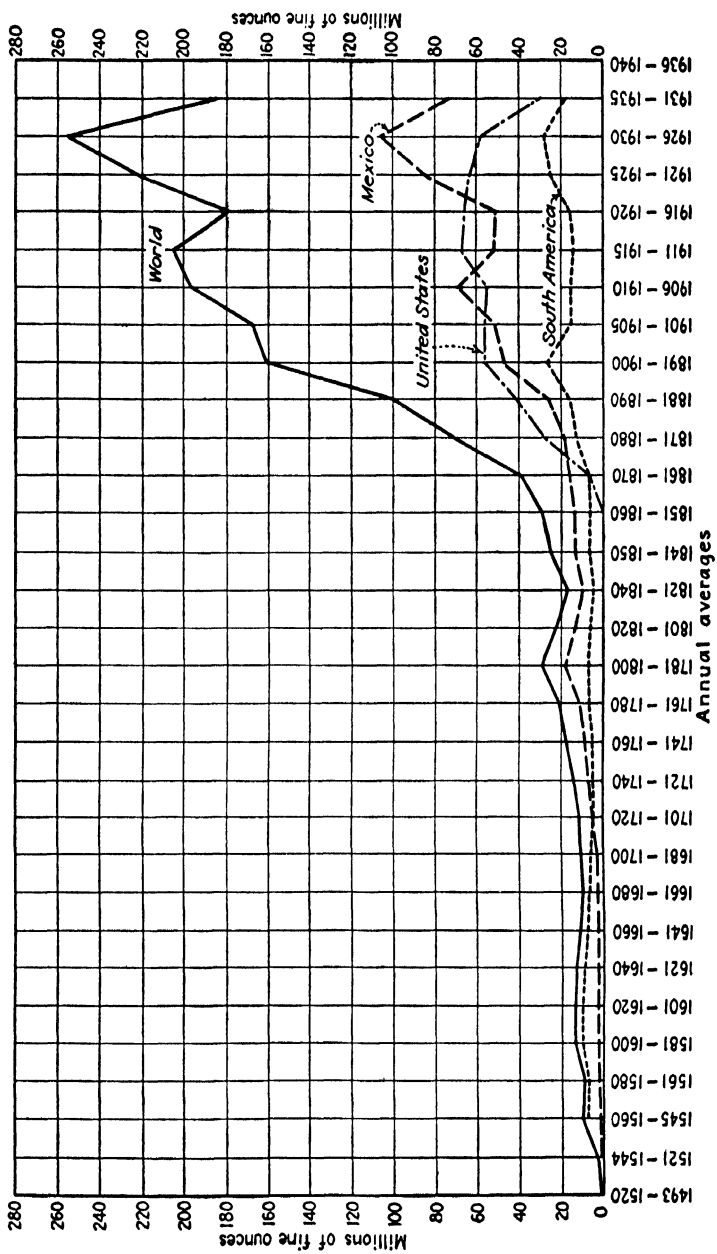


FIG. 13.—WORLD PRODUCTION OF SILVER, 1493 TO 1935

SOURCES: *Annual Reports of the Director of the Mint* and *Foreign Commerce Yearbooks*, and *The Mineral Industry*, annual publication by McGraw-Hill Book Company, Inc., New York. The South American figures for 1545 to 1720 include Bolivia and Peru and other South American countries. The figure is patterned after Fig. 22 in Killough and Killough, *op. cit.*, p. 197.

the leading gold-producing countries of the world are the Union of South Africa, the United States, Canada, Australia and U.S.S.R. (Russia) (Fig. 12 and Table 31). Gold occurs in many regions both in the free state and in chemical combinations with other elements.

Silver, unlike gold, is seldom found in the free state. Commonly occurring silver compounds are silver chloride (Ag Cl) and silver sulphide (Ag_2S). Like gold, silver is found in many regions. Few regions do not have both gold and silver deposits in greater or less quantities. Regional concentration of mining of the metals is determined by costs of mining and refining, which vary with such conditions as richness of deposits and chemical nature of deposits as they affect refining costs. Estimates of world production of silver from the beginning of the sixteenth century to the middle nineteen thirties are shown in Fig. 13. At the present time, Mexico, the United States, Canada, Peru and Australia are the leading silver-producing countries (Fig. 13 and Table 32).

TABLE 32.—WORLD PRODUCTION OF SILVER BY COUNTRIES[1]
(Thousands of fine ounces)

Country	1930	1934
Mexico	105,204	74,149
United States	47,724	32,487
Canada	26,443	16,415
Peru	15,500	10,381
Australia	10,075	8,675
All other	42,754	48,752
Totals	247,700	190,859

[1] SOURCES: *Foreign Commerce Yearbooks*, 1933 and 1936.

Dispersion in World Trade.—The operation of economic forces which direct the movements of gold and silver into international trade is complicated by the use of these metals for monetary purposes. Distribution of world stocks of gold and silver, particularly gold, among the various nations is influenced by changing general price levels, trade and payment balances of commercial nations, discount policies of central banks, speculation and other influences that control international exchange rates. The subject is treated further in Chap. XXIII of the present volume.

CHAPTER XVI

TEXTILE RAW MATERIALS AND TEXTILE-MANUFACTURING INDUSTRIES

For hundreds of years cotton, wool, linen and silk were the world's principal textile fibers. In ancient India, China and Egypt, the common people wore cotton clothing and the wealthier classes clothed themselves in silks and linens. Silks were more abundant in China and India, linens in Egypt. In the Western world, wool and linen were the principal textiles prior to the Industrial Revolution. Cotton did not come into general use in the West until the eighteenth century. The United Kingdom (where the cotton fiber has never been commercially grown) imported only about 1 million pounds of raw cotton in 1700.[1] By the year 1800, Great Britain was importing over 50 million pounds of raw cotton annually,[1] and by 1900 her imports had grown to more than 1½ billion pounds annually. The large increase in use of cotton in Europe during the last 200 years has been due in no small part to invention of the cotton gin in the seventeen nineties and introduction of mechanical methods of spinning and weaving, which freed the cotton industry from dependence upon extremely low-cost labor.

At the present time, the principal textile materials, both in the West and in the East, are cotton, wool, silk and synthetic fibers (chiefly rayon). Costs of producing linen have not responded to technical improvements so readily as have those of silk, wool and cotton. Hence, linen has become a relatively less important textile than it was prior to the Industrial Revolution. The cotton, wool and silk sections of the world's textile industry have, at present, particular significance from the point of view of international commerce, for two reasons. In the first place, production both of the finished goods and of the raw materials is so localized as to give rise to a large volume of trade. In the second place, shifts in centers of production both of the raw

[1] DONNELL, E. J., *History of Cotton*, James Sutton & Co., New York, 1872.

materials and of the finished goods are of such magnitude as to cause international friction.

COTTON

Sources of Raw-cotton Supplies.—United States, India and Egypt are among the leading raw-cotton-producing countries. Trends of production in these three countries from 1900 to 1936 are shown in Fig. 14. During the last two decades the trend of cotton production in India appears to have risen somewhat more rapidly than that of Egypt and as rapidly as that of the United States. The vigor of Indian competition in the world's cotton markets is more significant than the statistics of production indicate, inasmuch as the quality of the Indian crop is being improved more rapidly than that of competing countries. The bulk of the Egyptian cotton is long staple (1½ inch or more). The bulk of the American cotton crop ranges in staple length from ⅞ inch to 1⅛ inch,[1] whereas much of the Indian cotton is less than ⅞ inch in staple length. Statistics of the Indian crop by staple lengths are not so complete as those for the United States crop, but informed opinion suggests that the quality of Indian cotton is being so improved that a larger and larger proportion is of a staple sufficiently long to compete directly with American cotton.[2] Another cotton-growing area that is beginning to compete vigorously in the world's markets is in Russia. Average annual production of cotton in Russia for the period 1931–1935 was around 1,900,000 bales as compared with only about 900,000 bales for the period 1909–1913. More vigorous competition appears also to be emanating from China and Brazil. Such data as are available indicate that China's commercial cotton crop (the bulk of which is short in staple length, *i.e.*, below ⅞ inch) increased from an annual average of about 694,000 bales for the period 1909–1913

[1] Staple refers to the modal length of the individual cotton fibers in a representative sample. Ordinarily 80 per cent or more of the American crop ranges in staple length from ⅞ inch to 1⅛ inch. See *Cotton Grade and Staple Reports for the United States*, U. S. Department of Agriculture, Bureau of Agricultural Economics, Washington, D.C.

[2] Rud, W. G., "Competing Cottons and United States Production," *Economic Geography*, July, 1932, p. 296, estimates that for the producing season 1931–1932, approximately 31 per cent of the Indian crop was ⅞ inch to 1 inch in staple length.

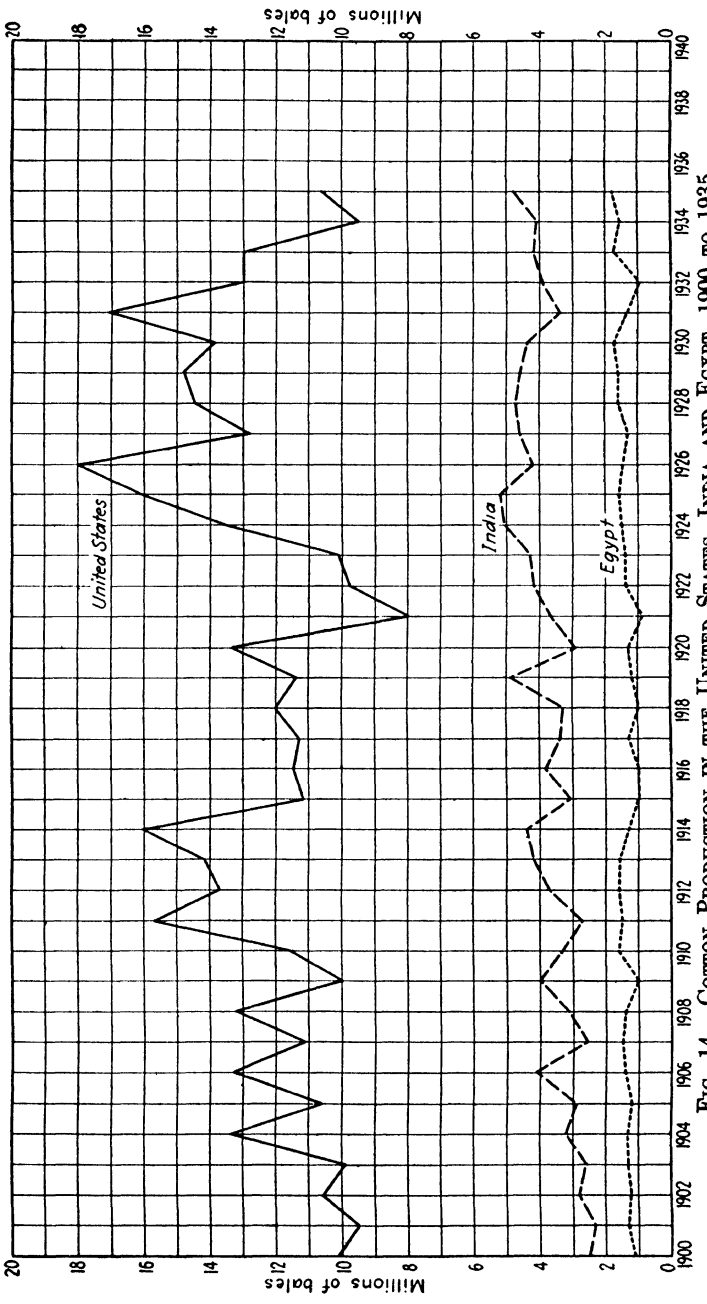


FIG. 14.—COTTON PRODUCTION IN THE UNITED STATES, INDIA AND EGYPT, 1900 TO 1935

SOURCES: *Yearbooks*, U. S. Department of Agriculture. The figure is patterned after Fig. 9 in Killough and Killough, *op. cit.*, p. 107.

to approximately 2,500,000 bales in 1935–1936. Brazilian and Russian production also appear to be increasing at a rapid rate. World production of cotton by principal producing countries for the periods 1909–1913, 1921–1925 and 1935–1936 is shown in Table 33.

TABLE 33.—WORLD PRODUCTION OF COTTON BY PRINCIPAL PRODUCING COUNTRIES[1]

(Crop years beginning August 1. Thousands of 478-pound bales)

Country	Average, 1909–1910 to 1913–1914	Average, 1921–1922 to 1925–1926	1935–1936
World total	20,900	21,500	26,000
United States	13,033	11,516	10,635
Mexico	187	184	235
Brazil	387	568	1,743
Peru	110	203	342[2]
India	3,585	4,523	4,793
China	694	2,021	2,500
U.S.S.R. (Russia)	904	306	2,250
Egypt	1,453	1,361	1,750
All other	547	818	1,752

[1] SOURCE: *U. S. Department of Agriculture Yearbook*, 1930, and U. S. Department of Agriculture, *Agricultural Statistics*, 1936.

[2] 1934–1935.

The United States ranks first among the nations of the world in both production and exportation of raw cotton. During the crop years 1934–1935 and 1935–1936 this country produced approximately 40 per cent of the world's total output of cotton and exported about one-half of the aggregate amount which entered the channels of international trade. British India ranked second to the United States in production and exports. China ranked third in production, and Egypt third in exports. The principal cotton-exporting and -importing countries for the periods 1910–1914, 1922–1926 and 1934–1935, with amounts of the fiber exported and imported, are shown in Table 34.

The American cotton-growing industry began its development in response to a demand for raw materials by the British spinning and weaving industry. Among the first cotton plantations to be

TABLE 34.—INTERNATIONAL TRADE IN COTTON[1]
(Thousands of 478-pound bales)

	Average, 1910–1914	Average, 1922–1926	1934–1935
Net exports			
Principal exporting countries:			
United States	8,608	6,357	4,950
British India	2,097	2,921	2,354
Egypt	1,444	1,448	1,669
Totals	12,149	10,726	8,973
Net imports			
Principal importing countries:			
United Kingdom	4,143	3,029	2,230
Germany	1,921	1,158	951
France	1,103	1,271	920
Japan	1,405	2,268	3,658
Italy	902	946	747
Austria	894[2]	130	141
Belgium	385	286[3]	120
Spain	387	259	.....
Netherlands	132	121	180
Totals	11,272	9,468	8,947

[1] Data for years ending June 30. SOURCES: *U. S. Department of Agriculture Yearbooks* and *Agricultural Statistics*, 1936.

[2] Average for Austria-Hungary.

[3] Four-year average.

established in the American colonies were those in Virginia about 1650. The industry has flourished in North America ever since that time. Favorable climate and soil in the South Atlantic states and cheap Negro labor have been among the principal factors contributing to the success of the industry in this country. Climate and soil are permanent assets of the cotton-producing belt of the United States, but cheap Negro labor, which the South has had in the past, is not a condition that is permanent. Consequently, the time may be approaching when the United States will lose her position of dominance in the raw-cotton markets of the world. Europe and the Orient already are looking to India

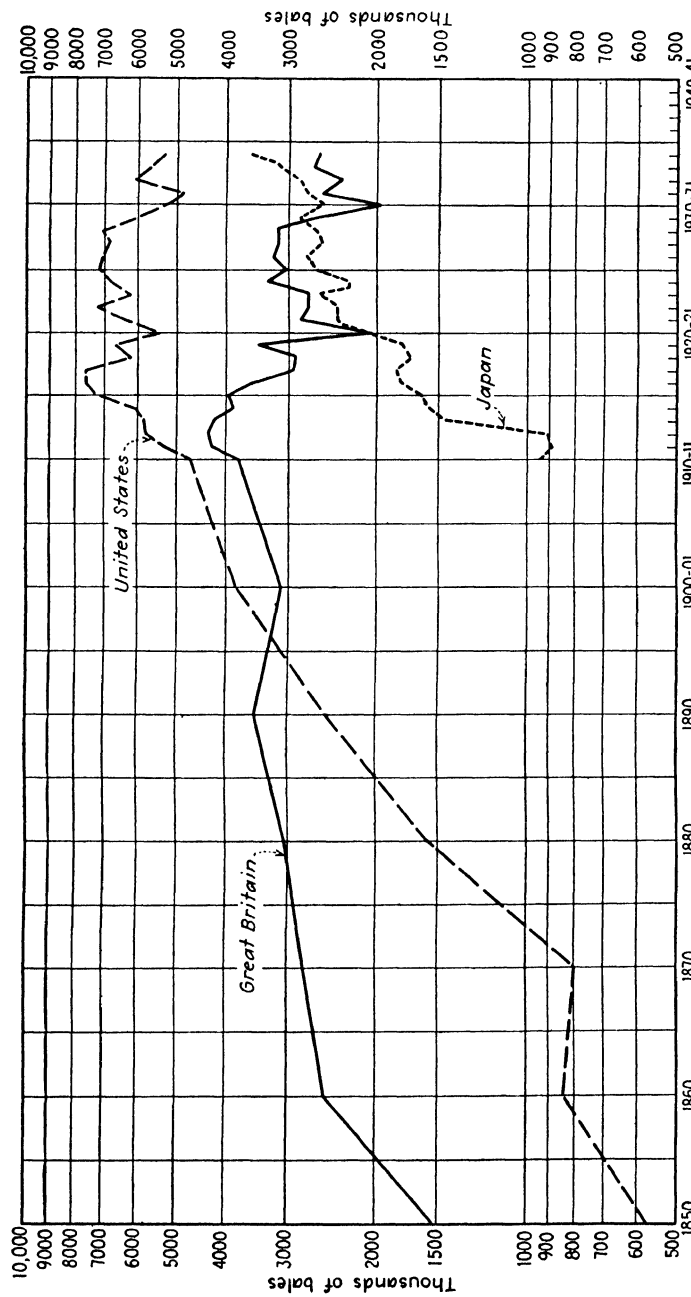


FIG. 15.—RAW-COTTON CONSUMPTION IN THE UNITED STATES, GREAT BRITAIN AND JAPAN, 1850 TO 1935

SOURCES: *Year Book of the National Association of Cotton Manufacturers*, United States, Louis Bader, *World Development in the Cotton Industry*, University Press, New York, 1925, *U. S. Department of Agriculture Yearbooks* and *Foreign Commerce Yearbook*, 1936. This figure is patterned after Fig. 8 in Killough and Killough, *op. cit.*, p. 102.

(and to a less extent to China and Brazil) for larger proportions of their raw-cotton needs, while Russia is becoming less dependent upon foreign sources of cotton supplies.

Cotton Manufacturing.—No less significant than the shift in principal sources of supply of raw cotton is the changing status of spinning and weaving industries in leading cotton-manufacturing nations. Raw-cotton consumption is one of the best indices of spinning and weaving activities. Trends of mill consumption of raw cotton in Great Britain, United States and Japan from 1850 to 1936 are shown in Fig. 15. Great Britain was the first nation to make extensive use of power machinery in the manufacture of cotton textiles. Her industry grew rapidly and soon was supplying cotton goods for consumers all over the world. In time, however, Great Britain was forced to meet increasingly severe competition in her export markets. In the United States cotton manufacturing developed rapidly after about 1870 under the shelter of tariff protection. United States mill consumption of raw cotton surpassed British consumption in the eighteen nineties and has been above that of Great Britain ever since. During the World War and the nineteen twenties, when British, German and French industries were disrupted, United States cotton manufacturers largely increased their production. However, the wartime level of production was not maintained in the United States during the nineteen twenties and thirties. Japan also increased her production of cotton textiles during the World War years and the period of reconstruction. Unlike the United States, Japan was not forced to retrench after the War. Cheap labor has enabled Japan consistently to undersell all competitors in those cotton-textile markets which were not sheltered by import tariffs or otherwise protected against an inflow of low-cost Japanese goods. Great Britain's cotton-manufacturing industry suffered a severe setback during the War and has not yet succeeded in recovering its prewar status.

Japan and Great Britain export more cotton manufactures than any other countries. Exports of cotton fabrics by these and other leading cotton-manufacturing nations are shown in Table 35. The data in this table are not exactly comparable in detail because export classifications differ somewhat in the different countries. The German figures, for example, include gloves,

TABLE 35.—EXPORTS OF COTTON FABRICS BY JAPAN, GREAT BRITAIN, UNITED STATES, GERMANY, FRANCE AND ITALY, 1929 TO 1935[1]

Year	Japan		Great Britain		France	Germany	Italy	United States
	Millions of sq. yd.	Millions of dollars	Millions of sq. yd.	Millions of dollars	Millions of dollars	Millions of dollars	Millions of dollars	Millions of dollars
1929	1,791	190	3,671	483	106	101	78	79
1930	1,572	134	2,407	298	84	85	56	51
1931	1,414	98	1,716	170	55	66	38	36
1932	2,032	81	2,198	152	38	32	26	27
1933	2,090	77	2,031	133	38	27	21	23
1934	2,577	87	1,994	120	32	19	16	25
1935	2,725	85	1,949	115	28	18	10	20

[1] SOURCE: *Foreign Commerce Yearbooks*, 1933 and 1936, and *Statistical Abstracts of the United States*, U. S. Department of Commerce, 1933 and 1936.

hair nets, stockings, etc., whereas clothing and accessories are classified separately in Japan. Nevertheless, the data, as presented, give a rough idea of the export status of the cotton-textile industries in the several countries. Great Britain and Japan rank well ahead of France, Germany, Italy and the United States. Furthermore, Japanese exports are increasing, whereas those of Great Britain are decreasing. Japan forged ahead of Great Britain in yardage of cotton-textile exports in 1933 for the first time.

A number of reasons point to the probability that Japan and also China and India will continue to expand their cotton-manufacturing industries and gradually push British exports out of the Oriental markets. These same reasons suggest that Oriental cotton goods may offer increasingly vigorous competition in North and South American and European markets if not too severely handicapped by trade barriers. Among the reasons are the following:

1. Japan, China and India have an abundance of cheap labor that is capable of high efficiency in cotton manufacturing.

2. Labor costs are a substantial proportion of total costs of cotton-textile manufacturing.

3. Japan, China and India are not so well supplied as the United States, Great Britain, Germany and France with raw materials

necessary for development of low-cost metallurgical industries. Furthermore, transportation of metallurgical raw materials is more costly than transportation of metal manufactures.

4. Dense population limits opportunities for extensive development of agriculture in the Orient.

5. The Oriental countries in the aggregate do not, as yet, produce enough cotton goods to supply their own markets, to which they have easier access than foreign countries.

6. The cotton-textile industries of the Orient are in close proximity to two important sources of raw-cotton supplies, *viz.*, India and China.

7. Textile manufacturing is an industry that Oriental peoples have been familiar with for thousands of years.

8. Orientals are proving themselves to be very adept at acquiring improved spinning and weaving techniques developed in Western countries.

The Cottonseed Industry.—In the early stages of development of the raw-cotton industry in America, the seed from which lint (the cotton fibers) had been removed was a waste product. Today the cottonseed brings the farmer about a fifth or a sixth as much income as he obtains from sale of the cotton lint. When 1,500 pounds of seed cotton are ginned, about 500 pounds of lint and 1,000 pounds of seed are obtained.[1] The seed is used in the compounding of animal feedstuffs, fertilizers, lard substitutes, salad oils, cosmetics, soaps, butter substitutes and many other useful products. Millions of dollars' worth of cottonseed products enter the channels of international trade each year.

Cotton Prices.—The long-time trends of cotton values[2] are affected by such factors as slow-moving changes in habits of consumption, discovery of new uses for cotton and changes in marginal costs of production through improvements in cropping or picking methods and through the opening of new growing areas. In spite of the fact that industrial consumption of cotton in the manufacture of automobile tires, belting, imitation leather and other industrial goods has largely increased during the last three-quarters of a century, values of cotton (cotton prices in relation to prices of other commodities) have undergone little change.

[1] These proportions vary with the type of cotton. Some seed cotton is about one-half lint and one-half seed by weight.

[2] Cotton prices in relation to prices of other commodities.

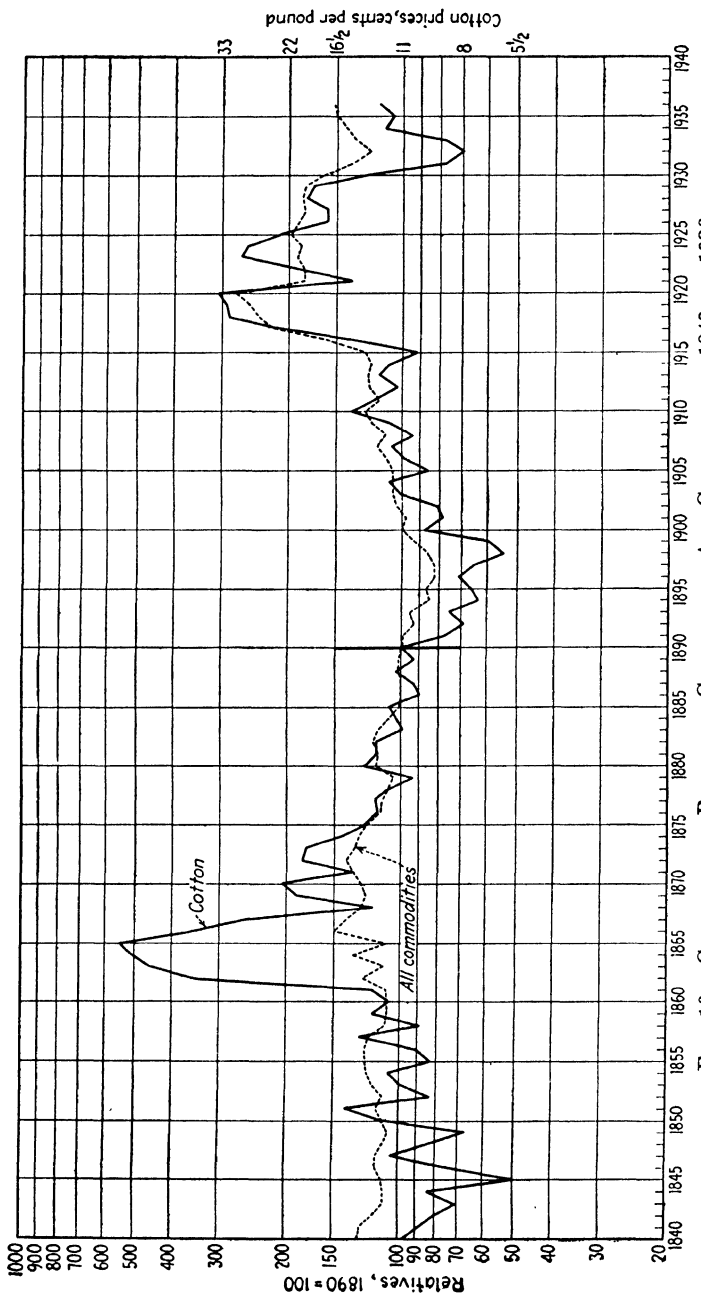


FIG. 16.—COMPARATIVE PRICES OF COTTON AND ALL COMMODITIES, 1840 TO 1936

SOURCES: All-commodity wholesale price index of the United States and cotton prices from *Aldrich Report, U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 10 in Killough and Killough, *op. cit.*, p. 110. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

Cotton prices and the all-commodity wholesale price index in the United States from 1840 to 1936 are shown in Fig. 16. The fact that prices of cotton, in terms of prices of other commodities, were no greater in the nineteen twenties than they had been in the eighteen eighties suggests that the opening of new producing areas such as Russia and improvements in methods of production in the older producing regions—United States, India, China, Egypt—were sufficient to prevent production costs from rising in response to increased demand.[1] Whether during the decades immediately ahead the United States, with her high wage scales and high living standards, will be able to retain her dominant export position in the world's cotton markets in competition with lower wage regions is one of those fundamental considerations which will affect the whole world in so far as it has a direct bearing upon the international commercial policy of the United States and thus an indirect bearing upon the international commercial policies of other leading nations.

WOOL

Producing and Consuming Countries.—Australia, Argentina, Union of South Africa and New Zealand are the leading wool-exporting countries. From these sparsely settled areas, where grazing land is abundant, raw wool moves to manufacturing centers of western Europe and United States. Great Britain, France and United States rank first among the wool-manufacturing countries of the world. Germany and Japan ranked next in importance in 1935. Statistics of raw-wool production, exports and imports, and stocks available for consumption by countries are given in Table 36.

[1] Such data as are available indicate that world production and demand for cotton increased substantially between the eighteen eighties and the nineteen twenties. Average annual production of American cotton was less than 8 million bales in the eighteen eighties as compared with an average annual production of about 13 million bales in the nineteen twenties. World production of cotton is estimated to have increased from 16 or 17 million bales at the turn of the century (1900) to an average of about 22 million bales per annum in the nineteen twenties. Data for world production prior to 1900 is too incomplete for a comparable estimate.

Inasmuch as the increase in world production of cotton has not been accompanied by a decline in cotton prices in relation to the all-commodity price index (Fig. 16), demand for cotton may be said to have increased in the economic sense.

Instability of Wool Values.—Changing conditions of supply and demand have not left wool values, in terms of other commodities, where they were half a century or more ago. Since the eighteen eighties, wool prices have been substantially lower in relation to prices of other commodities than they were between

TABLE 36.—WOOL: PRODUCTION, EXPORTS AND IMPORTS, AND STOCKS AVAILABLE FOR CONSUMPTION BY COUNTRIES[1]
(Millions of pounds)

	1909-1913 Average			1930			1934		
	Production	Net exports	Available for consumption[2]	Production	Net exports	Available for consumption[2]	Production	Net exports	Available for consumption[2]
World total[3]	3,124	..	..	3,580	...	...	3,544	....	....
Principal exporting countries:									
Australia	728	676	52	912	849	63	1,031	786	245
Argentina	332	328	4	334	298	36	348	245	103
Union of South Africa	158	165	...	292	282	10	210	195	15
New Zealand	180	195	...	271	197	74	276	256	20
Uruguay	133	139	...	149	173	...	119	53	66
China	37	42	...	26	31	...	78	33	45
	Production	Net imports		Production	Net imports		Production	Net imports	
Principal importing countries:									
United States	314	203	517	412	164	576	429	10[4]	419
France	75	517	592	45	638	683	42	336	378
United Kingdom	136	465	601	110	481	592	114	491	605
Germany	44	439	483	31	325	356	30	306	336
Belgium	.....	104	104	.....	130	130	.....	65	65
Italy	51	26	77	44	115	159	38	153	191
Japan	.. .	18	18	.....	115	115	.....	183	183
U.S.S.R. (Russia)	330	74	404	306	72	378	135	55	190

[1] SOURCES: *Commerce Yearbook*, U. S. Department of Commerce, 1926, Vol. II, and *Foreign Commerce Yearbooks*, 1933 and 1936.

[2] This figure is not necessarily comparable with consumption because of year-to-year carry-over.

[3] Countries other than those listed are included in these figures. They represent some 40 or more countries.

[4] Net export.

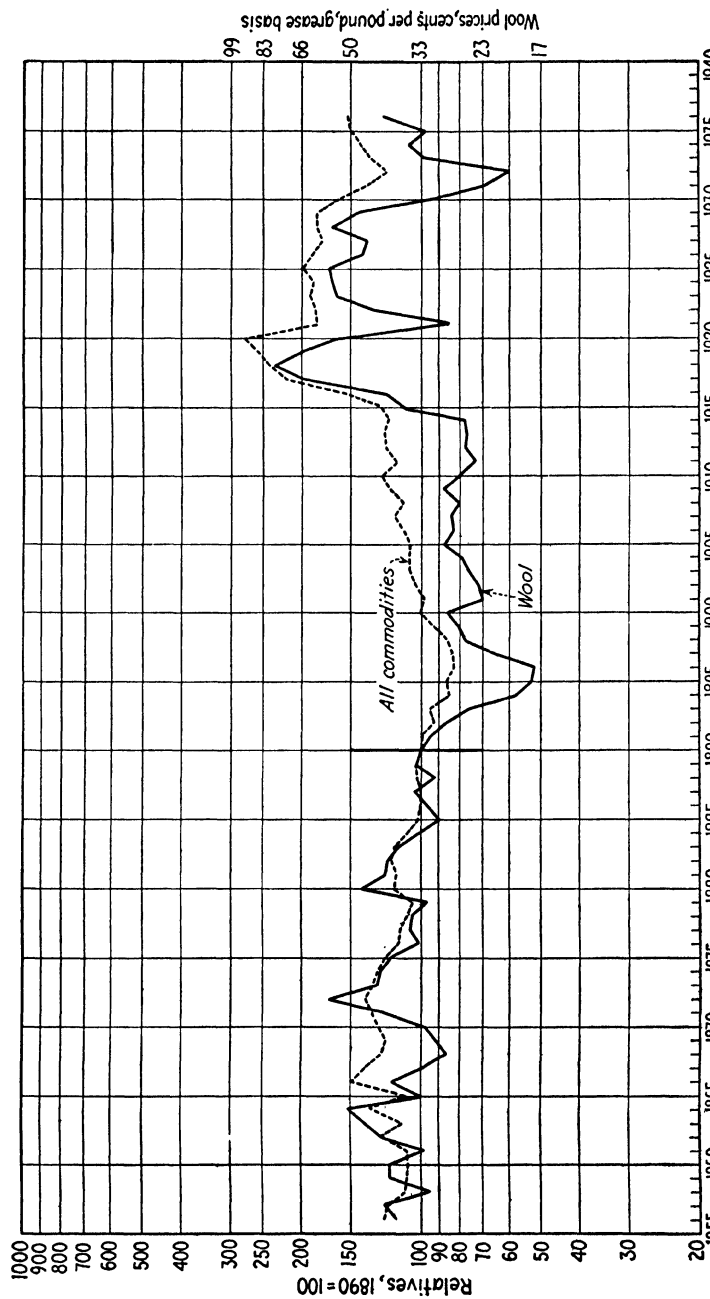


FIG. 17.—COMPARATIVE PRICES OF WOOL AND ALL COMMODITIES, 1856 TO 1936

SOURCES: All-commodity wholesale price index of the United States and wool prices from *Aldrich Report*, *U. S. Senate Document* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 15, Killough and Killough, *op. cit.*, p. 123. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

the eighteen sixties and the eighteen eighties. Wool prices, in relation to the all-commodity price level in the United States from 1856 to 1936, are shown in Fig. 17. The decline in wool values after about 1890 appears to have been due in part to increased supplies and reduced costs following the extension of steam transportation during the last half of the nineteenth century. World production of wool increased from about 1 billion pounds a year during the eighteen fifties to about 2 billion pounds in 1890, 2,800 million pounds in 1900 and 3½ billion pounds in 1930. The increase in supplies of wool coming from the grassy plains of Australia, Argentina and South Africa was not accompanied by corresponding reductions in production of wool in older producing sections of Europe because dual-purpose sheep, which provide both mutton and wool, are suited to intensive agricultural systems. Wool obtained from the dual-purpose sheep competes in the world's markets with the fine, short Merino wools produced in outlying areas too far removed from low-cost transportation facilities or too dry for profitable production of meat.

Another factor which, along with increased supplies of wool, contributed to lower prices has been a shift from wool hosiery and underwear to silk hosiery and underwear, particularly in the United States (Tables 37, 38).

TABLE 37.—PRODUCTION OF COTTON, WOOL AND SILK HOSIERY IN THE UNITED STATES, 1914, 1923 AND 1935[1]
(Dozens of pairs)

Kinds of fibers	1914	1923	1935
All silk	2,354,648	3,119,644	19,979,789
All wool	1,369,492	610,630	881,212
All cotton	36,952,380	34,690,955	27,587,230

[1] SOURCE: *Biennial Census of Manufactures of the United States*, U. S. Department of Commerce.

The figures in Table 37 indicate substantial trends away from wool hosiery. A similar trend has occurred in underwear production, as indicated in Table 38.

Statistics for hosiery and union suits made of rayon and mixed fabrics are not presented in the tables because data for the years

TABLE 38.—PRODUCTION OF COTTON, WOOL AND SILK UNION SUITS IN THE UNITED STATES, 1914, 1923 AND 1935[1]
(Dozens of suits)

Kinds of fibers	1914	1923	1935
All silk	31,714	93,195	51,355
All wool	147,221	25,222	20,273
All cotton	5,468,730	9,411,849	5,298,280

[1] SOURCE: *Biennial Census of Manufactures of the United States.*

presented are not comparable. However, there has been a substantial increase in their production.

Changes in the value of a commodity like wool, which enters largely into international commerce and represents substantial fractions of the value of total exports of one or more producing countries, are of more than passing significance in relation to international commercial policy. In the nineteen twenties raw wool constituted between 40 and 50 per cent of total exports (in value) of Australia. A fall in wool prices in relation to prices of other international commodities affects Australia's terms of trade adversely. Under such circumstances, Australia is likely to resort to legislative devices of one kind or another in an effort to recoup her losses.[1] Another aspect of Australia's position in the world's wool market is closely bound up with trade and other international relations between Australia and Japan. Japan needs Australian wool. Japanese wool imports increased from 9,417,000 pounds in 1908 to 71,541,000 pounds in 1920, to 114,706,000 pounds in 1930, and 243,520,000 pounds in 1935. Inasmuch as Australia is the world's leading wool-exporting nation and Japan appears to be on the way to becoming one of the world's leading wool-importing nations, wool may play an important role in inducing Australia to take a less positive position against Japanese expansion in the Pacific than would be the case if Japan were not one of Australia's best customers.

SILK

Sources of Supply.—The bulk of the world's raw-silk supply comes from the Orient. This fact is shown graphically in Fig. 18. Some silk is produced in southeastern Europe and a small amount

[1] See Chap. XXIV for further discussion of *terms of trade.*

in the United States and elsewhere, but, all told, production in the Occident is of relatively little consequence. Certain details concerning sources of the world's commercial supply of silk are given in Table 39.

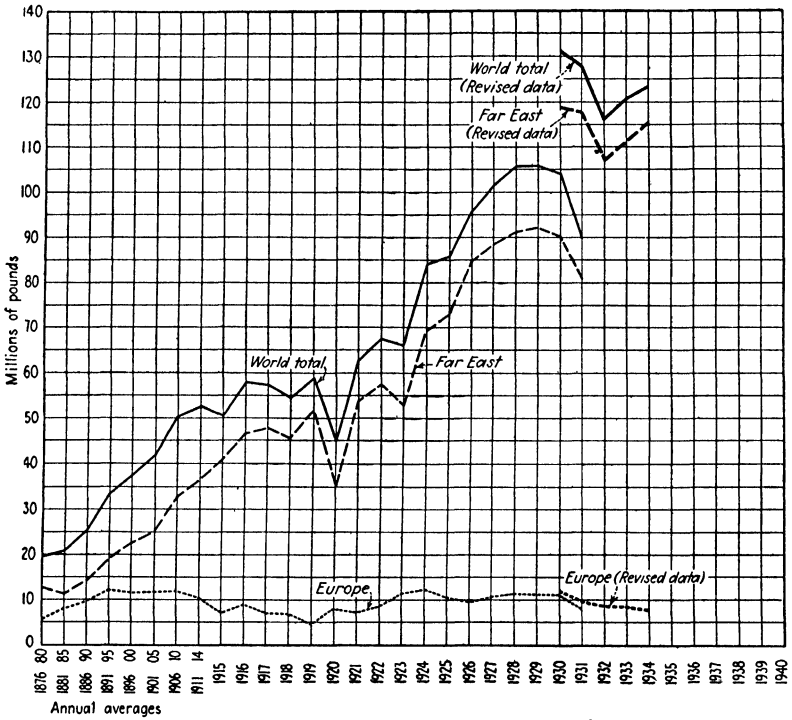


FIG. 18.—THE WORLD'S COMMERCIAL SUPPLY OF RAW SILK, 1876 TO 1934

SOURCES: Lyons Silk Merchants Union figures, published in *Board of Trade Journal*, Oct. 19, 1911, London; *Mid-year Reports* of the Silk Association of America; and *Foreign Commerce Yearbooks*. The figure is patterned after Fig. 16 in Killough and Killough, *op. cit.*, p. 134.

The data in Table 39 indicate that Japan, China, Italy and the Levant are origin points of raw silk in the order named. China and Italy rank next to Japan. Japanese exports of silk, as compared with Chinese exports, are probably not accurate criteria of relative amounts produced in the two countries for two reasons: (1) Chinese consumption of silk is probably larger than that of Japan, and (2) cocoons move from China to Japan for unreeling preparatory to exportation of commercial silk. Similarly, part

of the Italian production of silk is unreeled in Italy from cocoons produced in China.

TABLE 39.—COMMERCIAL SUPPLY OF RAW SILK BY COUNTRIES OF ORIGIN AND PROPORTION IMPORTED BY THE UNITED STATES[1]
(Thousands of pounds)

Country	Average 1909–1913	Average 1921–1925	1934
Total countries specified	58,389	75,501	115,480
Italy	8,524	9,487	6,362
France	992	548	170
Spain	182	177	66
Levant and Central Asia	6,611	1,874	988[2]
China			
Exports from Shanghai	12,576	10,456	7,637[3]
Exports from Canton	5,146	6,418	
Japan: exports from Yokohama and Kobe	21,898	46,336	99,743[3]
British India: exports from Bengal and Kashmir	428	121	139[3]
Indo-China: exports from Saïgon, Haifond, etc	32	84	375[3]
United States imports	23,488	52,119	60,447
Per cent of world supply as here specified	41.7	69.3	52.3

[1] SOURCES: *Foreign Commerce Yearbooks*, 1933 and 1936.
[2] Production of Iran, Syria and Turkey.
[3] Estimated production.

Commercial silk is obtained by unreeling the fine fibers from cocoons which have been spun by silkworms. The cocoons are heated in an oven for several hours at a temperature of from 60° to 70°C. for the purpose of killing the pupa, or chrysalis, contained within before it shall have developed sufficiently to cut its way through the envelope and thus destroy the continuity of the cocoon thread. The cocoons are then sorted into several grades according to size, color and extent of damage before the process of unreeling is begun. Unreeling is done by hand or by mechanical processes that require great skill. It is customary, in most filatures, to reel the threads of five cocoons together into a single yarn that may be reeled into skeins of standard circumference and convenient weight for commercial purposes. Production of

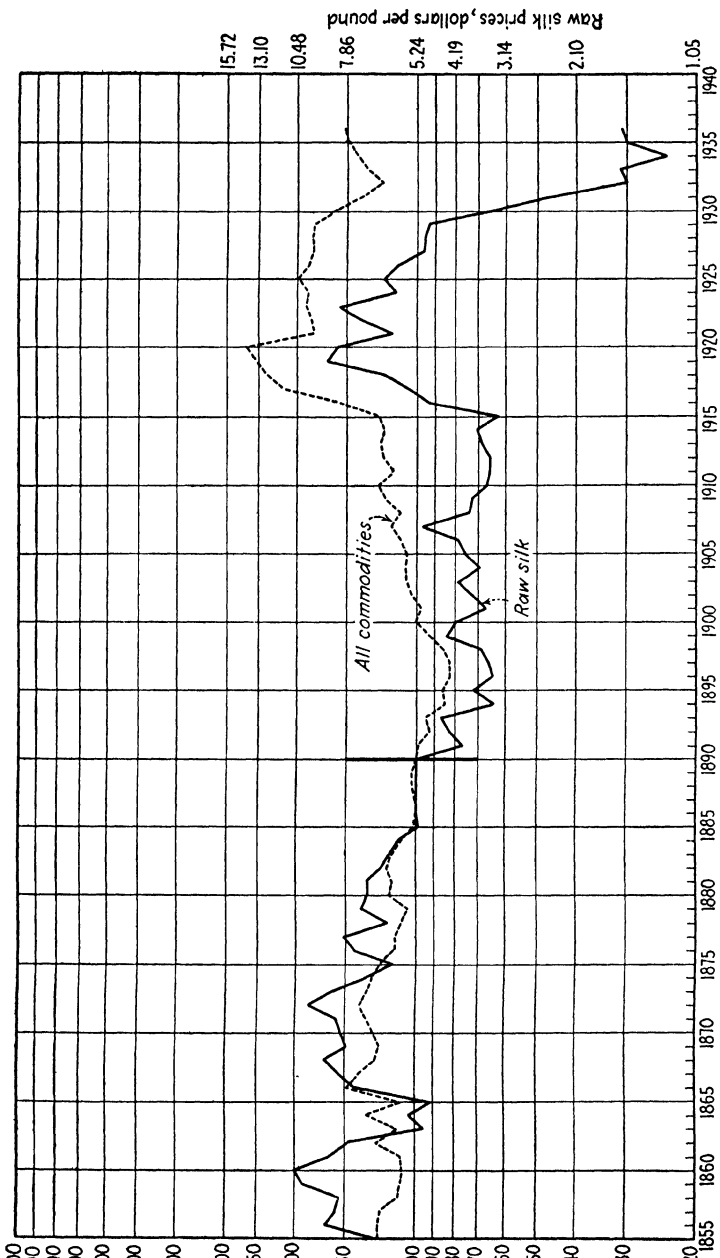


FIG. 19.—COMPARATIVE PRICES OF RAW SILK AND ALL COMMODITIES, 1855 TO 1936

SOURCES: All-commodity wholesale price index of the United States and silk prices from *Aldrich Report*, *U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 17 in Killough and Killough, *op. cit.*, p. 140. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

the cocoons is carried on largely as a home industry by farming populations. It includes the raising of mulberry trees in order to obtain the leaves as food for the silkworms, care of the worms from the time they are hatched until the cocoon is spun, and production of silkworm eggs free from hereditary diseases for further reproduction. Unless killed to prevent damage to the cocoon, the worm develops into a moth which lays eggs about the size of the head of a small pin. These eggs are hatched artificially and are placed on trays for convenience in handling. The trays are kept at an even mild temperature in a well-ventilated atmosphere, and the worms are supplied from time to time with fresh mulberry leaves. In a little over a month after hatching, the worm has attained its full growth of about 3½ inches in length and ¼ inch in thickness and begins the spinning of the cocoon. The large amount of low-cost hand labor required to produce silk to sell at existing prices is the factor which keeps the raw-silk-producing industry confined largely to densely populated Oriental countries.

Silk Prices.—Since about 1890, silk has become less expensive than it was in earlier decades. Raw-silk prices in the United States in relation to the all-commodity wholesale price index in this country from 1855 to 1936 are shown in Fig. 19. The decline in silk prices in relation to prices of other commodities is attributed by students of the raw-silk industry to the introduction of modern methods of reeling, to more scientific methods of cocoon production, to Japan's need of a source of cash income with which to purchase modern machinery and to increased utilization of rayon. To what extent the decline in exchange value of a pound of silk after the eighteen seventies and eighteen eighties may have been a factor in hastening the development of textile and other manufacturing activities in Japan is impossible to know. That the increasingly unfavorable terms of trade as between silk and Western goods has had some influence upon Japan's commercial and industrial policy of recent decades seems probable.

Raw-silk-consuming Countries.—Another consideration which may have influenced, in some degree, the industrial policy which Japan has pursued during recent decades has been her dependence upon the United States market for the sale of her silk exports. Since the World War, raw silk sent to the United States has constituted about one-fourth of Japan's total exports (in value).

Raw silk has been on the free list in the United States for many years, but Japan has had no assurance that this country might not lay an import tariff on it to favor her growing rayon industry or for other reasons. This combination of circumstances has subjected Japanese economy to a serious risk hazard largely beyond her immediate control, which she is alleviating to some extent by industrial diversification.

Among the principal raw-silk-importing countries the United States ranks far in the lead of all others; France and Italy rank next. Statistics of raw-silk imports for these three countries are given in Table 40.

TABLE 40.—IMPORTS OF RAW SILK BY PRINCIPAL IMPORTING COUNTRIES, 1925, 1928 AND 1935[1]
(Thousands of pounds)

Country	1925	1928	1935
United States	76,795	88,269	72,361
France	13,808	17,198	8,830
Italy	910	1,456	249

[1] SOURCES: *Commerce Yearbook*, 1929, Vol. 11. *Statistical Abstracts of the United States*, 1933 and 1936, and *Commerce Yearbook*, 1936.

RAYON

A New Fiber.—Within less than half a century rayon (or artificial silk) has emerged from the obscurity of chemical laboratories to a place of great and growing importance among textile fibers. The production of rayon in 1925 was double the world's commercial silk supply and one-fifteenth as great as the world's wool clip (Fig. 20). Since 1925 rayon production has increased more than sevenfold (see Table 41, page 226). For thousands of years prior to the twentieth century, wool, silk, linen and cotton had little competition in the textile field. Century after century passed without a new textile fiber entering seriously into the competitive struggle among the four fibers of ancient origin. Then came rayon, a man-made fiber, a product of the imagination of chemists and years of patient research. Count Chardonnet, a Frenchman, is said to have been the first to develop a process for making artificial silk (later called rayon). England claims to have granted the first patent for its commercial preparation. The increase in commercial production of artificial silk,

or rayon, during the last half century has been phenomenal. In 1895, world production was less than 2 million pounds; in 1935 it was 1,400 million pounds.

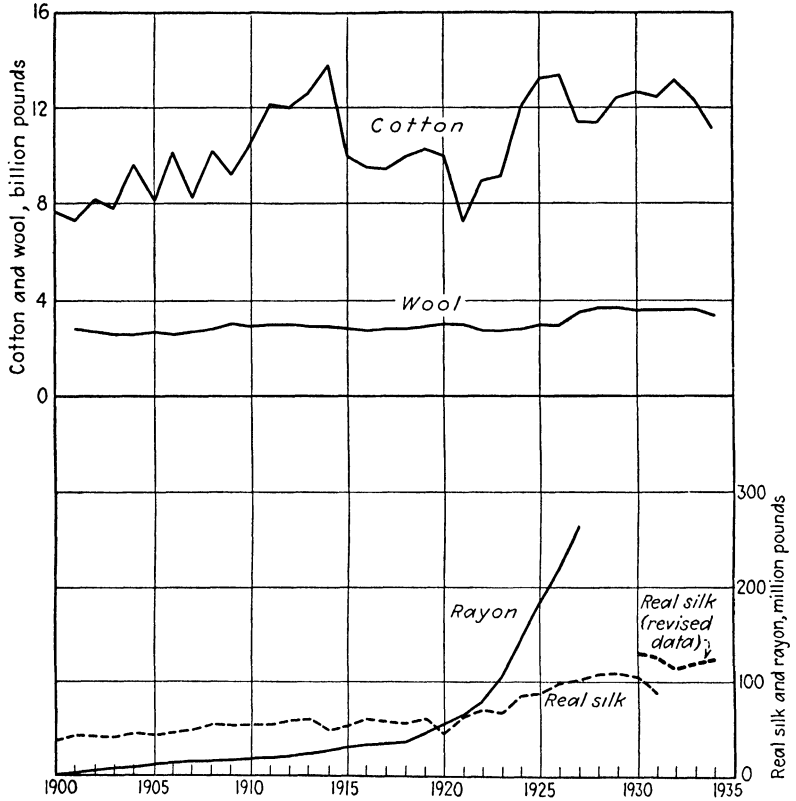


FIG. 20.—WORLD PRODUCTION OF COTTON, WOOL, RAYON AND REAL SILK, 1900 TO 1934

SOURCES: cotton, *U. S. Department of Agriculture Yearbooks;* wool, *The Wool Book,* a statistical manual compiled for the National Association of Wool Manufacturers, *Foreign Commerce Yearbooks* and *U. S. Department of Agriculture Yearbooks;* silk, *Mid-year Reports* of the Silk Association of America, *The Manchester Guardian Commercial,* Dec. 10, 1925, p. 42, and *Foreign Commerce Yearbooks;* rayon, *The Artificial Silk Industry,* League of Nations Document, Geneva, 1927, p. 12, and *Statistical Year-books,* League of Nations. The wool data must be regarded as rough estimates. Wool in its natural state contains a large proportion of grease or "yolk" which comes from the body of sheep. Wool statistics are not always on comparable "grease" or scoured bases. The figure is patterned after Fig. 18 in Killough and Killough, *op. cit.,* p. 143.

Status of the Rayon or Artificial Silk Industry in Various Countries.—Beginning in France and England in the closing years of the last century, the artificial silk, or rayon, industry soon spread

to central Europe, America and Asia. The industry developed most rapidly in countries where chemical industries were farthest advanced and where least difficulty was experienced in linking chemical production of the rayon yarn with spinning and weaving techniques. Labor and raw-material (pulpwood) costs were secondary considerations during the industry's initial period, when the profit margin was large. As production of rayon has

TABLE 41.—PRODUCTION OF ARTIFICIAL SILK, OR RAYON, IN VARIOUS COUNTRIES, 1925 AND 1935[1]

Countries	1925		1935	
	Metric tons	Per cent of world total	Metric tons	Per cent of world total
World totals	84,690	100	642,000	100
United States	23,542	28	116,420	23
Canada	230	...	230	
Brazil	.....	...	1,905	
Japan	1,451	2	98,604	21
U.S.S.R.	100	...	5,600	
Europe (exclusive of U.S.S.R.)	59,370	70	233,690	50
Germany	11,800	...	47,000	
Austria	1,500	...	850	
Belgium	5,000	...	10,300	
Spain	84	...	2,722	
France	6,500	...	32,000	
Greece	.....	...	100	
Hungary	300	...	.....	
Italy	13,850	...	48,605[2]	
Netherlands	2,700	...	9,400	
Poland	627	...	5,119	
United Kingdom	13,500	...	49,135	
Sweden	105	...	588	
Switzerland	2,400	...	3,687	
Czechoslovakia	1,000	...	2,785	

[1] SOURCES: League of Nations, *Statistical Year-books*, 1934–1935 and 1935–1936, Geneva, 1935 and 1936. Used by courtesy of the International Documents Service, Columbia University Press.

[2] 1934 production.

increased and as competition among producers has become more severe and profit margins less, both labor (which is a greater cost element than raw materials in rayon production) and availability of supplies of pulpwood have become critical factors along with availability of markets in influencing the location of large producing centers. In 1925 and in 1935 the rayon industry was distributed among principal producing countries as indicated in Table 41. The United States produced about 28 per cent of the world's output of rayon in 1925; Europe produced about 70 per cent and Japan only about 2 per cent. In 1935, the United States produced about 23 per cent of the world's total output; Europe's production had dropped to about 50 per cent of the total; and Japan's production had increased to approximately 21 per cent of the world total. Italy's output of rayon, and that of the United Kingdom, also, increased more than the output of many other countries.

Characteristics and Uses.—The manufacturer of rayon converts cellulose, such as wood pulp or cotton waste, into a liquid pulp. This pulp when passed through capillary tubes takes the form of a fiber and is coagulated on contact with certain chemical solutions. The single filaments thus formed are spun into yarn, which, after various finishing processes, is ready for knitting or weaving. In their early stages of development and improvement, rayon fibers were extremely inflammable; they lost body and strength after becoming damp and in consequence had very little sale. These disadvantages have been largely overcome by improved processes of production.

Rayon, silk, cotton and wool are quite different in essential respects. Silk is the strongest and the lightest fiber of the group. Silk, cotton and wool all have greater capacity for holding dyestuffs because each single fiber is hollow and is capable of absorbing dye internally. The individual fibers both of silk and of rayon are longer than cotton or wool fibers. This advantage in length, from the point of view of spinning quality, is partially offset by cotton's characteristic kink or twist and by the serrations on the outer surface of wool fibers which cause them to cling together, thus giving woven or knitted wool fabrics greater warmth than any of the other textiles.

Rayon is so different in its qualities from any of the other textile fibers as to have made a more or less distinctive place for

itself in the textile industry instead of replacing one of the other fibers. Some competition between rayon, silk, wool and cotton nevertheless exists. Rayon is used extensively at the present time in the manufacture of hosiery and underwear and in mixtures with cotton, silk or linen in the manufacture of outerwear. Part of the increase in rayon consumption during the last two decades has been due no doubt to the fact that prices of rayon have declined relative to prices of wool and cotton. A comparison of rayon, silk, wool and cotton prices is given in Table 42.

TABLE 42.—COMPARISON OF RAYON, COTTON, SILK AND WOOL PRICES 1913, 1925, 1932 AND 1935[1]
(Price per pound)

Year	Rayon, 150 B. denier New York	Silk, steam filature, New York	Wool, medium grades, Ohio	Cotton, middling, New Orleans
1913	$1.75	$4.63	$0.25	$0.13
1925	1.90	6.68	0.56	0.23
1930	1.00	3.63	0.31	0.13
1932	0.63	1.65	0.20	0.06
1935	0.63	1.30	0.31	0.12

[1] U. S. Bureau Labor Statistics, *Wholesale Prices*, series of bulletins.

The data in Table 42 indicate that between the years 1913 and 1935 rayon prices declined about 64 per cent as compared with a 72 per cent decline in silk prices, an 8 per cent decline in cotton prices and an increase in wool prices. If, with improvement in general business conditions throughout the world, rayon prices should continue to decline in relation to prices of cotton and wool, and if improvements in the quality of rayon should continue, the effect upon production and consumption of cotton and wool may be far-reaching.

OTHER TEXTILE MATERIALS

Jute.—Among the natural textile fibers of minor importance that have not been mentioned is jute. Jute is a coarse fiber used for the manufacture of twine, coarse sacking material, wrappings for raw cotton and machinery in transport and other purposes. It comes from India. The Hindus cut tall jute stalks and, by a process of soaking and beating, disentangle the longitudinal fibers for export to the United States and Europe or for manufacture

into coarse fabrics at home. British Indies exports of raw jute and jute manufactures were valued at approximately 200 million dollars in 1930. Jute has never been a serious competitor of cotton, wool or silk in clothing or in other uses where fine fabrics are demanded. For these uses cotton, wool, silk and rayon are supreme.

Possible Development of Little-used Grass Fibers.—Rumors of the perfection of processes for the spinning and weaving of various grasses which, in time, would replace cotton or wool in textile industries have been current on various occasions for a long time. The New York *Times* of December 1, 1931, carried this headline: "New Process Converts Grass into Cloth: Expected to Revolutionize Textile Industry." To date, none of the experiments with various grasses has been so successful as to put cotton, wool or silk in a hazardous position. More recently, rumblings have been heard from Germany and Italy concerning new synthetic textiles produced from wood. The following headline appeared in the New York *Herald Tribune* for Sunday, December 23, 1934: "Fiber Material Threatens U. S. Cotton in Italy. New Product of Wood and Cellulose Created to Cut Imports of Raw Stock." If the time should come when some synthetic product puts cotton, wool, silk or all three of these fibers on the discard heap which technological change is constantly building, the effects upon world trade and international commercial policy will be far-reaching. The introduction of cotton from the Orient and improvements in cotton spinning and weaving machinery in eighteenth century England contributed to the downfall of British mercantilism. International commercial policy changes of equal magnitude in our day and time are not beyond the horizons of possibility.

CHAPTER XVII

WOOD, RUBBER AND CHEMICALS

Wood is used in woodworking industries, for fuel, for construction purposes, for cooperage, and for the manufacture of paper and rayon and for the manufacture of vehicle stocks and furniture. As virgin forests disappear, coal, petroleum and gas tend to replace wood for fuel purposes, and wooden construction tends to give way to brick, concrete, steel or stone construction. Disappearance of virgin forests is among the characteristic changes that accompany the rise of a populous civilization in sparsely settled, wooded regions. More than 90 per cent of Great Britain's virgin forest is gone, and 80 to 90 per cent of the once virgin forests of France, Spain, Belgium, Italy and Greece are no more. In these countries, per capita consumption of wood is less than 30 cubic feet per year as compared with a per capita consumption of more than 200 cubic feet of wood per year in newer countries like the United States and Canada. Germany and a number of other European countries have for many decades been engaged in extensive reforestation programs but wood so produced is much more costly than wood secured from virgin forests. Germany's consumption of wood per capita is about the same as that of France, *i.e.*, less than 30 cubic feet per year.

Kinds of Wood.—Woods may be classified into two principal types: soft and hard. Pine, fir, spruce, cypress, cedar and other conifers are softwoods; their timbers being comparatively free of tough, radial grains, they are easily worked. Softwoods are used for the making of paper and rayon and for ordinary construction purposes. Mahogany, oak, walnut and teak are among the hardwoods; they are used in the manufacture of furniture, for flooring and in ship construction. Hardwoods abound in the tropics as well as in the temperate zones. To date, demand for them has not initiated exploitation of the tropics on a large scale except in the case of the Middle East, whence teak is obtained. The amount of softwoods consumed annually is greater than that

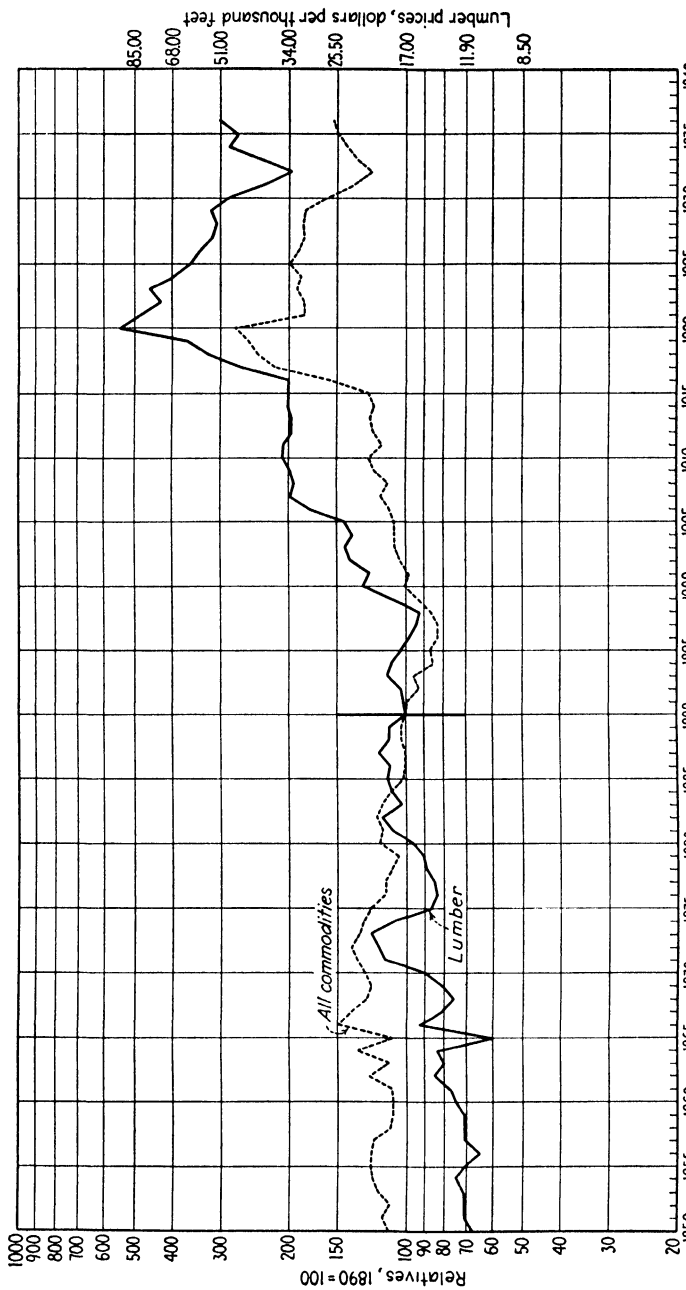


FIG. 21.—COMPARATIVE PRICES OF LUMBER AND ALL COMMODITIES, 1856 TO 1936

SOURCES: All-commodity wholesale price index of the United States and lumber prices from *Aldrich Report*, *U. S. Senate Report* 1394, 52d *Congress*, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

of hardwoods, hence our concern about softwood reserves. Only two great reserves of virgin softwood timber remain for exploitation: one is in Canada, the other in Russia.

Softwood Reserves, a Valuable Asset.—Pulpwood for the manufacture of paper and rayon has been moving from Canada to United States and Continental countries for a number of decades. Recently, softwood has begun to move out of Russia. It is possible that with the improvement of Russia's transportation system, exportation of wood will become an important source of Russian income for use in the servicing of debts and the purchase of industrial equipment during the period of rapid industrialization of the Soviet Union. Softwood timber in this day and age is a valuable asset. This fact is indicated by the rise of lumber prices in the United States as compared with other commodity prices since 1890 and earlier years (Fig. 21).

RUBBER AND ITS MANUFACTURE

History of Rubber and Sources of Supply.—The rise of the automobile industry has made rubber one of the more important raw materials of international commerce. Rubber was discovered by early voyagers to South America, but its uses were strictly limited prior to the discovery of the vulcanization[1] process in the eighteen forties. Vulcanization gives rubber uniform consistency in hot and cold weather. Before being subjected to the vulcanization process, rubber becomes soft and sticky during hot summer weather and hard and stiff in severe winter temperatures.

Prior to 1910 Brazil was the principal source of raw-rubber supplies. The wild Brazilian rubber trees were tapped by natives; sap or latex was collected and the rubber globules held in suspension were coagulated and dried by a process of dipping a wooden paddle into the fluid and holding it over a fire. After about 1910 plantation rubber from the Middle East came on the market in increasing amounts, year after year (Fig. 22). The plantation rubber industry was started by an adventurous Englishman, Henry Wickham (later Sir Henry Wickham), who brought seeds of the "Hevea brasiliensis" tree from Brazil, planted them in Kew Gardens, England, and replanted seedlings

[1] Vulcanization is a process of imparting greater elasticity, durability and consistency to caoutchouc (sap of the rubber tree) by heating with sulphur, sulphides or oxides or by soaking in a solution of sulphur chloride.

in Ceylon. The success of plantation rubber is indicated by the fact that more than 90 per cent of world exports of rubber during the period 1921 to 1930 originated in the Middle East, *i.e.*, British Malaya, Dutch East Indies, Ceylon and surrounding

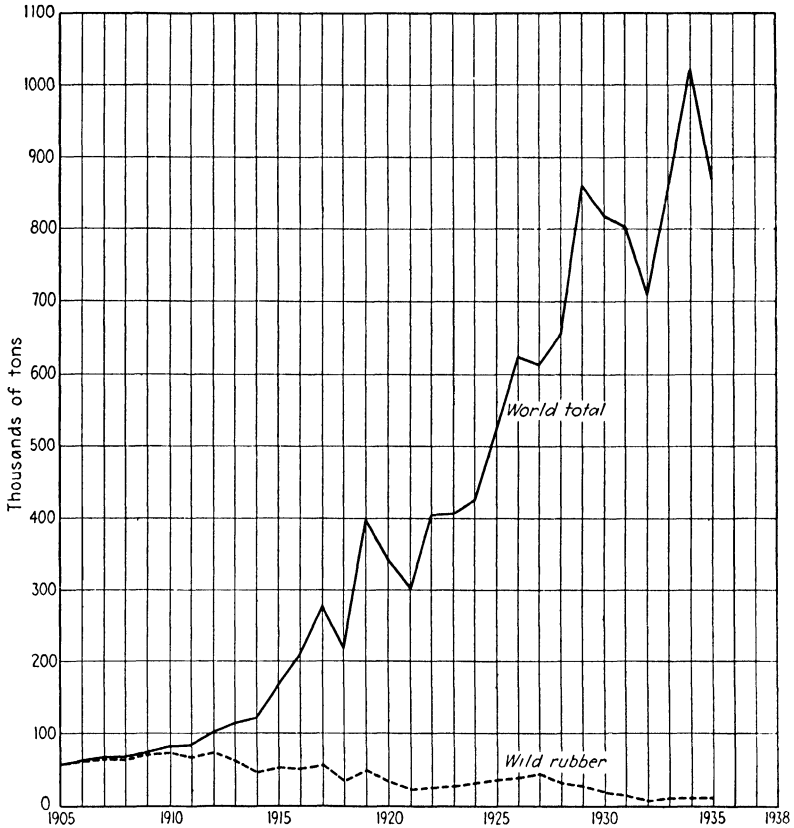


FIG. 22.—WORLD PRODUCTION OF RUBBER, 1905 TO 1935

SOURCES: U. S. Department of Commerce, *Trade Promotion 2, The Plantation Rubber Industry in the Middle East; Statistics Relating to the Rubber Industry*, issued by the Rubber Growers' Association, Inc., London, 1928; *Foreign Commerce Yearbook*, 1933; and data provided by the U. S. Department of Commerce. "Net exports" and "world production" are used in the rubber trade synonymously. Exports from Latin American countries and from Africa are considered as wild rubber. The figure is patterned after Fig. 19 in Killough and Killough, *op. cit.*, p. 174.

territory (Table 43). Approximately 64 per cent of world exports of rubber for the period 1921 to 1930 went to the United States. Great Britain, Germany and France together took about 20 per cent of world exports of crude rubber during the period

1921 to 1930; the remaining 16 per cent went to Canada, Japan, Italy, Russia, Australia, Belgium and elsewhere.

Uses.—Rubber is used in the manufacture of automobile tires, boots and shoes, rubberized fabrics, sporting goods and hospital

TABLE 43.—WORLD EXPORTS OF CRUDE RUBBER[1]
(Long tons of 2,240 pounds)

Year	World total	Middle Eastern plantations		American			African
		British	Other	Brazil	Other	Mexico Gua-yule	
1910	93,950	8,006	2,910	37,938	15,411	9,542	20,431
1915	170,820	96,266	20,104	34,610	10,322	1,386	8,138
1916–1920 average	290,735	185,000	58,690	28,541	9,190	1,035	8,280
1921–1925 average	414,205	244,832	139,159	20,387	3,451	1,333	5,043
1926–1930 average	716,639	437,197	246,369	21,923	1,691	2,954	6,505
1931	805,869	517,966	272,498	12,121	222	.....	3,072
1932	707,500	470,690	228,600	6,420	39	....	1,751
1933	850,820	533,400	304,800	9,883	639	.....	2,098
1934	1,016,210	586,346	417,976	8,903	34	398	2,553
1935	872,722	513,639	339,862	11,275	2,462	459	5,025

[1] SOURCES: *Foreign Commerce Yearbooks*, 1933 and 1936.

supplies. In the service of communication it is used for insulation purposes in the transmission of electricity and in the manufacture of telephone receivers, radios and typewriters. Paralleling the increase in demand for rubber, various attempts have been made to produce the natural product or a substitute synthetically. These experiments have met with a measure of success, but to date no substitute has been devised which can compete in a large way with natural rubber at existing prices.

Price Trends.—In spite of the large increase in demand, prices of natural rubber have been sharply reduced since the plantation product came on the market (Fig. 23). Figure 23 indicates that between 1856 and 1910 rubber prices in the absolute and in relation to average prices of other commodities increased more than 200 per cent. Prior to the large increase in demand for automobile tires after 1900, rubber was in demand for waterproofings, bicycle tires, communications, sporting goods and hospital supplies. Output of native Brazilian rubber at low cost

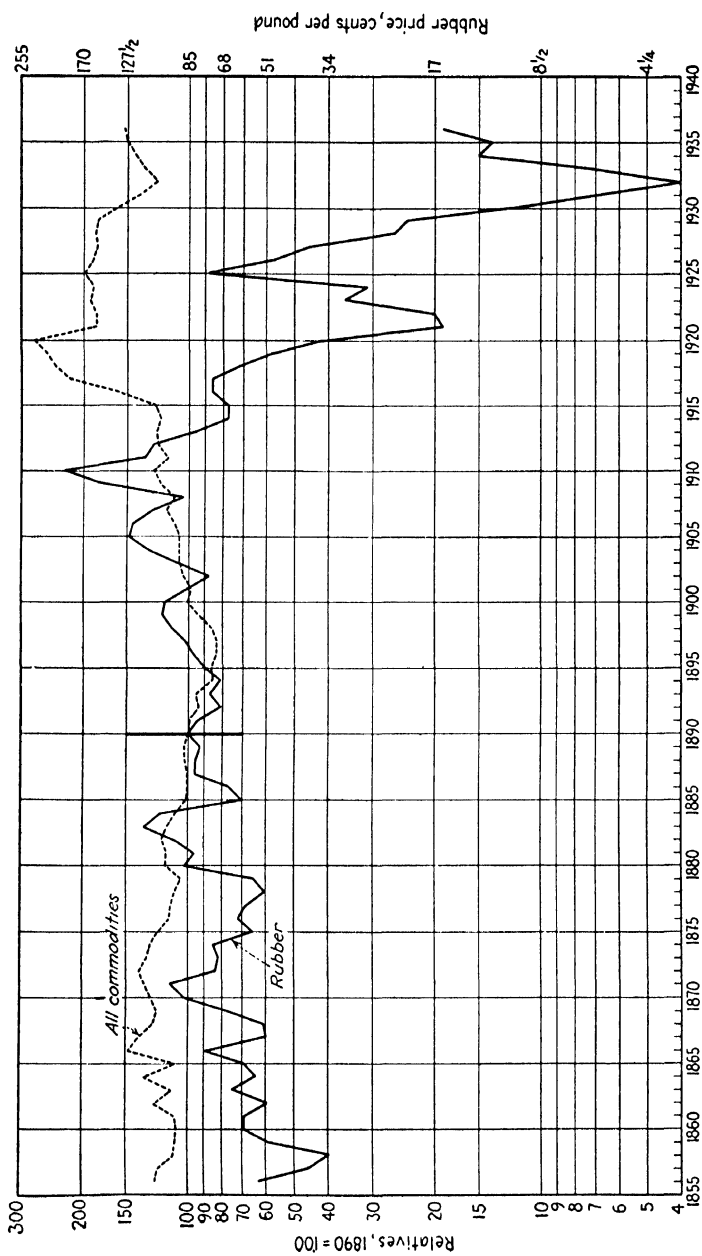


FIG. 23.—COMPARATIVE PRICES OF RUBBER AND ALL COMMODITIES, 1856 TO 1936

SOURCES: All-commodity wholesale price index of the United States and rubber prices from *Aldrich Report*, *U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 20 in Killough and Killough, *op. cit.*, p. 180. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

was limited. In consequence, prices of rubber increased as demand increased. When large quantities of plantation rubber came on the market the price broke from about $1.90 a pound in 1910 to approximately 17 cents a pound in 1922. Between 1922 and 1925 the British attempted to increase rubber prices by taxing exports, thus to curtail production under the so-called "Stevenson" plan. However, owing to lack of cooperation on the part of Dutch interests in the Middle East and expansion of producing areas in other regions, the export restriction scheme broke down. Since 1925 rubber prices have fluctuated as indicated in Fig. 23.

MINOR FOREST PRODUCTS

In addition to construction timber and softwoods for other uses, hardwoods used for manufacturing purposes and rubber, there are other forest products which enter the channels of international trade. Camphor, chicle and rattan are examples. Hemp and henequen might also be included in this category.

Camphor is a gumlike, crystalline substance used for medicinal purposes. It is obtained from an evergreen lauraceous tree found chiefly in Japan and Formosa. Japan's camphor exports ordinarily exceed a million dollars a year. In 1929 Japanese exports of camphor amounted to $2,858,000. Chicle is a wood, the sap from which is used in the manufacture of chewing gum. Yucatán, Mexico, is the principal source of supply. Rattan is used in the making of furniture, baby carriages and baskets. It comes from the tropics of the eastern hemisphere, where rattan stems grow to be hundreds of feet long. Hemp and henequen are raw materials of the rope and binder-twine industry. Hemp comes from China, Japan, India, Malaysia, Russia, Turkey, Italy and the Philippines. Henequen comes from Mexico. It is the raw material from which binder twine is made.

Finally, there are such commodities as shellac, rosins, gums, coconuts and bark used to make tanning materials and dyestuffs, all of which come from the world's forests. These and the many other forest products of minor importance need not be treated in detail. It is sufficient to say that international division of labor and international trade arise from an uneven geographical distribution of native and transplanted trees, as well as from the occurrence of mineral deposits far removed from centers of con-

sumption, and from the concentration of dense populations on areas poor in the resources of modern industry.

SULPHUR AND CHEMICAL INDUSTRIES

Characteristics of Chemical Industries.—Construction industries, textile industries and iron and steel industries are more familiar concepts than chemical industries because they are associated with characteristic types of construction and other types of work that attract the attention of casual observers. The roar and glare of great blast furnaces; the hum of spinning and weaving mills surrounded by the cottages of numerous mill-workers; and the noise of construction are impressions that linger distinctly in one's memory. Chemical industries are more all-pervasive and less obtrusive than steel, textile or construction industries. The metallurgy of a blast furnace is in part chemistry; textile finishing is in part a chemical process. Chemistry makes its contribution sooner or later to almost every industry: sugar-refining establishments, paper-manufacturing plants and cement mills all employ chemists, but none of these factories is considered a unit of a primarily chemical industry. Chemistry works in the background; its forces are scattered; it is in a sense the handmaid of mechanical industries. No single raw material or small group of raw materials represents the chemical industry as raw sugar represents the sugar-refining industry, as cotton, wool and silk represent the textile industry and as iron ore and coal represent the steel industry. In a group of industries classified by the United States Census Bureau as predominantly chemical are the following: alcohol, baking powders, yeasts, cleaning and polishing preparations, compressed and liquefied gases, druggists' preparations, explosives, lubricating oils, ink, paints and varnishes, soap and tanning materials. Among the outstanding manufacturing concerns in the United States classified as Chemical Companies are the Allied Chemical and Dye Corporation and E. I. Du Pont de Nemours Co., Inc. These concerns manufacture explosives, rayon, dyes, coal-tar products, alkalies, synthetic nitrates, synthetic rubber, insecticides, a great variety of acids and many other compounds. Obviously, no one raw material represents the chemical industry. Sulphur comes as near to fulfilling that assignment as does any other material. It is said that sulphuric acid, a compound of hydrogen, oxygen and sul-

phur, is in such widespread use throughout processing industries that per capita consumption of sulphuric acid is a fair index of a nation's state of industrial development. Sulphuric acid is used for cleaning iron in the steel mills; it is used in the finishing of textiles, in the manufacture of explosives, in the preparation of fertilizers and for a great variety of miscellaneous purposes in almost every chemical laboratory.

Sulphur.—About three-fourths of the world's annual output of sulphur originates in the United States. From this country sulphur in a pure or manufactured state is sent to almost every part of the world. This regional concentration of the world's output of sulphur is due not so much to the absence of "brimstone" deposits in other parts of the earth as to peculiarly favorable conditions for extraction in the United States. Sulphur is extracted in this country by the so-called "Frasch" process. Superheated water is pumped into sulphur deposits far below the surface of the earth and liquefied sulphur is forced to the surface with compressed air. The fact that sulphur deposits and natural gas occur in close proximity in the state of Texas makes possible lower cost sulphur extraction in Texas than in any other part of the world. Deposits of sulphur occur in Newfoundland, Japan, Sicily, Russia, Central America and elsewhere. Prior to about 1900 the greater part of the world's annual supply of sulphur came from Sicily, where brimstone was mined in open cuts and reduced in kilns. With the introduction of the Frasch process, however, a large part of the Sicilian industry was put out of business by the low-cost competition of American sulphur mining. The course of sulphur prices before and after introduction of the Gill Kiln along about the eighteen seventies and the Frasch process around 1900 is shown in Fig. 24. Both these improvements in methods of extraction reduced costs and prices.

Fertilizers.—Fertilizers are sometimes classed as a part of the chemical industry because many of them undergo chemical treatment to make the ingredients soluble in soil water. The fertility of soils that are cropped continuously tends to become exhausted because of deficiencies in soluble nitrogen, phosphorus, potash and sometimes other mineral elements. For many years Chile was the principal source of nitrogeneous fertilizers—aside from manures obtained locally. Chile's nitrates occur in salt beds in the form of nitrate of soda ($Na\ NO_3$). It is mined much as ordi-

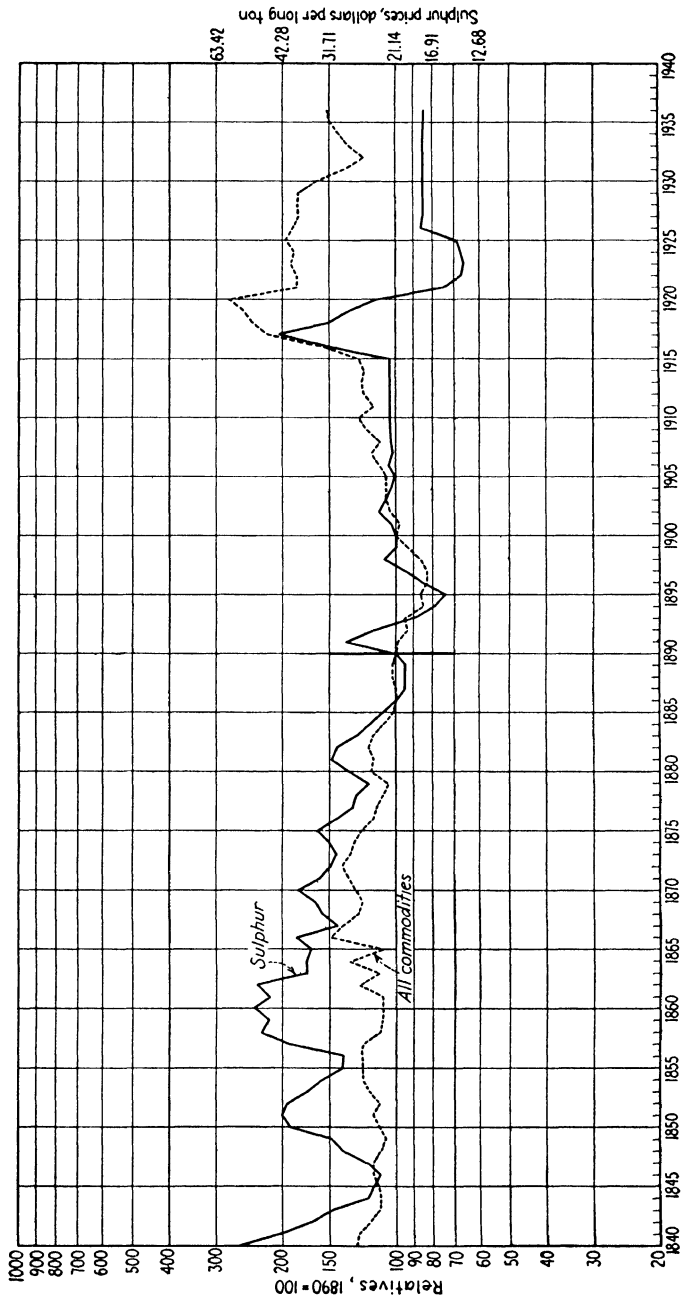


FIG. 24.—COMPARATIVE PRICES OF SULPHUR AND ALL COMMODITIES, 1840 TO 1936

SOURCES: All-commodity price index of the United States and sulphur prices from *Aldrich Report*, *U. S. Senate Report* 1394, 52d Congress, 2d Session, and U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins*. The figure is patterned after Fig. 23 in Killough and Killough, *op. cit.*, p. 207. See Chap. XXIII of the present volume for discussion of the relation of general price levels in the United States and other countries.

nary table salt is mined and shipped from Chile to various parts of the world. Before the World War, Chilean nitrates were also the principal source of nitrogen used in munitions manufacture. During and after the War nitrate fixation plants for obtaining nitrates directly from the atmosphere were established in Europe and America. As a result, Chilean nitrate deposits, although still an important source of nitrates for fertilizer and munitions manufacture all over the world, are relatively less important than they were in years gone by.

Another important salt used in the manufacture of fertilizers is potash. The richest and most readily available potash deposits in the world are located in Germany and in Alsace, France. Before the World War, Germany supplied the world with most of its commercial potash salts. During the War extensive research was conducted in the United States and elsewhere for the purpose of finding other low-cost sources of potassium supplies. The research was not altogether successful from an economic point of view, with the result that Germany and France still supply a large portion of world demand for potash. Within recent years large potash deposits have been reported in southern United States. However, they lie far beneath the surface of the earth and to date have not been mined extensively.

The third element needed for plant growth, a soluble form of which is commonly deficient in cultivated land, is phosphorus. The United States is a principal source of the world's supply of phosphorus. It occurs in this country in the form of so-called rock phosphate, apatite ($Ca_3(PO_4)_2 \cdot CaCl_2$), for example. The United States produces a third to a half of the world's annual output of rock phosphates. However, this is not the only source of commercial phosphate for fertilization purposes. Bone meal, for example, is a phosphate fertilizer.

INTERNATIONAL INTERDEPENDENCE

It is not necessary to exhaust the list of all raw commodities and processing industries in order to demonstrate the fact that modern nations, as now constituted, are economically interdependent. Minor commodities, as well as the great basic staples, originate in many different parts of the world. Hides and skins, for example, originate in meat-packing centers of Europe and America, in the wastes of Siberia, in the little-explored forests

of western Canada and in the jungles of tropical Africa and Brazil. Tobacco is exported from the United States, Dutch East Indies, Brazil, Greece, Turkey and the Philippine Islands. Diamonds come from South Africa and ivory from those parts of Africa and India which support wild elephants. Every product which enters the channels of international trade is not necessary for the existence of its consumers, but revenue from its sale is very likely to be necessary to the present mode of existence of its producers. Modern means of transportation have knit all parts of the world into one gigantic economic fabric.

CHAPTER XVIII

INTERNATIONAL TRANSPORTATION AND COMMUNICATION FACILITIES

Approximately one-third of the world's mineral tonnage, a fourth to a third of the wheat, a third of the sugar, half of the cotton, two-thirds of the wool, and more than 90 per cent of the rubber produced annually move across international boundaries. The large volume of trade in bulky raw materials, not to mention trade in manufactured goods and semimanufactures, is made possible by extensive and highly organized systems of rail and water transport supplemented by complicated systems of communication.

TRANSPORTATION

Ocean Shipping.—Ocean shipping lines extend from Great Britain, the center of world shipping, to Europe, North and South America, Africa and Asia. Passengers and freight move between Europe and Asia through the Suez Canal or around the southern end of Africa. In the Pacific, a number of shipping lines connect west-coast cities of North and South America with Oceania, China, Japan and the East Indies. Atlantic-Pacific lines, connecting the Americas with Europe and Asia, extend around the southern tip of South America or make use of the Panama Canal. In 1936, more than 30,000 ocean-going vessels of 100 tons and over were engaged in ocean shipping. More than 90 per cent of them were steam and motor vessels.

The most satisfactory available measure of volume of traffic handled by leading port cities of the world are numbers and net registered tons[1] of vessels entering the ports. These data for the

[1] "Net registered tons" is a size of vessel measurement. Gross tonnage is the total space included in the ship's hull and enclosed superstructure. Net tonnage is that part of gross tonnage minus the space devoted to engine boiler rooms, fuel space, crew quarters, etc. A ton in this sense is 100 cubic feet or 2.83 cubic meters.

TABLE 44.—VESSELS ENTERING A NUMBER OF THE WORLD'S LARGE PORT CITIES, 1935[1]

	Number of vessels	Net register, tons
1. New York (Upper Bay)	92,032	68,598,000
2. London	29,137	29,673,000
3. Kobe	26,776	28,334,000
4. Yokohama	5,757	26,785,000
5. Rotterdam	110,406	22,415,000
6. Baltimore	56,067	21,008,000
7. Colombo	2,708	20,425,000
8. Osaka	18,999	19,600,000
9. Antwerp	11,125	18,730,000
10. Hamburg	16,141	18,418,000
11. Philadelphia (Delaware River, Philadelphia to the sea)	8,302	17,907,000
12. Shanghai	8,488	17,418,000
13. Los Angeles	5,369	17,211,000
14. Liverpool	14,614	16,640,000
15. Marseille	9,135	16,612,000
16. Hong Kong (excluding 9,304 junks)	5,947	15,340,000
17. Boston	7,340	14,978,000
18. San Francisco	17,353	14,974,000
19. Singapore	5,934	14,800,000
20. Buenos Aires	14,826	13,435,000
21. New Orleans	16,287	13,319,000
22. Duluth—Superior	2,807	12,882,000
23. Southampton	15,628	12,509,000
24. Norfolk	7,089	12,222,000
25. Havre	9,018	11,572,000
26. Vancouver, Canada	16,970	11,488,000
27. Rio de Janeiro	3,924	11,226,000
28. Genoa	5,421	10,860,000
29. Naples	9,008	10,809,000
30. Houston	7,275	10,091,000
31. Sydney, Australia	6,855	10,057,000
32. Newcastle, England	8,532	8,596,000
33. Montreal	5,725	8,516,000
34. Bremen	7,118	8,300,000
35. Seattle	3,416	8,210,000
36. Montevideo	1,631	8,087,000
37. Piraeus	13,396	7,758,000
38. Melbourne	3,396	7,613,000
39. Copenhagen	25,432	7,452,000
40. Portland, Ore	9,548	7,051,000
41. Bombay	33,731	6,547,000
42. Cherbourg	952	6,478,000
43. Capetown	1,629	5,454,000
44. Galveston	1,762	5,383,000
45. Batavia (Tandjong Priok)	2,183	5,338,000
46. Jacksonville, Fla	1,810	4,523,000
47. Savannah, Ga	1,395	4,075,000
48. Calcutta	1,296	4,059,000
49. Curaçao	5,047	3,700,000
50. Charleston, S.C	10,668	3,226,000

[1] NOTE: Statistics for United States ports include barges, but exclude tugs and ferries.
SOURCE: Bureau of Foreign and Domestic Commerce, United States.

50 leading port cities of the world in 1935 are given in Table 44. New York is the largest and the most active port city in the world; London, Kobe, Yokohama and Rotterdam are the next four largest port cities.

Ocean shipping may be divided into two somewhat different industries, each with its own type of service and its own peculiar problems: one of these industries is the liner service, the other the tramp or charter service. A liner is a vessel which operates over a fixed route on a regular schedule of sailings. Tramp vessels, on the other hand, are unrestrained by fixed schedules and regular routes. They sail the "seven seas" searching for cargo in any port where paying cargo is to be had. Liners are large, commodious ships; tramps are usually smaller than liners, slower and better adapted to the carriage of low-rate cargoes. Liners serve the same ports month after month and year after year. They develop elaborate traffic-gathering organizations to insure patronage and compete on a quality-of-service basis. Tramp-ship competition is on a rate basis; most of the tramp cargoes are secured through ship brokers who bargain for low bids on shipping space. Passenger traffic, as a rule, is carried by liners that carry freight also. Some ships, both liners and tramps, are especially constructed for carrying particular kinds of cargo: tankers and refrigerator ships are examples; others are adapted for carrying many different kinds of goods. As a rule, the liner's cargo consists of small shipments received from hundreds or thousands of shippers and consigned to hundreds or thousands of consignees. Tramp ships more often carry full cargoes of a single commodity originating with a single shipper: coal, for example, wheat, jute, rubber, wool, cotton, lumber.

Ocean transportation is a highly specialized industry involving ships, port facilities, business offices of shipping companies and specialized agencies that assemble cargoes, handle marine insurance, service the ships, etc. In ocean shipping, as in many other industries employing large amounts of capital, there is a strong tendency toward unification of lines and services and extension of the sphere of management organizations. Under the British flag, the principal management groups are the Kylsant, Inchcape, Furness Withy, Cunard and Ellerman amalgamations. The Kylsant organization centers around the Royal Mail Steam Packet Company. It maintains services to South America, the

West Indies and the north Pacific. The Inchcape organization controls The Peninsula and Oriental and British India lines, which maintain services with Australia, India and other points east. The Furness Withy group controls lines to Canada, United States and Argentina, as well as a number of others of less importance. The Cunard group maintains North American, Mediterranean, Australia-New Zealand and Indian services. Activities of the Ellerman organization extend all over the globe either through direct service or in conjunction with other concerns such as the Furness Withy group. In the United States, the Dollar Steamship Line, the Grace Line and the Munson Steamship Line are among the leading management concerns aside from companies operating coastwise, intercoastal and Great Lakes shipping services. As in Great Britain and United States, so also in Germany, France, Italy and Japan shipping control tends to be centered in a few large organizations.[1]

From the point of view of international specialization based upon comparative costs, ocean shipping tends to be conducted most extensively by nations poor in natural resources and lacking opportunities for more profitable industrial expansion in other directions. In general, shipping is not among the most profitable of modern industries. If free competition were allowed to design the patterns of international division of labor, American capital and workers would not, in all probability, flow into the ocean-shipping industry in such large amounts as to cause the United States to rank second among the great fleet-owning nations of the world. However, as national industrial efficiency becomes increasingly dependent upon basic materials, secured from distant lands, nations become less willing to depend upon foreign shipping for the maintenance of adequate supplies of essential materials and delivery of export goods. The strategic significance of shipping in time of national emergency is suggested by the relative size of the United States merchant marine before and after the World War. In 1910, this country controlled approximately 12 per cent of the world's merchant vessels of 100 tons and over; by 1920, her proportion of the world's merchant marine had increased to about 17 per cent. This country, like every other world power, has regularly subsidized her merchant fleet since the

[1] SOURCE: *Encyclopaedia Britannica*, 14th ed., and BERGLUND, ABRAHAM, *Ocean Transportation*, Longmans, Green & Co., New York, 1931.

World War. The nature and extent of government subsidization of merchant shipping are treated more fully in Chap. XXVII of this volume. At present, the merchant fleets of the leading nations rank as indicated in Table 45. The merchant fleet of

TABLE 45.—MERCHANT MARINE OF THE WORLD AND OF PRINCIPAL COUNTRIES, 1900 TO 1936[1]
(Numbers of vessels of 100 tons and over)

Year	World total	United States	United Kingdom	Japan	France	Germany	Italy	Netherlands	Norway	Sweden	British Dominions	All other
1900	27,840	3,135	8,914	484	1,214	1,710	1,176	406	2,380	1,433	1,924	5,064
1910	30,053	3,469	9,417	846	1,465	2,178	1,080	628	2,065	1,472	2,078	5,355
1920	31,595	5,457	8,561	1,940	1,758	1,138	1,115	987	1,777	1,297	2,270	5,295
1930	32,713	4,223	8,238	2,060	1,651	2,157	1,380	1,401	1,916	1,417	2,516	5,754
1936	30,923	3,576	7,246	2,367	1,420	2,094	1,246	1,420	1,859	1,259	2,458	5,978

[1] SOURCE: *Foreign Commerce Yearbooks*, U. S. Department of Commerce, 1933 and 1936.

the United Kingdom is much larger than that of any other nation; the United States merchant marine ranks second to that of Great Britain. Aside from the comparison of relative sizes of the merchant marines of leading nations, the most significant feature of Table 45 is the apparent growth in size of the merchant fleets of Japan and Netherlands between 1900 and 1930. Japan's proportion of the world's merchant ships increased from less than 2 per cent in 1900 to more than 6 per cent in 1930; Netherlands' proportion increased from about 1½ per cent in 1900 to more than 4 per cent in 1930. Both of these nations are relatively deficient in natural resources. Furthermore, both have colonies to protect.

The future drift in merchant-marine policy, whether toward greater international specialization in world shipping or toward more subsidization of national shipping facilities, is impossible to predict. However, certain factors that will, no doubt, continue to influence merchant-marine policy stand out in bold relief. Among these are reductions in distance-time ratios, reductions in ton-mile costs of shipping and increase in the dependence of great mass-production industries upon raw materials obtained in foreign countries. In less than a century, the passage time from United States to Europe has been reduced from a minimum of 12 days or more by sail in the eighteen fifties to less than 5 days

by steam in the nineteen thirties.[1] Reductions in ton-mile costs of ocean carriage are no less significant than reductions in passage time. Although it is difficult to speak with precision concerning the general movement of ocean freight rates because of the diversity in rate forms and absence of standard charges, evidence exists to indicate that shipping costs have been substantially reduced. Rates from Great Britain on certain classes of products have been worked into indices of rate changes.[2] Such compilations suggest that ocean rates in general were 30 to 40 per cent lower during the period 1922 to 1928 than they had been during the period 1885 to 1890.[3] Since 1929, ocean rates have been substantially lower than they were either in the nineteen twenties or in 1913.[4] Taking freight rates in relation to general price levels, the decline between the eighteen eighties and the nineteen twenties is even more than the preceding figures suggest because prices in general were about 50 per cent higher during the latter period than they had been during the eighteen eighties. Reductions in transportation time and transportation costs have brought all nations of the world closer together and have contributed to an increase in international interdependence between manufacturing, mining and food-producing regions. Organized as the world's industry is at present, industrial efficiency is dependent upon the keeping of main channels of ocean traffic open in times of both peace and war. Even in the more self-contained nations (United States, for example) continuous and efficient operation of important industries are dependent upon supplies of "key" materials obtained from abroad. Metal alloys such as tungsten, manganese, cobalt, chromium and vanadium are examples. Under these circumstances, the power or combination of powers that maintains a large merchant fleet and a navy powerful enough to control the principal ocean highways is in an advantageous position in time of war. Here is one of the incentives

[1] The record Atlantic passage by sailing vessel was 12 days and 6 hours by the *James Baines*, Boston to Liverpool, 1854. SOURCE: *Encyclopaedia Britannica*, 14th ed., Vol. XX, p. 545.

[2] Data compiled by Messrs. Angrer Brothers of Great Britain, the British Board of Trade and the British periodical, *Fairplay*. See also HOBSON, C. K., *The Export of Capital*, The Macmillan Company, New York, 1914.

[3] See BERGLUND, *op. cit.*, Chap. XII.

[4] See League of Nations, *Statistical Year-books*, for index numbers of ocean freight rates in various countries from 1913 to date.

for subsidization of national shipping. Another argument in favor of merchant-marine subsidization concerns the promotion of peacetime trade. The case for maintenance of large, subsidized merchant marines, as peacetime economy measures, is not very convincing for the reason that competition between shipping lines as now operated appears to be sufficient to prevent serious discrimination in rates and service on a purely national basis, and to insure rates and services which are reasonably satisfactory to all.

Air Transport.—Since the World War, both the Atlantic and Pacific oceans have been crossed by aircraft, and regular international air transport lines have been established over a number of the less hazardous routes. Air transport may, in time, become indispensable to rapid movement of the less bulky "key" materials. Nevertheless, from the point of view of freight carriage, air lines may be thought of more as a means of supplementing old forms of ocean shipping than in any important sense replacing them.

Inland Transport.—Inland transportation is principally by rail, canal or river and overland highway. These three forms of inland transport are of varying degrees of importance in different countries. Inasmuch, however, as rail transportation is the most important of the three types in all the leading nations and inasmuch as complete and comparable traffic statistics of other types of transportation are not available, railway traffic data only are presented in Table 46 to suggest the important place which inland transportation occupies in world industry.

The railway freight traffic of every important country amounts to billions of ton-miles annually. Even in China, in spite of her archaic mode of industrial life, more than a billion ton-miles of freight are moved annually over some 9 or 10 thousand miles of railway trackage. The present-day system of territorial division of labor involving the manufacture of heavy goods for export and mass movement of foodstuffs, fuels and fabricating materials would be impossible without both external and internal freight services capable of moving heavy goods rapidly and at costs low in relation to their value.

Inland transportation facilities provide overland freight services comparable with the overseas freight services rendered by merchant shipping. Railway, truck, canal and river traffic

assemble goods for ocean shipment, disperse incoming ocean freight and move goods overland from one contiguous country to another. International specialization is dependent upon efficiently operated national transportation systems as well as upon maintenance of effective connections between them. When, for any reason, the transportation system of any important nation fails to function in its accustomed manner, economic strains and

TABLE 46.—RAILWAY MILEAGE AND RAILWAY FREIGHT TRAFFIC IN A NUMBER OF REPRESENTATIVE COUNTRIES, 1930[1]

Country	Mileage	Freight traffic, millions of ton-miles[2]
United States	260,440	385,815
U.S.S.R. (Russia)	50,269	92,833
British India	42,281	20,734
Canada	42,075	26,857
France	39,725	29,270
Germany	33,466	31,817
Australia	27,477	3,612
Argentina	24,805	6,078
Great Britain	20,403	18,079
Brazil	20,182	2,908
Italy	13,653	7,649
Union of South Africa	13,459	4,338
Japan Proper	13,420	7,173
China	9,497	1,552

[1] SOURCE: *Commerce Yearbook*, U. S. Department of Commerce, 1932, Vol. II, pp. 701–702. See also *Monthly Bulletins of Statistics* of the League of Nations.

[2] A ton-mile is the equivalent of 1 ton of freight carried 1 mile.

stresses are experienced in every other nation with which it normally trades. Restrict the flow of coal from Germany to France, the flow of cotton from United States to Great Britain or the flow of rubber from Malay States to America, and what happens? A period of industrial readjustment sets in. It is accompanied by unemployment, loss of profits and financial uncertainty, severe or mild, depending upon the magnitude of freight stoppage and surrounding economic circumstances. The internal transportation system of every important nation is a functional part of a world transportation system which in turn

is functionally related to interdependent manufacturing and mining organizations, and to a complicated and delicate system of international financing.[1]

COMMUNICATION

Unified direction is as essential to the synchronized activities of far-flung business organizations involving specialization, volume production and mass distribution as are power machinery and improved transportation facilities. The main volume of distant communication these days moves by mail, telegraph, telephone and radio. Railroads and steamships carry most of the mail. Air-mail carriage has expanded rapidly since the World War, but as yet air mail is a small proportion of the total. Communication by overland and ocean mail is of ancient origin. The telegraph, the telephone and the radio are nineteenth and twentieth century innovations. Every nation has its own domestic telegraph, telephone and radio systems, the external features of which we are all familiar with through the use of telegraph, telephone and radio in our own localities. Every nation is not so well supplied with facilities for electrical communication as is the United States, but no country is without a minimum of such facilities.

From the point of view of international trade, our interest is more largely concerned with the communication links that join the different national communication systems than with the details of the systems themselves. Aside from regular mail services and telephone or telegraph lines connecting nations on the same continent, the principal international communication facilities are ocean cables and radio. The first successful attempt to span the Atlantic Ocean by cable was completed in 1858. The line extended from Ireland to Newfoundland. It operated successfully for only a short period. The next successful attempt to span the Atlantic with a cable was in 1866. The cable laid in

[1] The importance of international transit is suggested by the fact that since 1922 a long series of League of Nations Conferences have been held upon the subject. They covered such topics as *Unification of Buoyage and Lighting of Coasts, Road Traffic, Competition between Railways and Water Ways, Inland Navigation, Maritime Ports, International Regulation of Railways*, etc.

1866 was operated successfully for more than a decade.[1] At the end of the third decade of the twentieth century, there were 21 cables in operation across the Atlantic, between North America and Europe. All told there were in existence in 1930 some 3,500 cables with an aggregate length of about 300,000 miles; they connected all continents except Africa and all important countries in a world-wide network of electrical communication. In addition to the intercontinent cable connections (which did not handle telephone calls) there were in operation, in 1934, 66 intercontinental radio telephone circuits, totaling about 250,000 miles in length. Inasmuch as atmospheric conditions may interfere with radio communication, plans are being made to supplement the radio telephone connections between North America and Europe with a telephone cable. Direct communication is now possible between North America and Europe; North America and South America; North America and eastern Asia; Europe and South America; Europe and eastern Asia; Europe, Australia and Java; North America and Hawaii; eastern Asia and Java.[2]

Communication has particular international significance both from the point of view of efficient conduct of international business and from the point of view of the exercise of political influence to achieve the ends of national governments or private pressure groups. Statesmen and internationally minded business leaders have long realized that the "amount of economic and political control in the various regions of the earth seems to be almost in direct ratio to the extent of control of communications and propaganda in those same regions."[3] The British, with their extensive trade connections and far-flung colonial empire, were quick to sense the significance of electrical communication during the last half of the nineteenth century and to acquire first place in the control of international cable lines. The French were less

[1] Authorities differ concerning the exact length of time. CLARK, KEITH, *International Communications*, Columbia University Press, New York, 1931, p. 124, and *Encyclopaedia Britannica*, 14th ed., Vol. XXI, p. 891.

[2] SOURCES: *Encyclopaedia Britannica*, 14th ed.; WATSON, DAVIS, *The Advance of Science*, Doubleday, Doran & Company, Inc., Garden City, N. Y., 1934; and *The Telegraph and Telephone Journal*, London.

[3] TRIBOLET, L. B., *The International Aspects of Electrical Communications in the Pacific Area*, Johns Hopkins Press, Baltimore, Md., 1929, p. 261. See also SCHREINER, G. A., *Cables and Wireless and Their Role in the Foreign Relations of the United States*, Stratford Company, Boston, Mass., 1924.

successful than the British in securing control of the physical facilities for international communication, but the French Government was active from the beginning in international communications conventions. During the World War, Germany was relieved of most of her international communications facilities which had taken form rapidly during the two or three decades just prior to 1914, and she has not, as yet, regained her prewar eminence. Prior to the World War, citizens and the Government of the United States were comparatively backward both as regards the acquisition of control of physical facilities for international communication and as regards participation in international communications conventions. Since the World War, sentiment in the United States concerning international communications seems to have changed. Radio interests of this country with the approval of the State and Navy Departments have made New York the radio center of the world, and evidence exists for the belief that the United States Government will take more active part in future international communications conventions[1] than it has in the past.

As the economic activities of different national groups become more interdependent, international communication becomes an increasingly essential part of the economic system. On the one hand, improvements in communication facilities have been among the reasons for external expansion of national economies. On the other hand, this outward expansion has placed increased demands upon communication. Much as New Englanders sent their capital westward when wagon roads and canals had linked the western frontiers of America to eastern cities, so also financiers in the older centers of world industry send capital to industrially backward regions as soon as these regions come within reach of steam transportation and telegraphic communication. Furthermore, fluid markets for securities result in an international criss-cross of financial participation in the development of domestic corporate undertakings in the highly industrialized nations.

[1] Conventions such, for example, as the International Telegraph Convention organized in St. Petersburg in 1875. This convention, with headquarters at Berne, Switzerland, at the present time, embodies a general set of rules governing international telegraph, radio and cable operations. Practically all countries are members. The United States is not a signatory, but United States companies are bound by the convention's regulations in most of their foreign communications.

Thus as means of transportation and communication have been improved, international capital flows have increased. As foreign investments increase, demand for quicker and more dependable transportation and communication facilities increases. Consequently, industrialization, improved transportation and communication and the spread of investments tend to march hand in hand.

CHAPTER XIX

FOREIGN INVESTMENTS

Transportation, communication, commerce and international finance join the several systems of economic activity in various parts of the world into an interdependent whole much as blood vessels and nerves connect the various parts of an organic body and cause them to be interdependent. Like transportation and commerce, the placing of investments in distant regions is a practice thousands of years old. However, the magnitudes of nineteenth and twentieth century investments abroad, like the magnitudes of nineteenth and twentieth century commerce, have no counterpart in earlier centuries.

Foreign investments in our day are represented by ownership of stocks and bonds in foreign corporations and governments, outright ownership of branch plants and other physical properties in foreign countries and international corporate affiliations.[1]

The Simultaneous Expansion of Commerce, Power-machinery Techniques and Foreign Investments.—The international pooling of financial resources through associations formed to earn profits for their members is not entirely a product of the modern era. This fact is attested by the operations of joint stock companies of the sixteenth century and even earlier ventures which involved more or less pacific acquisition and operation of foreign enterprises. Nevertheless, foreign investments of modern times appear to be more pervasive than ever before. Paralleling the rapid growth of English textile, iron and coal industries after 1800

[1] Unilever Limited is an example of the way corporate affiliations may reach across national boundaries. This organization manufactures and distributes soaps, margarines and related goods. It controls more than 600 companies located in Great Britain, Netherlands, France, Belgium, Germany, Norway, Sweden, Denmark, Italy, Dutch East Indies, West Africa, United States and elsewhere. The parent organization is a twin holding company, Unilever, Ltd., and a Dutch sister, Unilever, N. V.

SOURCE: PLUMMER, ALFRED, *International Combines in Modern Industry*, Sir Isaac Pitman & Sons, Ltd., London, 1934.

and similar developments on the continent of Europe at a later date went the building of canals and railroads and the opening of mines in outlying areas—United States, Canada, South America, India and Africa. These outlying developments were sponsored and financed in no small part by initiative and capital which emanated from centers of European industry.

Motives for Foreign Investment.—In some instances, international migration of capital is fostered and directed by political considerations. French loans to czarist Russia, prior to the World War, British outlays for control of the Suez Canal, United States investments in the Panama Canal zone, German investments in the Berlin to Baghdad railway project and Japanese investments on the Asiatic mainland probably were governed by political motives more than is ordinarily the case. Although examples may be found where the political motive appears to be as strong as or stronger than the economic motive for foreign investments, the greater part of lending and investing abroad since the beginning of the nineteenth century appears to have been guided primarily by the profit motive. The motto of Cecil Rhodes in South Africa is said to have been: "Imperialism is all right; imperialism plus dividends is better."[1] In countries where capital is plentiful and where labor or natural resources, or both, are relatively scarce, interest rates tend to be relatively low. In other regions, where undeveloped resources and labor are relatively more plentiful than capital, interest rates may be high. Direct comparisons of interest rates in different countries is not convincing proof of variations in productivity of capital because of differences in the risk factor. However, such comparisons do suggest reasons why capital migrates. Government bonds are commonly considered to be a type of security involving a minimum of risk. Average yields on government bonds of three highly industrialized nations of Europe and four industrially backward nations of Asia and South America for the period 1901 to 1913 are given in Table 47.

Yields on government bonds of the three principal capital-exporting countries of Europe during the period 1901–1913 were substantially less than bond yields in Japan, China, Argentina and Brazil, all relatively unindustrialized, capital-importing countries.

[1] FEILER, A., "International Movements of Capital," *The American Economic Review, Supplement*, March, 1935, p. 66.

TABLE 47.—AVERAGE YIELDS ON GOVERNMENT BONDS IN A NUMBER OF SELECTED COUNTRIES, 1901–1913[1]

Country	Rate of interest	Average yield
United Kingdom (consols)	2½	2.94
France	3	3.12
Germany	3	3.54
Japan (sterling)	4	4.73
China (gold)	4½	4.74
Argentina	5	4.93
Brazil	4	4.94

[1] WARREN, G. F., and F. A. PEARSON, *Prices*, John Wiley & Sons, Inc., New York, 1933, p. 277. Used by courtesy of Messrs. Warren and Pearson.

Prewar Status of Foreign Investments.—Great Britain, France and Germany became important capital-exporting nations in the order named. Germany's capital exports did not develop in a large way until near the close of the nineteenth century. During the second decade of the twentieth century, the United States became an exporter of capital on balance. Capital export data are not complete, but enough information is available to suggest broad tendencies. Hobson[1] estimates that the aggregate of British foreign investments increased from about 1,250 million pounds in 1881 to approximately 3,500 million pounds in 1913. He estimates French foreign investments to have amounted to about 1,600 million pounds in 1913. A German Admiralty estimate of 1905 placed the aggregate of German foreign investments at that time at 800 million pounds.[2] The United States in 1914 was a debtor nation on balance; nevertheless, her citizens were financially interested in many foreign enterprises. In 1913 United States investments abroad are estimated to have aggregated about 2 billion dollars against United States securities owned by foreigners amounting to 4 or 5 billion dollars.[3] Other

[1] HOBSON, C. K., *The Export of Capital*, pp. 144 and 162. See also RIPLEY, PERCY, *A Short History of Investments*, Sir Isaac Pitman & Sons, Ltd., London, 1934, p. 175, for summary of Sir George Parish's estimates of British overseas investments in 1913.

[2] *Ibid.*

[3] DUNN, ROBERT W., *American Foreign Investments*, B. W. Huebsch and Viking Press, Inc., New York, 1926, pp. 2, 3. Also *A New Estimate of American (United States) Investments Abroad, Trade Information Bulletin* 767, U. S. Department of Commerce, 1931, p. 7.

NOTE: The figures do not include short-term credits.

nations, like the United States, were both borrowers and lenders during the prewar period. As already intimated, Great Britain, France and Germany probably had larger net balances invested overseas before the World War than any of the other countries. The French investments went predominantly into European government loans. France was not connected by such close commercial and political ties with distant parts of the world as was Great Britain. Furthermore, French investors were willing to sacrifice high yields for greater apparent security. This generalization does not mean that Frenchmen had no share in venturesome industrial undertakings in outlying regions of the world such as French Indo-China and South America. It means only that prior to 1914 British investors took the initiative in pioneering and in the opening up of new fields for industrial development, to a larger extent than French investors. Germany, like France, tended to follow rather than lead in the process of extending industrial frontiers. Her foreign investments went into government securities first, and secondarily into industrial ventures. Netherlands and Belgium were leading money-market centers in the eighteenth century and the early part of the nineteenth century, but, being relatively small countries, their foreign financing became, in the aggregate, relatively less important as wealth accumulated in the larger nations during the nineteenth century.

Among the distant industrial ventures financed with European capital during the century preceding 1914, railway construction took first place, but not to the exclusion of a great diversity of other enterprises. Securities were sold in Europe for the establishment of foreign banks, mining ventures, plantations, telegraph lines, docks, municipal works and even manufacturing. Geographically, the loans went to United States, Canada, South American countries, Oceania, East Indies, Malay States, Japan, China, the Near East, Russia and Asia generally. As the nineteenth century progressed international business became commonplace; it was organized on a larger and larger scale and increasing numbers of concerns overreached the political boundaries of national states.

A few details that have been assembled from various sources will help to emphasize the foregoing generalizations about prewar foreign investments and to reduce the subject to more realistic and concrete terms. British overseas investments can best be

investments before the World War were greater in the aggregate than those of any other country; second, more information is available about British foreign investments than about those of other nations. The total of British overseas investments in 1893 is estimated to have been distributed as indicated in Table 48.

TABLE 48.—OVERSEAS SECURITIES QUOTED ON LONDON STOCK EXCHANGE, JANUARY, 1893[1]

(The figures represent par values)	£
Colonial government securities	225,000,000
Foreign government securities	525,000,000
Colonial and foreign corporation stocks	20,000,000
Railways in British possessions	75,000,000
Railways in India	65,000,000
Railways in United States	120,500,000
Railways in other foreign countries	127,500,000
Banks operating abroad	50,000,000
Foreign breweries	3,500,000
Gas companies operating abroad	6,500,000
Iron	500,000
Land and mortgage companies	100,000,000
Tea companies	2,500,000
Telegraph companies	10,000,000
Waterworks companies operating abroad	3,000,000
Tramway companies operating abroad	4,000,000
Miscellaneous companies, colonial and foreign	30,000,000
Total	£1,368,000,000

[1] RIPLEY, *op. cit.*, p. 164.

The list of British overseas enterprises in Table 48 includes mining, manufacturing and communications ventures as well as railway financing and the financing of government debts. The last two categories bulk larger in the total than any of the other classifications. As time passed, the total of British overseas investments increased, the holdings became more diversified by types of enterprise and the geography of the investments became more widespread. Great Britain's total overseas investments in 1913 are estimated to have been more than twice as great as the aggregate for 1893. Sir George Parish's analysis of the 1913 figures by types of enterprises indicates an even greater diversity than that suggested in Table 48. This analysis indicates also a very wide geographical range. An indication of the geographical coverage of the figures for 1913 is given in Table 49. Nineteen foreign countries in addition to British overseas dominions are

listed in the table and others are indicated as being regions where the British had financial interests of one kind or another.

TABLE 49.—AMOUNT OF CAPITAL PUBLICLY INVESTED BY GREAT BRITAIN IN OTHER LANDS—AS AT DECEMBER, 1913[1]

India and colonies		Foreign	
Canada and Newfoundland	£ 514,870,000	United States	£ 754,617,000
Australia	332,112,000	Cuba	33,075,000
New Zealand	84,334,000	Philippines	8,217,000
Africa—South	370,192,000	Argentina	319,565,000
West	37,305,000	Brazil	147,967,000
India and Ceylon	378,776,000	Mexico	99,019,000
Straits Settlements	27,293,000	Chile	61,143,000
Hong Kong	3,104,000	Uruguay	36,124,000
British North Borneo	5,820,000	Peru	34,173,000
Other Asiatic colonies	26,189,000	Miscellaneous American	25,538,000
		Russia	66,627,000
Total India and Colonies	£1,779,995,000	Egypt	44,912,000
		Spain	19,057,000
		Turkey	18,696,000
		Italy	12,440,000
		Portugal	8,136,000
		France	8,020,000
		Germany	6,364,000
		Miscellaneous Europe	54,580,000
		Japan	62,816,000
		China	43,883,000
		Miscellaneous foreign, other than Europe and America	69,697,000
		Total foreign	£1,934,666,000

[1] Sir George Parish's estimate, Ripley, *op. cit.*, p. 175. Used by permission of Sir Isaac Pitman & Sons.

Postwar Status of Foreign Investments.—The World War, 1914 to 1918, and the period of readjustment since the War are responsible for far-reaching modifications in the foreign investment portfolios of all the leading nations. Great Britain, France and Germany sold foreign securities to provide funds for prosecution of the War, and the United States extended huge loans to the Allied nations both during and after the War. Some of the details of war financing and postwar reconstruction financing are given in a later division of this volume.[1] At the present juncture, let us attempt to make a cross-section appraisal of the

[1] Part VI.

status of foreign investments of a few leading nations at the end of the third decade of the century and indicate apparent tendencies from this point forward.

The most significant modification in the status of foreign investments during the decade and a half ending in 1930 was the ascendency of the United States to a place alongside Great Britain in amounts of long-term foreign financing. What the War did in this case as in many others was to accelerate tendencies that were in slow process and, in all probability, would gradually have come about anyway. However, the direction which certain American investments took and the feverish and, in some instances, rash lending were not products of gradual evolution and sound investment. The aggregate of private long-term investments of the United States at the end of 1930 was estimated to be approximately $15,000,000,000. Their rapid growth is clearly indicated by comparison with estimates for 1900 and 1912. The amount of United States foreign investments in 1900 was about $500,000,000; that in 1912, $1,900,000,000.[1] Between 1912 and 1930, the United States increased its private holdings of foreign securities by about $13,000,000,000, an average of more than $700,000,000 per year. These figures include neither World War debts to the United States Treasury nor short-term credits.[2] The geographical distribution of United States long-term private investments in 1930 and 1935 is indicated in Table 50. More than half of the total was in Europe, Canada and South America.

By way of indicating types of enterprises into which American investments have gone, foreign investments may first be divided into direct investments and portfolio investments. Direct investments (as the term is here used) include: (1) investments in American-controlled manufacturing and selling organizations, (2) stocks and bonds in foreign-controlled manufacturing and selling corporations, (3) stocks and bonds in purchasing agencies and (4) stocks and bonds in petroleum lands, in petroleum-refining and -distributing agencies, in mining and smelting properties, in public utilities, in plantations and in other miscel-

[1] *A New Estimate of American (United States) Investments Abroad, Trade Information Bulletin* 767, p. 7.

[2] See Chap. XL for United States foreign investment data for years since 1930.

TABLE 50.—ESTIMATES OF PRIVATE LONG-TERM UNITED STATES INVESTMENTS ABROAD IN 1930 AND 1935 BY GEOGRAPHICAL AREAS

Area	Amount, millions of dollars	
	1930[1]	1935[2]
Canada and Newfoundland	3,792	3,764
Europe	4,499	3,543
Central America and Mexico	969	897
South America	3,042	2,937
West Indies	1,233	1,107
Africa	118	132
Asia	973[3]	820
Oceania	419	405
Totals	15,045	13,605
Add bank capital	.....	125
Deduct estimated net repurchase by foreigners	.....	1,100
Net totals	15,045[4]	12,630

[1] *A New Estimate of American (United States) Investments Abroad, Trade Information Bulletin* 767, p. 7.

[2] *The Balance of International Payments of the United States in* 1935, U. S. Department of Commerce, p. 32.

[3] Exclusive of holdings of Chinese securities, the actual values of which were so problematical that they were excluded. The amount is relatively small, possibly not more than $50,000,000.

[4] Winkler's estimates of American foreign investments placed the totals at various intervals from 1913 to 1931 as follows:

1913	$ 2,625,000,000
1923	$ 8,175,000,000
1930	$17,528,254,000
1931	$17,968,206,000

SOURCE: WINKLER, MAX, "American Foreign Investments in 1931," *Foreign Policy Reports*, Foreign Policy Association, New York, March, 1932.

laneous business properties.[1] Portfolio investments consist of (1) foreign bonds publicly offered in the United States as far back as 1904, (2) foreign bonds privately taken in the United States in large blocks, (3) shares of foreign corporations owned in the United States and traded on American stock exchanges and (4) bonds of American subsidiaries of foreign corporations and of

[1] Properties owned by missionary and other charitable organizations and educational institutions are not included in the foregoing estimates.

American corporations that lend abroad directly. Portfolio investments are held primarily by individual investors resident in the United States and by insurance companies, investment trusts and other financial institutions. The foreign security holdings of industrial and commercial corporations are considered as "direct investments." Only in Africa, the West Indies, Mexico and Central America are portfolio investments of the United States of little or no significance. In Europe, more dollars have gone into portfolio investments than into direct investments.

In 1930 the aggregate of British overseas investments exceeded that of the United States by not more than 2 billion or 3 billion dollars (World War debts excluded). In 1934 British overseas investments appear to have exceeded those of the United States by 5 billion or 6 billion dollars. Kindersley's estimates of British overseas investments for the years 1930 and 1934 are given in Table 51.

TABLE 51.—NOMINAL AMOUNTS OF BRITISH CAPITAL INVESTED OVERSEAS, 1930 AND 1934[1]
(Thousands of pounds)

Type of investment	Amount, 1930	Amount, 1934
Foreign and colonial governments and municipalities	1,437,339	148,000
Companies registered in the United Kingdom and operating abroad	1,204,764	1,211,000
Companies registered and operating abroad	782,534	695,000
Estimate of British holdings in securities not quoted or dealt in on the London Stock Exchange	300,000	300,000
Total	3,724,637	3,686,000

[1] KINDERSLEY, SIR ROBERT, "British Foreign Investments," *The Economic Journal*, June, 1932, and December, 1936. Used by courtesy Macmillan & Co., Ltd., London, publishers.

The average rate of exchange between dollars and pounds sterling in 1930 was $4.8621. The aggregate of British investments in terms of dollars was, therefore, approximately $18,000,000,000 as compared with the United States Government estimate of American foreign investments in 1930 of $15,000,000,000 and the Winkler estimate of between $17,000,000,000

and $18,000,000,000. In 1934 the average rate of exchange between dollars and pounds sterling was $5.04 per pound sterling. Great Britain's aggregate of foreign investments amounted therefore, to approximately $18,600,000,000 as compared with approximately $13,000,000,000 for the United States.

Recent investment information for other countries is not so readily available as that for United States and Great Britain. It is common knowledge, however, that France has investments in Russia and that she has a large stake in French Indo-China. Japan has pursued a policy of borrowing from Western powers and investing on the Asiatic continent. Netherlands is financially involved in Dutch East Indies ventures. Belgium has invested millions in the African Congo; Germany has interests in South America and Poland; Italy is financially interested in Italian Somaliland and Abyssinia. Few nations there are, of consequence, whose financial structure is not involved directly in the gigantic project of extending industrial frontiers or in sending capital along with goods to compete for markets in neighboring states. The complicated financial system maintained to promote industry abroad tends to bind all commercial nations into one large interdependent system of world economy.

Probable Future Tendencies.—The experience of foreign investors during the early nineteen thirties was not altogether pleasant. Many governments and private concerns defaulted their obligations.

Winkler[1] estimated in 1934 that about 37 per cent of the total of foreign dollar bonds, outstanding on the American market, were wholly or partially in default. Foreign investors of other nations suffered losses in smaller or greater amounts. Between 1928 and 1932, the annual flow of American funds into long-term foreign securities declined from about $3,250,000,000 in 1928 to about $650,000,000 in 1932.[2] Other creditor nations likewise reduced their capital exports. Again and again, during the last century, the rising tide of international investments gave way to uncertainty, liquidation and a drying up of the springs of

[1] WINKLER, MAX, "The Future of International Investments," *Annals of the American Academy of Political and Social Science*, July, 1934, p. 43. See also Chap. XL of this volume.

[2] *The Balance of International Payments in the United States in* 1935.

international credit. After each reversal, however, the processes of external expansion on the part of nations in the industrial and commercial vanguard went optimistically forward again. So long as population densities, resource supplies, industrial opportunities and interest rates continue to be substantially different in different countries there would seem to be little reason to anticipate that the streams of long-term foreign credits will dry up and permanently cease to flow.

CHAPTER XX

CONCLUSIONS CONCERNING CERTAIN ASPECTS OF TWENTIETH CENTURY COMMERCE

A glance at the population map on the front cover will call to mind, once more, the fact that populations are dense in some parts of the world and sparse in others. Attention is also recalled to the fact that agricultural lands, minerals and other natural resources are not always most plentiful where populations are most dense. Some nations are relatively poor in all kinds of natural resources. Others are rich in coal and poor in iron, or they may have an abundance of farming land and a sparsity of minerals. Furthermore, technical skill, business leadership and political circumstances in some countries are of a quality to encourage more effective use of nature's gifts than is made of equally favorable natural-resource endowments elsewhere. Great Britain, for example, with an abundance of coal, good harbors and little else in the way of natural advantages has made the most of her opportunities by exporting technical skill and coal, embodied in manufactured goods, in exchange for foodstuffs and fabricating materials. China has been less successful in taking advantage of her natural surroundings. Japan, with a dense population and a scarcity of all kinds of natural resources, has developed an export trade in cheap labor, embodied in raw silk and manufactured goods contrived from imported fabricating materials. Her leaders are faced with a problem of bartering the products of cheap labor for natural resources. Argentina, with a sparse population, an abundance of agricultural land and little or no minerals, exports wheat, wool, meat, hides and linseed, produced at low cost under a system of extensive agriculture. In response to the dictates of a diversified world demand and different combinations of productive factors, wheat moves from Argentina to Europe, machinery moves from Great Britain to Russia, cotton cloth moves from Japan to the Asiatic continent, rubber moves from Malaya to America, coal moves from

Germany to France and iron in the reverse direction, automobiles move from United States to Canada and newsprint paper moves from Canada to Europe and other countries. During the last century, technical improvements have created conditions conducive to enlargement of international trade. By harnessing natural forces, science has increased the quantities of crude materials which can be handled and worked into finished goods. Since the available supplies of such materials are scattered in a haphazard manner all over the face of the globe, it is necessary to assemble them at points convenient for fabrication and to distribute the finished goods.

The Volume of World Trade.—Complete and satisfactory measures of the amounts of world trade a century or more ago, for comparison with the amount at present, are not available. Such early measures of world commerce as are available (estimates of numbers of ships and their capacities, for example) indicate that the volume of international commerce increased during the sixteenth, seventeenth and eighteenth centuries and continued to increase at an accelerating rate during the nineteenth century.[1] Reverses occurred from time to time during this long interval as a result of wars, blockades, famines and the like, but in general the trend in the volume of world commerce appears to have been distinctly on the upgrade. Beginning in the last half of the nineteenth century, rough compilations of the values of international commerce at periodic intervals are available. Between 1875 and 1913, the value of world exports and imports increased from approximately £2,740,000,000 to £8,357,000,000. Prices in general declined between 1875 and 1913 from 10 to 20 per cent.[2] Hence, the physical volume of international trade appears to have more than trebled during the 38-year period.

Foreign Trade per Capita of Various Countries.—The per capita foreign trade of a country varies with the degree of industrial specialization, on the one hand, and with its wealth and

[1] *Encyclopaedia Britannica*, 14th ed., Vol. XXII, pp. 346*ff*.

[2] The British Board of Trade index number of sterling prices declined about 17 per cent between 1875 and 1913. The general trends of other price indices, in terms of gold, tended to conform with those of the British Index. See *U. S. Bureau of Labor Statistics Bulletin* 284 for index numbers of various countries.

diversity of demand, on the other. In Table 52 are listed a number of countries with amounts of foreign trade per capita ranging all the way from $93 in Newfoundland to less than $1 in China. Newfoundland's industry is specialized. Her principal exports are fish and fish products, paper and ores.[1] Newfound-

TABLE 52.—FOREIGN TRADE PER CAPITA OF REPRESENTATIVE COUNTRIES, 1935[1]
(Values in dollars)

Newfoundland	93	Cuba	33
United Kingdom	77	United States	20
Netherlands	76	Japan	12
Australia	67	Peru	11
Union of South Africa	59	Brazil	6
France	34	China	Less than 1

[1] SOURCE: *Foreign Commerce Yearbook*, 1936, U. S. Department of Commerce.

land imports machinery, coal and gasoline, textile manufactures' footwear, flour, beef, pork, canned milk, sugar and various other consumption goods. China produces most of the goods that her population consumes, but great numbers of Chinese people live in extreme poverty at the margin of subsistence. China is not a country with a diversified, well-balanced and prosperous industrial system. Poverty is the principal reason for China's low per capita volume of foreign trade.

Among the other countries listed in Table 52, Netherlands ranks high in amount of foreign trade per capita. Netherlands has a population of more than 600 persons per square mile. This small, densely populated nation has little in the way of natural advantages except agricultural land, easy access to the sea and proximity to large metropolitan cities of western Europe. London and other European cities reach out to near-by agricultural countries for dairy and poultry products, fresh vegetables and other perishable foodstuffs. In a sense, Netherlands is to London what upstate New York and surrounding areas are to New York City. In the one case, national boundaries are so drawn that trade is foreign; in the other it is domestic.

Among the most prosperous countries listed in the table are the United Kingdom and United States. The United Kingdom's foreign trade amounts to nearly $80 per capita; that of the

[1] Iron, lead and zinc.

United States amounts to only $20 per capita. The United Kingdom's industry is centered about her coal fields; agriculture is of relatively little importance. The United States, with less population per square mile[1] than Great Britain, more diversity of industry and less foreign trade per capita, is the more prosperous nation of the two. In this instance, amount of foreign trade per capita and size of national income are inversely correlated. Amount of foreign trade per capita is only one of many factors that reflect size of per capita national income. This conclusion is illustrated again in Australia. The foreign trade per capita of Australia is less than that of Great Britain and greater than that of the United States. Australia's leading exports are wool and wheat, produced in a region far removed from world centers of concentrated industry, a region where there are miles and miles of farming and grazing lands sparsely populated. Extensive agriculture and a comparatively large volume of foreign trade per capita are the results. The average Australian is more prosperous than the average Englishman, but less prosperous than the average American.

Another interesting comparison, suggested by the figures in Table 52, is between France and British South Africa. The per capita trade of France is less than that of South Africa. Diversity of demand gives rise to foreign commerce in the case of France. Occurrence and exploitation of a rare mineral (gold) account in large measure for South Africa's substantial volume of foreign trade per capita.

The other countries listed in Table 52, *viz.*, Cuba, Chile, Peru and Brazil are, in a sense, one-industry countries. Sugar tops the list of Cuba's exports. Four-fifths of Chile's exports consist of nitrates and iodine. Minerals (including petroleum) constitute more than half of Peru's exports. More than half of Brazil's exports consist of coffee. Certain dangers are inherent in extreme national, industrial specialization. If the price of sugar declines precipitately in relation to prices of other commodities, there is revolution in Cuba. If Europe and America succeed in supplying their nitrate needs from nitrogen fixation plants, Chile goes bankrupt. If Great Britain attempts to

[1] The density of population in the United Kingdom is approximately 500 persons per square mile; that in the United States, 43 persons per square mile.

become more self-sufficing in dairy and poultry products, Netherlands suffers. If the buying power of gold declines, South Africa is vitally affected.

One need not conclude from the foregoing facts that national self-sufficiency is the best policy. One need not go to the other extreme by overlooking the very real and practical difficulties which extreme specialization may create. In this connection, it is interesting to note that the United States, the wealthiest country among those listed in Table 52 and, therefore, the country with greatest diversity of demand, has less foreign trade per capita than France, a country ordinarily thought of as having a highly diversified industrial system. Possibly the United States should expect her international trade per capita to increase. This conclusion does not necessarily mean that the foreign trade of the United States need be much, if at all, greater in proportion to her total trade than it has been, *i.e.*, about 10 per cent. As a country's national income increases, its foreign trade per capita also tends to increase. Great Britain and Netherlands might be in a more prosperous condition if they had less population and less foreign trade per capita. Some of the so-called one-industry countries might contribute to world economic stability by encouraging greater industrial diversification within their borders even though their per capita foreign trade be reduced as a result.

Effects of Changing Prices.—Among the principal raw-material imports of manufacturing countries during the last century have been wheat, sugar, wool, silk, rubber, copper and sulphur. The purchasing power per unit of every one of these commodities has declined substantially since the eighteen seventies. Prices of raw cotton, another important international raw material, have just about held their own with prices in general. The progressive cheapness of many basic commodities to be had in outlying areas helped to swell the volume of world trade and to stimulate manufacturing or intensive types of agriculture in such countries as Great Britain, Belgium, France, Netherlands and Germany. Prices of coal, the principal source of supply of non-human energy for the motivation of machines, also declined in relation to prices of goods in general, thus contributing to low-cost manufacturing in countries with abundant coal reserves. Terms of international trade of most of the countries that

exported manufactures and imported raw materials were increasingly favorable during the nineteenth century. The goods sold by such countries commanded progressively greater amounts of imports (measured in physical units). This favorable tendency was not maintained in all the leading manufacturing nations after 1900. Competition between manufacturing nations for foreign markets tended to have an unfavorable effect upon terms of trade of some of the nations first in the field of power-machinery manufacturing—particularly Great Britain. This subject, which involves some of the most complicated portions of international trade theory, is treated more fully in Part V, Chap. XXIV. Before proceeding to Part V, let us recall certain salient trends of industrial development in various parts of the world by examining, in some detail, the character of export and import trade of leading nations shortly before the outbreak of the World War.

STATUS OF FOREIGN TRADE OF LEADING NATIONS BEFORE THE WORLD WAR

Great Britain.—Great Britain was the first of the European nations to let her agriculture give way to a manufacturing-trading economy. By 1914, British industry was predominantly mining, manufacturing and trading to the exclusion of agriculture. British exports were predominantly manufactures; they were exchanged for fabricating materials and foodstuffs. In 1913, textiles and iron and steel goods constituted about half of Great Britain's total exports. Textiles alone (that were subject to classification) constituted nearly a third of the total. Exports of textiles and their products were in excess of one-half of all such goods produced in the United Kingdom; exports of iron and steel and their products were at least one-third of such goods produced. These two branches of industry (manufacturing of textiles and iron and steel and their products) employed in excess of one-half of all workers engaged in manufacturing activities. On the import side, raw materials and foodstuffs bulked large. Raw materials and foodstuffs subject to statistical classification constituted more than half of Great Britain's total imports in 1913. Such of the foodstuffs imports as could be separately classified constituted in excess of a third of the total.

Another way of looking at British economy (prior to the World War) is in terms of the proportion which her external trade was of her total trade and the proportions which exports of particular industries were of total production of such industries. It has been estimated that in 1913 Britain's external trade was a fourth to a third of her total trade.[1]

France.—In 1914, the proportion that French exports bore to the national income of France was about 18 per cent, as compared with 23 per cent for Great Britain. French industry was more diversified than British industry; nevertheless, French exports were predominantly manufactures whereas imports were predominantly raw materials and semifabricated goods. The value of the twenty leading exports of France in 1913 constituted about one-third (36 per cent) of the value of total exports. The most important group of items, *i.e.*, cotton, wool and silk fabrics, yarn and apparel, aggregated about 14 per cent of the total. For comparison, it will be recalled that textile exports of Great Britain aggregated nearly one-third of British exports. Textiles and iron and steel goods exports together aggregated about one-half of Britain's total exports in 1913 as compared with less than 20 per cent for France. The exports of France were highly diversified in 1913; the imports were less so. The twenty leading imports constituted about one-half of the total imports; foodstuffs and fabricating materials bulked large.

[1] Exports were 23 per cent of national income; see King, W. I., *Income in the United States*, Harcourt, Brace & Company, New York, 1921, Vol. I, p. 85, for estimates of Great Britain's national income in 1914. Other estimates place the ratio of Britain's foreign trade to total trade at a higher figure. A. L. Bowley, in an article published in the *Economist* of November 17, 1923, came to the following conclusion: "The information available suggests that in 1913, 600 million income (30 per cent of the aggregate of home produced income) depended directly or indirectly on foreign trade. The proportion can hardly be put at less than one-quarter or more than one-third."

Bowley took into account not only merchandise exports but also earnings of shipping. Furthermore, he took into account that proportion of the value of merchandise produced and exported which involved values of imported materials.

Another way of getting at a rough idea of the relative importance of a country's domestic and foreign trade is to determine the proportion of movable goods annually produced that is exported. For Great Britain this figure is 25 to 30 per cent.

Germany.—Germany's prewar imports, like those of France and Great Britain, consisted largely of raw materials and foodstuffs. Her exports consisted largely of manufactured goods. In 1913, iron and steel, machinery, chemicals, dyes and cotton manufactures constituted in excess of one-third, in value, of all German exports. Between 1900 and 1913, these groups of exports increased more rapidly than total exports. The value of iron and steel, machinery, vehicles, ships, chemical and dye exports increased about 190 per cent between 1900 and 1913; the value of total exports during this period increased approximately 100 per cent. The proportion which German exports bore to her estimated national income in 1914 was about the same as that of Great Britain, *viz.*, 23 per cent.[1]

United States.—At the beginning of the twentieth century, United States, like Germany, was fast swinging into position where she was to compete vigorously for a generous share of the world's market for manufactured goods. In 1900, crude materials and raw foodstuffs constituted about 40 per cent of United States exports, and manufactures[2] about 60 per cent. In 1913, crude materials and raw foodstuffs constituted about 34 per cent of United States exports, and manufactures[2] about 66 per cent.[3]

Italy.—Italy at one time was an intermediary of commerce between East and West. During the last decades of the nineteenth century, she made extensive improvements in her port facilities, but world conditions had so changed that these measures were not sufficient to restore the peninsular nation to her former place in world commerce. Between 1910 and 1914, Italy's imports and exports amounted to only about 3 per cent of the world total, as compared with about 8 per cent for France, 11 or 12 per cent for Germany, and 17 per cent or more for Great Britain.[4] Estimates place Italy's national income in 1914 at $112 per capita as compared with $146 for Germany, $185 for France and $243 for the United Kingdom.[5] Population density

[1] Estimates of national income from King, *op. cit.*, p. 85. Export data from *Statistical Abstract of the United States*, 1914, p. 688.

[2] Manufactured foodstuffs and semimanufactures included.

[3] The tariff aspects of this subject are discussed in Chap. XXXVIII and Part VII of the present volume.

[4] SOURCE: *Commerce Yearbook*, Vol. II, p. 772. U. S. Department of Commerce, 1929.

[5] KING, *op. cit.*, p. 85.

and dearth of mineral resources have been serious handicaps to the realization of Italian aspirations in the realm of twentieth century commerce and industry.

Japan.—The position of Japan in world trade at the beginning of the twentieth century is of particular significance because foundations were being laid for an extraordinarily rapid increase in exports of low-cost Japanese manufactures. In 1933, the aggregate exports of Japanese cotton goods surpassed that of Great Britain. With her large and expanding population, her cheap labor and her desire for external economic expansion, Japan presents today one of the most perplexing international relations problems on the horizon.

As late as the middle of the nineteenth century, Japan was an isolated hermit nation about which Western countries had little knowledge. When, in 1854, Commodore Perry, with ten ships and 2,000 men, bluffed the Japanese into the signing of a commercial treaty with the United States, the island nation was ruled by a feudal aristocracy. Manufacturing, transport and agriculture were almost as backward as those of medieval Europe. Having once been introduced to Western improvements, the Japanese were quick to make use of them. By 1913, Japan had cast aside most of her ancient methods in every department of industry where economic circumstances made it possible to do so, and had become a modernized industrial nation. The two departments of industry in which mechanization went forward most rapidly were the reeling and preparation of raw silk for foreign markets and the manufacture of textiles. Japan exports raw silk and imports other textile fibers, wool and cotton principally. Textile raw materials constituted more than one-third of Japan's total imports in 1913; textile manufactures made up more than one-fourth of the exports and raw silk 31 per cent of the exports. Iron, steel and machinery imports made up 15 per cent of total imports.

Russia.—Russia is a large country, rich in natural resources. Northern Russia is a great snow-covered forest area. Much of southern Russia is a treeless plain, some parts rich and well watered, others too arid for any good use. Industrial development was slow to get under way in Russia. In 1905, the country had only about 7,350,000 cotton spindles as compared with Great Britain's 40 million to 50 million cotton spindles. In

1904, Russia produced about 2 million tons of pig iron as compared with an output of over 9 million tons in Great Britain. In 1900, Russia produced about 16 million tons of coal in contrast with Great Britain's output of approximately 225 million tons. The Trans-Siberian Railway was completed between 1900 and 1905. In 1913, Russia had between 40,000 and 50,000 miles of railway construction; the United States (with which Russia is somewhat comparable in transportation needs) had in excess of 260,000 miles of railway construction in 1913.[1] In short, Russia was a relatively unindustrialized nation at the outbreak of the World War. In 1914, less than 20 per cent of the population lived in towns. Since the World War, Russia's mining and manufacturing industries have developed at a phenomenal rate. Her exports before the World War were largely crude materials. This condition has not changed as yet, but the time may come when Russia will compete to secure a share of the world's business in manufactures commensurate with the size of her population and the richness of her mineral resources.

A Number of Other Countries.—With a few exceptions, other countries of the world were less industrialized and less prosperous at the end of the first decade of the twentieth century than the first four considered, *viz.*, Great Britain, Germany, France and United States.[2] Belgium was highly industrialized and prosperous, but small. In Switzerland, a relatively large proportion of the population was engaged in manufacturing, but Swiss industries, by and large, were based upon the handiwork of craftsmen and were not so profitable as the mass-production, power-machinery industries of Great Britain or Germany. Canada, Australia and South American countries exported foodstuffs, textile fibers and petroleum and other minerals to Europe and United States in exchange for manufactures. Canada and Australia were rapidly developing manufacturing industries at

[1] The foregoing data were obtained from Knowles, L. C. A., *Economic Development in the Nineteenth Century*, George Routledge and Sons, Ltd., London, 1932, p. 185; Yugoff, A., *Economic Trends in Soviet Russia*, George Allen and Unwin, Ltd., London, 1930, p. 23; Page, William, *Commerce and Industry, Tables of Statistics for the British Empire from* 1815, pp. 170, 180, 230, and *Statistical Abstract of the United States*, 1922, p. 310.

[2] Estimates of per capita national incomes of these countries and a number of others in 1914 follow: United Kingdom, $243; Germany, $146; France, $185; Italy, $112; Austria-Hungary, $102; Spain, $54; Japan, $29; Australia, $263; Canada, $195. KING, *op. cit.*, p. 688.

home. China exported silk, raw cotton and certain minerals in exchange for breadstuffs and manufactures. India's situation was similar to that of China. Africa (Egypt excepted) was of relatively little importance in terms of her external trade. Egypt exported raw cotton and imported manufactures. The Near Eastern countries exported petroleum in large quantities; sugar came from the East Indies and the West Indies. Southeastern Europe was predominantly agricultural.

LONG-TIME TENDENCIES

A number of dominant tendencies in the world's international trade were in evidence before the World War. The total volume of world trade was increasing. Nations were striving to strengthen their economic positions by developing manufacturing industries. In this they were assisted by capital loans and exports of capital equipment from the industrially more advanced countries. Commerce was expanding in all directions. Barter terms of trade in certain of the older manufacturing nations were becoming less favorable after about 1900.

Another tendency, obscure, slow moving, scarcely noticed, was beginning to make its effects felt early in the twentieth century. This was a gradual decrease in the proportion of aggregate trade among highly industrialized nations and an increase in the proportion of aggregate trade between highly industrialized nations, on the one hand, and industrially backward nations, on the other. The evidence shows itself in the statistics of commerce between Great Britain, Belgium, France, Germany and United States, on the one hand, and between Great Britain and less industrialized nations on the other. Great Britain's trade with Belgium, France, Germany and United States rose from 33 per cent of her total exports and imports in 1860 to 36 per cent in 1880 and 37 per cent in 1900. After 1900, British trade with these highly industrialized countries increased less rapidly than her trade with other parts of the world, which had less manufacturing. By 1910, the proportion of Britain's total external commerce which was with Belgium, France, Germany and United States had declined to 29 per cent (Table 53). The tendency suggested by the figures in Table 53 does not appear to have been profoundly altered by the World War inasmuch as Britain's trade with the four countries in question, *viz.*, Belgium, France, Germany and United States, was a smaller proportion of her total

TABLE 53.—BRITISH TRADE WITH OTHER HIGHLY INDUSTRIALIZED NATIONS[1]

Trade with	Percentages of total exports and imports of the United Kingdom			
	1860	1880	1900	1910
Belgium	1.5	2.4	3.9	3.8
France	6.2	8.4	8.5	6.5
Germany	7.5	5.9	6.8	6.5
United States	17.7	19.7	18.1	12.5
Total	32.9	36.4	37.3	29.3

[1] Computed from data presented by Page, *op. cit.*

trade in the nineteen twenties than it had been before the War.[1] Similar conclusions may be drawn from foreign commerce statistics of the United States. In the eighteen eighties, 65 to 70 per cent of this country's external trade was with Europe, as compared with about 40 per cent in the nineteen twenties.[2] As the proportion of United States trade with the manufacturing countries of Europe decreased, that with less developed countries in North and South America, Asia and Oceania increased.[2]

[1] Data computed from *Commerce Yearbook*, 1929, Vol. II, p. 658, show the following results:

Trade with	Percentages of total exports and imports of the United Kingdom	
	1913	1927 and 1928 average
Belgium	2.8	3.3
France	5.8	4.5
Germany	9.4	5.3
United States	13.2	12.5
Total	31.2	25.6

NOTE: The data after 1910 are not exactly comparable with that before 1910 because of minor changes in the British statistics.

[2] *Statistical Abstract of the United States*, 1933, p. 414.

As certain of the predominantly agricultural and mining countries develop matured manufacturing systems, nations first to exploit the advantages of power-machinery manufacturing and commerce may have to modify their ways of life and their courses of progress. Some nations may have to give up a part of their foreign markets for manufactured goods which, in the past, have been highly remunerative and take recourse to a larger share in the world's less remunerative agricultural occupations. Great Britain, for example, may revert to more dairying, poultry raising and other types of intensive agriculture than she has had during the last century. British living standards may fall in relation to living standards elsewhere. The population of Great Britain is already approaching a static state: it may in time decline. An alternative possibility is that British inventive genius may create entirely new industries or initiate far-reaching technical improvements much as they did in the seventeenth and eighteenth centuries and again lead the world to higher levels of prosperity and comfort. The United States furnishes an example slightly different in character. If the United States is to maximize the volume of her international commerce, domestic textile manufactures may have to give way to foreign textile manufactures in the domestic market in order that the country's more efficient steel-goods industries may expand in foreign markets. If the United States continues to protect her textile industries, specialization and enlargement of foreign trade will be retarded.

So long as differences in population densities exist in the various trading nations and the several kinds and qualities of natural resources remain unequally divided there will be comparative cost bases for international trade among even the most highly industrialized countries. If, however, as industrialized nations approach maturity their population densities become less unequal, their improved techniques more common and their high-cost industries more rigid, the volume of international trade among such countries may decline, as a result of a narrowing of comparative cost differences, on the one hand, and an increase in the number and effectiveness of trade restrictive barriers, on the other.

PART V

TRADE PRACTICES AND PRINCIPLES

INTRODUCTORY

Many medieval and early modern economic practices and doctrines were swept away with the rise of a power-machinery economy. During the nineteenth century economic philosophies were remodeled and better adapted to conditions of the times. The present generation has inherited a close-knit body of nineteenth century economic theories and is engaged in the tedious task of examining them—one by one—subjecting them to statistical verification in the light of twentieth century conditions where possible and modifying or discarding those which do not conform with present-day facts. Some students of economics would discard the whole body of nineteenth century doctrines and begin the gigantic task of building a completely new system. Examination of the trends of world industry and commerce reveals little justification for measures so extreme. In evaluating "economic laws" it is well to remember that in the world of practical affairs many counteracting forces may be simultaneously at work. It is well to remember also that a majority of the so-called economic "laws" or principles are no more than explanations of results that tend to flow from habitual patterns of human actions and reactions. To the extent that human habits change or become less dominant influences many of the so-called economic laws are modifiable. When, for example, nations are plunged into war, national groups may be induced to act with more unity and less thought of individual desire than is customary in time of peace. Production may be controlled by the state, prices and exchange rates may be fixed, monetary units depreciated and international gold flows prohibited, and the customary freedom of individuals may give way to conscription for war service. Less abrupt changes in habitual modes of living occur almost continuously, in many cases unnoticed by most of us. In view of these facts it is surprising to find how little many of the economic generalizations formulated in the nineteenth century need be modified to portray with reasonable accuracy the workings of the international trading system of the twentieth century.

CHAPTER XXI

FOREIGN TRADING AGENCIES AND PROCEDURES

Economic gains which the people of most of the great commercial nations secure through international trade are results of profit-seeking activities of private business concerns. This statement holds true in spite of the fact that during the last two decades a number of nations have brought their external commerce under closer supervision of the state than it was before the World War.[1] Appreciation of the fact that international trade involves a complicated system of specialized business institutions is necessary to an understanding of political forces which work in the background to establish different kinds of policy. Furthermore, some understanding of foreign trade organization and technique is necessary to an appreciation of such problems as exchange control and international monetary stability.

Types of agencies engaged in foreign trade are conditioned by the nature of products traded. International products may be divided into two principal groups, *viz.*, raw materials and manufactured goods. Manufactures originate principally in countries that are advanced in the application of improved technical methods. Such countries, as a rule, are financially strong, and

[1] Russia affords the outstanding example of state control of external commerce. Foreign trade between the Soviet Union and other countries is a state monopoly; it was nationalized in 1918. Originally the People's Commissariat for Foreign Trade was alone empowered to transact operations of external commerce either directly or through bodies designated by it. However, subsequent legislative interpretation of the principle of state monopoly of foreign trade has had a decentralizing effect. The People's Commissariat now performs only administrative functions, actual commercial transactions being carried on by state trading agencies such as Amtorg (United States) and Arcos (England) and by smaller trading organizations, some of which are privately financed. Foreign capital is induced to participate in Russian industry by grants to foreigners of export and import privileges in conjunction with manufacturing, mining, lumbering and agricultural concessions.

their exporting houses are in position to take the initiative in financing international transactions. Furthermore, manufactured goods lend themselves to active selling. They are advertised and in other ways are introduced into consuming habits abroad. Producing units in manufacturing industries tend to be large and their output is subject to more or less regulation in accordance with market opportunities. The quality of manufactured goods is subject to control. Easily recognizable differentiation as between brands and qualities is often possible and selling methods are devised to create consumer preference for the goods of particular manufacturers. Raw materials, on the other hand, are purchased by industrial users, usually in bulk. They are not so subject to differentiation and brand advertising as are manufactured goods. In case of many agricultural raw materials, such as wool, cotton, wheat, coffee and eggs, the producing unit is small, the surpluses of many farms being required for economical handling in international commerce. Production of other raw materials, such as rubber, sugar and minerals, is frequently initiated and financed by concerns in consuming countries that have reached out to the less developed parts of the world for fabricating materials in order that factories may expand.

TRADE IN RAW MATERIALS

During the nineteenth century Dutch, British and to a less extent French and German banking institutions financed extractive industries in the less industrialized regions all over the world—Asia, North and South America, Oceania and Africa. A complicated organization for trade in raw materials grew up around the European financial centers. Since the World War, institutions for the handling of raw-commodity trade have developed near the principal sources of supply. Trade practice in the handling of raw materials is thus undergoing slow modification. Nevertheless, custom and conformance to established habits continue to exercise more influence than is the case with manufactured goods.

Assembling.—Many of the agricultural staples are assembled from thousands of scattered farms by local dealers and large merchants. Such commodities are graded and stored by the

merchants and passed along to industrial consumers in uniform lots required by manufacturing plants which specialize in the production of standardized goods. Cotton and wheat, for example, are assembled in producing countries by merchants who maintain great storage warehouses from which the cotton and wheat move either to other merchants with warehousing facilities abroad or to milling and spinning companies. Local dealers frequently purchase directly from farmers and pass the cotton or wheat to larger merchants. In the Brazilian coffee trade, *comisarios* buy coffee from the planters whom they sometimes finance during the growing season. The *comisarios* sort and grade the lots of coffee and sell through brokers to export houses in the ports. Growers of jute in British India sell to local dealers, who in turn pass the jute along to large export merchants. Javanese copra growers sell to local dealers. The local dealer sells to a traveling merchant who in turn sells to an export house, owned, ordinarily, by Europeans. In general, where producing units are relatively small and widely scattered merchants and local buyers perform a collecting or assembling function that brings the raw materials together in sufficient mass for economical handling. In raw-material industries where the producing unit is relatively large (sugar, coal, iron ore, petroleum, lumber, for example) local assemblers are not necessary. In this case the producer and the export merchant may be one and the same concern.

Producer Exporting.—Cuba is one of the principal sources of supply of raw sugar. Some of the large Cuban centrals maintain sales offices in Havana to which information concerning the quantity of sugar produced, its quality, etc., is sent daily during the grinding season. Sales ordinarily are made by these Cuban sales offices to foreign refineries, through brokerage houses with offices both in Cuba and in the consuming countries (New York, London and elsewhere). The brokerage firm does not buy the commodity outright as is the case with a merchant; brokers negotiate purchases and sales between the centrals and refineries and receive a commission on sales for their services. A few of the larger centrals in Cuba maintain direct selling offices in New York, but the aggregate amount of sugar sold by them directly to refineries without the intervention of a brokerage firm is relatively small. Also the amount of Cuban sugar moving through

the hands of jobbers or merchants who purchase outright for resale to refineries is relatively small.

The bulk of Chilean nitrates, like that of Cuban sugar, passes through the hands of brokers who negotiate transactions between Chilean producers and foreign merchants. Coal is another product that requires little assembling in the sense that wheat, cotton and other farm products are assembled. American coal exports are transacted by large American mining companies. British coal that enters the channels of international trade is customarily passed from the collieries to British exporting firms, which in turn sell to foreign importers.[1] Petroleum moves from producing regions to refining plants located in some instances near the petroleum wells and in other cases near consuming markets or the seaboard. Crude petroleum moves from Russia to neighboring Continental countries and Great Britain. Much of the Mexican petroleum and petroleum produced in northern South America moves to United States refineries. Crude petroleum from Persia goes to Great Britain and elsewhere. Ordinarily crude petroleum is extracted by large companies, such as the Standard Oil Company and the Royal Dutch Shell Company, which also own refining plants. The large oil companies own fleets of tank cars and tank ships and perform most of the marketing functions with their own personnel. The crude-petroleum trade is a case where producer exporting is combined with consumer importing, producer and industrial consumer being one and the same company. In the case of lumber some of the larger sawmill operators maintain their own exporting and selling establishments. A more common practice is for the sawmill operator whose lumber enters the channels of international trade to sell either to a lumber merchant who buys outright on his own account for resale or through an export agent who handles the lumber on a commission basis. Export agents and export merchants in the lumber trade sometimes sell directly to the importer; in other cases they sell through one or more foreign brokers whose function it is to assemble orders and transmit them to the export agent or merchant.

Procedure in the Transfer of Ownership.—Transfer of ownership is one of the most important steps in the whole complicated

[1] The collieries and exporting firms may be owned by a single large corporation or holding company.

system of international trade in raw materials. In some cases transfer of title to the goods is by so-called "private sale"; in other cases sales and purchases are consummated at auction markets and in still other cases transfer of title to the goods is negotiated through brokers who are privileged to buy and sell on organized exchanges, for the accounts of their respective clients. So-called "private sale" does not involve open announcements of bids and offers to assembled groups of potential buyers and sellers as in the case of auction sale or organized exchange transactions. Private sales range all the way from simple barter transactions with savages to agreements drawn in a lawyer's office. Auction sales are more exciting. On the great auction markets commodities are offered in lots to highest bidders by a vociferous gentleman possessed of more or less theatrical talent. In London and Liverpool rubber, wool, tea, coffee, indigo and furs are sold at auction. In Rotterdam and Amsterdam are large auction markets for coffee, tobacco, tea, rubber, spices, cacao and tin. Ivory, wool and hides are sold at auction in Antwerp. Lumber is sold at auction in Havre and wool in Bremen. In New York great hide and fur auctions are conducted periodically. Auctions are also held in many of the producing countries. In Australia wool is commonly disposed of at auction. Plantation rubber is sold at auctions held in Singapore and Batavia. Portions of the India, Ceylon and Java tea crops are sold at auctions held in local cities. It is not uncommon practice for raw materials to be consigned to commission houses in cities that have widely known and attended auction markets. By consignment is meant the forwarding of produce to a commission house for sale at whatever price it will bring.

Another method of transferring ownership of basic commodities is by way of organized exchanges. Intermediaries on the organized exchanges, called brokers, make bids and offers for their clients amidst a hubbub of shouts, signs and gesticulations which to the uninitiated are all but unintelligible. Wheat and cotton are traded on organized exchanges both in consuming and in producing countries. Sales on these markets are made for spot delivery and for future delivery. Spot delivery provides for prompt acquisition of title to goods stored in specified warehousing areas. Future delivery provides for acquisition of the goods during some specified future month. Among the commodities

which can now be bought and sold on organized exchanges are wheat, cotton, wool tops, butter, eggs, pork products, cottonseed oil, tin, copper, zinc, lead, petroleum, hides and skins, raw silk, rubber, potatoes, coffee, sugar and cacao. Organized exchanges operate in Liverpool, London, Havre, Amsterdam, Antwerp, Rotterdam, Hamburg, New York, Montreal and various other large metropolitan centers. Futures trading on the organized markets has particular significance in international commerce inasmuch as it provides the machinery for maintaining a high degree of sensitivity among prices of a basic commodity such as wheat or cotton in all the leading world markets.

TRADE IN MANUFACTURED GOODS

In the marketing of manufactured goods exporters take the initiative. Each exporter decides for himself the best method of creating demand for his particular goods and the most effective method of putting them in the hands of consumers. Markets for the disposal of manufactured goods are not so highly organized as raw-commodity markets, and marketing practices in manufactured-goods trades are less rigidly defined by custom and habit than is the case with raw commodities. Foreign trade in manufactured goods may be said to be "direct" or "indirect" according to the number of intermediaries through whose hands the goods pass. The fewer the intermediaries the more direct the trade. Some concerns maintain branches in foreign countries and perform most of the foreign selling or buying functions with their own personnel; others depend almost entirely upon services rendered by independent foreign trading middlemen.

A direct exporting concern is usually a large unit in its industry. Examples of direct exporters in the United States are the National Cash Register Company, the United States Steel Corporation, Remington Rand, Inc., the Singer Sewing Machine Company, the International Harvester Company, the Eastman Kodak Company, the Ford Motor Company and General Motors, Inc. The foreign organizations of such concerns may consist merely of sales branches; or they may combine foreign sales branches with foreign assembly or manufacturing plants. The list of American firms which operate foreign manufacturing branches is long; also varying numbers of British, French, German and Japanese companies maintain foreign branches for manufacturing as well as

selling. Of the total number of all concerns which have foreign sales branches, however, by far the greater number conduct what amounts to no more than a wholesaling business or some part thereof.

In place of maintaining a staff of foreign salesmen, many manufacturing companies give foreign agents contracts to sell their goods in specified markets on a commission basis. These intermediaries are called foreign sales agents. Another type of intermediary in the export trade is the merchant. He buys goods outright for his own account in the hope of disposing of them at a profit. He is essentially a wholesaler. Merchants handle much of the trade in manufactures with backward countries, in which commercial and banking facilities are not well developed.

The exports of one country are imports of other countries. Much as some concerns are engaged in "direct" exporting, so also other concerns are engaged in "direct" importing; that is, they perform most of the importing functions with their own personnel. Art goods, style merchandise, musical instruments, scientific instruments and industrial machinery—goods which involve elements of personal taste or scientific judgment and which, therefore, require considered selection—lend themselves to direct importing. Importers of art goods, jewelry and highly styled merchandise send skillful buyers abroad to make selections. Merchandise that does not require so much skill in selection may be secured through the so-called "indirect" methods of importing. Merchandise of this class may be purchased through an import merchant or some other intermediary agency. The import merchant buys outright for resale at a profit. One class of import merchant specializes in particular products or related groups of products—tool steel, cutlery, chinaware, cotton piece goods, woolen goods, laces, toys, women's wear, etc. Another class does a general import business, bringing together a diversified group of products from a wide range of markets. The specialty import merchant seldom does any export business. The general import merchant frequently does a general export business along with his import business. Some of the large merchant companies in the United States have departmentalized import divisions which, in the aggregate, handle merchandise as miscellaneous as dry goods, groceries, hardware and basic raw materials. The same merchant company may also have export

departments that handle dry goods, fuels, chemicals, machinery, etc. Such a concern may become so involved in the financing of trade with backward countries that it acquires ownership and responsibility for the management of shipping lines, port facilities, mines, sugar estates, banking houses, etc.

FOREIGN TRADE FINANCING[1]

Foreign trade involves a conversion of the currency of one country into that of another: pounds sterling into dollars, for example, or vice versa. Foreign exchange banks or foreign exchange departments of banks facilitate the transferring of values from one country to another and from one currency to another by buying and selling foreign exchange. The banker with a foreign exchange business maintains deposits abroad. When he purchases foreign exchange he thereby depletes his domestic funds and increases his foreign balance. When he sells foreign exchange he thereby adds to his domestic funds and depletes his foreign balance. Over a period of time the aggregates of foreign exchange which a banker purchases and sells approximately offset one another (except for profits realized or losses sustained in the buying and selling transactions), thus leaving the balances of his foreign accounts more or less unchanged in amount.

A resident of London who imports machinery from the United States may be faced with the problem of exchanging British pounds sterling for American dollars in order to pay the American exporter in the currency of his own country. If the goods have been purchased on open-book account and if the sales contract is in terms of dollars, the importer may purchase from his London bank, with pounds sterling, a check for dollars on an American bank. This check is then forwarded to the United States exporter in payment for the machinery imports. The importer pays pounds to his bank in London. The exporter in whose favor the check is made cashes it for dollars in the United States. The London bank has, by the transaction, augmented its holdings of pounds sterling in London and reduced its deposits of dollars in the United States.

[1] An excellent article on this subject by Mr. Felix Ferraris of the Industrial Trust Co., Providence, R. I., is to be found in the *Export Trade and Shipper*, March 29, 1937, The Export Shipper Publishing Co., New York.

If the contract of sale in the foregoing transaction specifies that payment shall be made in pounds sterling in place of dollars, the United States exporter bears a risk of exchange fluctuation between the date of sale and the date of collection. He may hedge against possible loss from an adverse change in exchange rates by contracting with a United States bank to purchase a sterling check on a specified future date at a specified price, or he may draw upon the importer and sell the draft to a United States bank. In the first instance the importer sends his own sterling check drawn on a London bank to the exporter or he may send a London bank check drawn in pounds sterling. In the second case the exporter draws a draft on the importer when the goods are shipped. Such a draft is called a *bill of exchange.* The drawer is the exporter. The drawee is the importer. The bill of exchange may be sold to a United States bank. In this case the exporter receives dollars from the United States bank and the bank receives pounds sterling in London when the bill of exchange is paid by the British importer.

If the British importer's credit standing is dubious, the exporter may request a letter of credit from the importer's bank authorizing bills of exchange covering specified shipments of goods to be drawn upon it. Ordinarily, a bill of exchange drawn upon a bank is more negotiable than a bill of exchange drawn upon a comparatively unknown importer. Another method of financing exports to importers whose credit standing is uncertain is by the use of a documentary bill of exchange. In this case the bill of lading and other shipping papers covering the shipment in question are attached to a bill of exchange drawn upon the importer. The documentary draft may be sold to a United States bank and forwarded to a British bank and collection made or acceptance secured[1] from the importer before the shipping papers are turned over to him. A documentary draft—even though it be drawn upon an importer of weak credit standing—is usually negotiable because its holder is doubly secured against loss. The fact that the attached documents constitute title to the goods they represent is one form of security; the fact that the maker of the bill of exchange is legally responsible for its payment if the drawee fails to meet the obligation is a second form of security for the

[1] Acceptance of a bill of exchange is made by endorsement across the face of the bill. The endorsement constitutes acknowledgment of the obligation.

holder of the bill. When a "documents against acceptance bill" has been accepted by the drawee, the documents are removed and the accepted, clean commercial bill is ordinarily discountable in the bill market if the owning bank does not wish to hold it until maturity.

Bills of exchange are employed in international transfers of funds arising from nonmercantile transactions as well as those arising from mercantile transactions.[1] In other words, the foreign exchange banker facilitates international currency conversions and transfers whether they arise from merchandise movements or from other items that enter into a country's balance of payments.

Foreign exchange is sold and bought in various forms. The New York *Times* and various other daily papers and financial journals quote "90-day" bills, "demand" exchange, "cables" and other types of exchange that differ in degrees of futurity. They also give "pars" of exchange for various countries. "Ninety-day" bills are collectible 90 days from date or from the time of acceptance as the case may be. "Demand" exchange is represented by bills collectible on demand. "Cables" represent exchange transmitted from one country to another by telegraphic communication. "Mint par of exchange" was defined in Chap. II of the present volume. In the press quotations of exchange a distinction is made between "commercial" bills and "bankers'" bills. "Commercial" bills are drafts or orders drawn upon commercial concerns. Commercial bills may be drawn for payment or acceptance, as the case may be, at sight; they may be drawn for payment on demand, or they may be drawn for acceptance on sight and for payment at some specified future time. Thus there may be commercial 60- or 90-day bills as well as

[1] The person who expects to acquire full working knowledge of foreign exchange operations will have to master a great many technical and legal considerations which we have not even mentioned. A number of good books on the subject are available. Among them are the following:

WHITAKER, ALBERT C., *Foreign Exchange*, D. Appleton-Century Company, Inc., New York, 1933.

AFTALION, ALBERT, *Monnaie, prix et change: expériences récentes théorie*, Librairie du Recueil Serey, Paris, 1933.

KING, ROBERT H., *Principles of Banking, Currency and Foreign Exchange*, Sir Isaac Pitman & Sons, Ltd., London, 1930.

SUGG, ARTHUR GEORGE, *The Arithmetic and Practice of Foreign Exchange*, Sir Isaac Pitman & Sons, Ltd., London, 1929.

demand bills or sight bills. The sight bill is payable or acceptable, as the case may be, when presented to the drawee. A long bill, one to be paid at the end of 60 or 90 days or at the end of some other specified period of time, may be accepted by the payee with his endorsement. When a bill is drawn upon a bank it is called a "bankers'" bill as distinct from the commercial bill which is drawn upon a commercial concern. "Bankers'" bills usually command a slightly higher price than commercial bills because bank credit involves less risk, as a rule, than commercial credit.

Credits and Collections.—Terms of sale in international trade vary all the way from "cash with order" to "open-book" credit running for months and sometimes for years. When goods are sold on credit, commercial credit agencies, banks, foreign salesmen and other sources of information are employed in the determination of buyers' credit ratings. If payments for goods sold abroad on credit are not made when due, various expediencies are resorted to in attempts to protect the interests of the seller. Local and foreign banks are in position to facilitate collections in some instances. In other cases resort must be had to legal assistance in the making of collections. As a rule foreign collections are turned over to law firms for the purpose of bringing legal pressure to bear only when other collection expediencies have been exhausted. Sometimes it is less costly for an exporter to lose payment on an account than to antagonize a foreign customer and incur the expense incident to court procedure in attempts to force payment of a commercial debt.

TRANSPORTATION AND COMMUNICATION PROCEDURES

Transportation.—As already stated in Chap. XVIII, international transportation of goods is carried on by ocean-going vessels, steam and electric railroads and to a lesser extent by other means such as automotive trucks. From the points of view of individual exporters and importers the shipping rate, the time required to make delivery of the goods and the possibilities of damage to the goods in transit are considerations of primary importance. The shipper must choose between competing services, but he is not compelled to make his choices unaided. Freight forwarders,[1]

[1] Freight forwarders render a service in mass handling. By pooling the shipments of a number of small exporters, the freight-forwarding agency

brokers and other specialized agencies stand ready to assist him in the selection of routes, calculation of costs and preparation of goods for transit. Furthermore, a large part of the risks of marine shipping may be transferred by shippers to a specialized body of risk takers, through the medium of marine insurance.

Communication.—As indicated in Chap. XVIII, the bulk of commercial communication is by letters carried on fast liners. Within the last few years a saving of time on special-rate mail has been achieved by airplane deliveries to outgoing ships and from incoming ships. Cable communication has been available for commercial use since the transoceanic cable of 1866 was laid between Newfoundland and Ireland and international radio communication has more recently come into use. Important as electrical communication is for quick transmission of commercial exchange from one country to another and for the transmission of other business communications between business houses, possibly its greatest commercial influence in years to come will be in the standardization of wants and the widening of markets. The Orient is becoming Westernized; Western people in their turn are acquiring appreciation for Oriental arts; extreme food and dress characteristics of different nations are slowly disappearing, while machines and parts are becoming standardized all over the world. The radio with its appeal directly to the masses and other means of easy communication will tend to make of the whole world a much more standardized mass market for similar goods than it could possibly be when days or even weeks or months were required to transmit brief messages between small groups of persons in different regions.

THE SETTLEMENT OF COMMERCIAL DISPUTES

Disputes arising from international transactions are taken to courts of law if they cannot be settled otherwise. However, court procedures involving international transactions are likely to be more complicated than purely domestic litigations. Countries differ in respect to their legal foundations and legal procedures and sometimes sharp differences arise in respect to what nation's

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secures lower shipping rates and saves unnecessary duplication in port personnel which handles such routines as negotiation for shipping space, clearing shipments, etc. This agency may serve as the interior shipper's port representative.

courts shall adjudicate a particular case. Let us assume that the French sales office of an American machinery manufacturer sells a bill of goods to a buyer in Manchukuo and that when the machinery arrives in Manchukuo the buyer claims, first, that the goods do not conform with order specifications and, second, that while in transit the machinery has been exposed and badly rusted. Let us assume further that the machinery was carried on a British ship and a Japanese railroad, that the sale was made on open account, that the buyer accepted the goods but refuses to remit the full purchase price. In this hypothetical case, the contract was drawn in France; shall collection be made in the French courts? Is the British shipping company or the Japanese railway company responsible for exposure and damage of the goods? The purchaser is in Manchukuo; shall the case be tried in a Manchukuo court and if so will it be tried under a Japanese judge? Does the American firm which manufactured the machinery have any recourse to the American courts of law? This is obviously a very involved case. It suggests one of the reasons why a number of the oldest and largest machinery-manufacturing companies in the United States consistently refuses to fill foreign orders[1] that do not provide for cash in New York against shipping papers.

English, Dutch and French laws provide that the validity of a contract shall be judged in the country where the contract is drawn. Legal provisions in other countries are less definite on this particular point. Some countries recognize in their laws the right of contracting parties to indicate in their contracts the country in which disputes arising out of the transactions covered shall be judged; the laws of China, Japan, Netherlands, Belgium, Austria, Italy and various other countries recognize such provisions.

Some countries have so-called commerce courts that specialize in commercial disputes. Among the countries which have commerce courts are France, Belgium, Portugal, Norway and Switzerland. Such courts have never existed in the Anglo-Saxon countries. In some of the more important commercial nations no special provisions exist for settlement of commercial disputes. In such countries recourse must be had to the regular courts. In countries that do not provide special legal machinery for the

[1] Aside from orders of a few European and Canadian concerns of unquestioned integrity and strong financial rating.

settlement of commercial disputes—United States and Great Britain, for example—recourse may be had to arbitration. It is not uncommon practice in United States and Great Britain for contracting parties to provide in their contracts for submittal to arbitration of all disputed questions arising out of the contract. English, French and United States law makes contractual provision for arbitration irrevocable.

Exporting and importing concerns are not always large enough to maintain a legal staff of their own, and even the largest companies do not maintain legal personnel expert in the legal procedures of all nations. Foreign trading companies, large and small, look to their trade associations and to governmental trade-promotion agencies for advice and assistance in legal matters.

TRADE-ASSOCIATION ACTIVITIES

Nearly every industry has an association for the promotion of common interests of its members. Foreign trade cuts across many industries, each of which may have an association. Nevertheless, foreign traders have interests common to them as a group as distinct from domestic traders. From this mutuality of interests has sprung a number of different kinds of associations whose members have common interests in certain aspects of foreign trade. Each nation has its own patterns and types of foreign trade associations. Taking the United States as an example, one finds in this country such associations as the following, all of which are active primarily or secondarily in facilitating foreign trade:

1. The National Council of American Exporters and Traders, Incorporated.

   This association was formed in 1921 for the purpose of bringing about equitable adjustments of laws and regulations governing the entry of imported merchandise into the country.

2. The American Manufacturers Export Association.

   This organization was formed in 1911. It provides its members with a medium for the interchange of foreign trade information and experience. One of its practices is to refer inquiries from members who seek information to other members who are in position to supply it. Another purpose of the association is to combine the influence of its members for the promotion of legislation favorable to the group.

3. The American Exporters' and Importers' Association.
   This organization came into being in 1907. Its members are middlemen engaged in international trade.
4. The National Foreign Trade Council.
   This group was formed in 1914 to represent American foreign trade generally in attempts to bring about a national policy of foreign trade encouragement.
5. The Export Managers' Club of New York.
   This and other local organizations provide meeting places for their members and opportunity for frequent exchange of ideas. Such clubs are local clearinghouses, so to speak, for all phases of exporting.
6. Foreign Trade Bureau of the Philadelphia Commercial Museum.
   This institution was created in 1902. It has some 2,000 members; has its own foreign correspondents; operates a cooperative credit-information service; publishes a number of periodicals and maintains a library known particularly for its collection of foreign government statistics.
7. Foreign Trade Bureau of the National Association of Manufacturers of the United States of America.
   The purpose of the Foreign Trade Bureau of the National Association of Manufacturers is to provide for its members lists of buyers and sellers abroad; credit reports; information concerning patent and trade-mark registration; foreign market reports, etc. Among the publications of the bureau is the *American Trade Index*, which lists the members of the organizations together with a statement of products which they manufacture and their foreign trade connections.
8. Foreign Commerce Department of the Chamber of Commerce of the United States.
   The Chamber of Commerce represents the joint interests of all classes of businessmen. From time to time referendum votes of the membership are taken and recommendations of national policy based upon the votes are made. In addition to serving as a medium for the interpretation of a majority opinion of businessmen concerning national policy issues, the Chamber of Commerce renders to its members various kinds of individual services. The Foreign Commerce Department of the National Chamber of Commerce gets out a quarterly summary of the foreign trade of the United States, entitled *Our World Trade;* publishes special bulletins from time to time on current foreign-trade subjects and renders a limited amount of direct and individual advice and assistance to its members in respect to their foreign trade problems—assistance in the arbitration of trade disputes is an example.
9. The International Chamber of Commerce.
   The International Chamber of Commerce brings together business representatives of the leading countries of the world.

Its membership includes some 800 or more local chambers of commerce, industrial associations and other nongovernmental organizations, and about 2,000 business firms, which are carried as associate members. Great Britain, France, Germany, Italy, United States and other commercial nations are represented in the International Chamber of Commerce; some 47 nations all told were represented in 1934.[1] Among the problems upon which committees of the International Chamber of Commerce work are assembly of sources of credit information; definition of trade terms; standardization of commercial paper forms and arbitration of commercial disputes.

Cooperating with the International Chamber of Commerce are local chambers composed largely of foreign businessmen resident in the various commercial nations of the world. These organizations work to promote better international understanding. They also engage in direct trade-promotion activities; they prepare market reports, compile customer lists, conduct credit investigations, help to adjust trade disputes, provide letters of introduction, etc.

GOVERNMENT TRADE-PROMOTION ACTIVITIES

In every democratic country organized groups are continually endeavoring to make use of the government in the promotion of one thing or another. International trade groups are no exception. However, international trade is so affected by national commercial policies relating to tariffs, treatment of foreigners, monetary policy, protection of property rights, product standardization and negotiation of commercial treaties that it is difficult to distinguish among activities which are primarily for the promotion of private profits of small groups and those which are primarily concerned with the good of a nation's people as a whole.

In response to an urgent demand from British businessmen for a government department that should in a special sense represent the businessman's interests, a Department of Overseas Trade was established in Great Britain in 1917. Because the functions and responsibilities of the Foreign Office and the Department of Overseas Trade were not always compatible, neither of these branches of the government could very well absorb the other in

[1] In June, 1937, there were 32 countries with completely organized and active national committees of the International Chamber of Commerce. In addition there were 15 countries in which national committees had not been formed, but in which the International Chamber of Commerce was represented by membership.

spite of the fact that both were concerned with foreign relations. Consequently a joint organization was created. The Department of Overseas Trade became a joint department of the Foreign Office and the Board of Trade.[1] It was placed under the supervision of a minister who is Parliamentary Secretary of the Board of Trade and Parliamentary Undersecretary of State for Foreign Affairs. The Department of Overseas Trade gathers and exhibits samples of foreign-made goods together with price quotations and related data. It maintains a Trade Index[2] in which are listed British manufacturers together with commodities which they handle and countries with which they deal. It conducts the British Industries Fairs. It administers government facilities for financing foreign trade credits. It cooperates with the Association of British Chambers of Commerce in the dissemination of market reports and other foreign trade information. The Department of Overseas Trade is represented in the empire by Trade Commissioners and in foreign countries by officers of the consular service. It is sponsor of the Empire Marketing Board with the "Buy-British Goods" slogan and publisher of *The Board of Trade Journal.*

In France official foreign-trade-promotion centers in the Ministry of Commerce and Industry. This government agency supervises the activities of commercial attachés and commercial agents attached to diplomatic missions abroad; sponsors a National Committee of Foreign Trade Counselors who act in an advisory capacity on matters pertaining to the foreign commerce of France; directs the policy of the National Bank of Foreign Commerce and administers an export credit-insurance service.

In Germany a Central Bureau for the Promotion of Foreign Trade was created in 1929. This government department disseminates information received from German consular officers located in foreign countries and sponsors other types of trade-promotion activities similar to those found in Great Britain and France.

[1] The Board of Trade is an institution of long standing in the British government. The President of the Board of Trade is a cabinet minister. He alone constitutes a quorum; the board itself is largely a phantom. This board, or more specifically, its president, has general supervision over railroads, trolley lines, the equipment and safety of merchant vessels, the granting of copyrights and patents and related matters.

[2] The Trade Index is not published for general use.

Every important commercial nation fosters its foreign trade through official trade-promotion agencies, of one kind or another, whose functions and activities tend to merge in greater or less degrees with the trade-promotion efforts of chambers of commerce and other semipublic bodies. No nation has a more elaborate official foreign-trade-promotion organization than that developed in the United States. The Bureau of Foreign and Domestic Commerce of the United States Department of Commerce was created in 1912. It has permanent foreign offices at which are stationed commercial attachés, trade commissioners and assistants. These representatives report to Washington on commercial and economic conditions abroad, compile lists of foreign companies which are available as agents for United States goods, assemble and forward current tariff data and from time to time make special market surveys. In addition to publishing *Commerce Reports*, in which much of the data collected by foreign representatives is currently released, the bureau in Washington maintains foreign customer lists from which names and addresses of foreign importers are supplied to bona fide United States exporters.

The Bureau of Foreign and Domestic Commerce is represented at home by district offices. These are service organizations whose function it is to disseminate the information assembled at Washington and instruct concerning ways in which it may be used. The kinds of information that the bureau is equipped to supply are numerous and diversified. It publishes annually a *Foreign Commerce Yearbook* containing background statistical data for practically every commercial nation. It maintains a card-index world trade directory; it advises concerning foreign credits; foreign trade practices; foreign trade financing and legal problems. The bureau has a legal staff of its own and in addition maintains reference lists of foreign attorneys and American legal firms which specialize in foreign commercial-law practice. Tariff information, insurance advice, transportation and shipping hints can all be had from the Bureau of Foreign and Domestic Commerce of the United States. Other functions of the bureau are assembly and publication of this country's foreign trade statistics. Monthly foreign trade statistics are released through the *Monthly Summary of Foreign Commerce of the United States;* annual data

are summarized in a two-volume book called *Foreign Commerce and Navigation of the United States.*

The trade-promotion work of the United States Bureau of Foreign and Domestic Commerce is supplemented directly and indirectly by activities of the Bureau of Standards, the Bureau of Mines and the Patent Office, all parts of the United States Department of Commerce. In addition the Department of Agriculture is engaged in foreign trade-promotion activities; and the Treasury Department through its handling of government finances and customs is in position to foster foreign commerce.

In the United States, trade-promotion activities of the State Department and the Department of Commerce are not combined in a single joint department as is the case in Great Britain. The State Department in the United States is less active than the Commerce Department in direct trade-expansion efforts. Its backstage work, however, is important from a trade-promotion point of view. The State Department endeavors to create and maintain cordial relations between this country and other nations with which Americans trade, through negotiation of treaties and by means of less formal representations made possible by the foreign contacts of United States diplomats residing abroad and foreign diplomats resident in this country.

A nation's foreign trade obviously is not a unified business. Taken as a whole, the foreign trading agencies of any one of the leading nations constitute a network of communications and business connections extending to every country and practically every port in the world. Unlike a telephone system, however, the far-flung fabric of organization emanating from such a nation as Great Britain, United States, France, Germany or Japan has no central switchboard. Competition and varying degrees of state supervision are the coordinating influences; neither operates with promptness and precision.

CHAPTER XXII

INTERNATIONAL PAYMENTS BALANCES

It is not uncommon for business groups to foster national commercial policies designed to increase exports without taking sufficiently into account the fact that the country which exports must also import. Since the World War no aspect of international trade has been more in the limelight than that of trade and payments balances. The balancing of a nation's external pecuniary transactions is comparable in important respects with the balancing of income and outgo of individuals or corporations. Every transaction into which the corporation enters is recorded. Every credit is offset by a debit on the corporation's books; every debit is offset by a credit. The aggregates of all debits and all credits must necessarily balance. In like manner the aggregate of all payments made by the people of one nation to those of other nations is equalized by an aggregate of offsetting transactions.

PAYMENTS BALANCE OF THE UNITED STATES

Although the details of all payments made by citizens of one country to citizens of other countries and the *quid pro quo* which they receive are not recorded in any one set of books, estimates of the magnitudes of various types of transactions can be made with sufficient accuracy to justify the making of yearly balances of international payments statements for each country. Such statements for the United States and many other countries are compiled and published annually. A balance of payments statement for the United States for the year 1935 is given in Table 54.

Merchandise exports and imports, payments for American freight shipped on foreign boats, receipts for foreign freight shipped on American boats and many other items entered into the balance of international payments of the United States in 1935. When income and outgo for each type of transaction are compared net balances by types of transactions are secured. In 1935 the United States had a net income on merchandise transac-

TABLE 54.—UNITED STATES BALANCE OF INTERNATIONAL PAYMENTS, 1935[1]
(Millions of dollars)

	Receipts from foreigners for exports (credits)	Payments to foreigners for imports (debits)	Net credits (+), debits (−)
Trade and service items:			
Merchandise	2,388	2,133	+ 255
Freight and shipping	63	99	− 36
Tourist expenditures	117	409	− 292
Immigrant remittances	5	92	− 87
Charitable, educational and other contributions	.....	28	− 28
Interest and dividends	521	146	+ 375
Government transactions	28	83	− 55
Miscellaneous services	116	40	+ 76
Total trade and service items	3,238	3,030	+ 208
Capital items:			
Long-term capital movements	2,009	1,547	+ 462
Movements of short-term banking funds (net)	.....	.....	+ 970
Miscellaneous capital items (net)	.....	.....	+ 105
Movements of silver and paper currencies	49	386	− 337
Other miscellaneous items (net)	.....	.....	+ 331
Totals other than gold (net)	.....	.....	+1,739
Gold imports and exports	2	1,741	−1,739

[1] SOURCE: *The Balance of International Payments of the United States in* 1935, U. S. Department of Commerce, 1936.

tions of 255 million dollars, *i.e.*, the value of United States exports exceeded the value of United States imports by that amount. This country sold 2,009 million dollars' worth of securities to foreigners and bought only 1,547 million dollars' worth of securities from foreigners. Foreigners, therefore, were obligated to pay a net balance to United States citizens of 462 million dollars on long-term security transactions. In the case of short-term loans, foreigners borrowed 970 million dollars from United States citizens in excess of amounts loaned to them. When all items except gold are taken into account foreigners owed citizens of the

United States a net balance of 1,739 million dollars on transactions negotiated during the year 1935. This sum was paid in gold, *i.e.*, a net balance of 1,739 million dollars' worth of gold moved from foreign countries to the United States during the course of the year 1935.

In 1935 the United States *balance of payments* was favorable, *i.e.*, foreigners had to ship gold to the United States to balance the account. The *balance of trade* of the United States was also favorable in 1935, *i.e.*, this country exported more merchandise than it imported. A *favorable* balance of trade is sometimes referred to as an *active* balance of trade, the two terms being synonymous in current use. International financial transactions other than merchandise exports or imports are called *invisible* items—invisible in the sense that they do not appear in customs records. Merchandise which crosses national boundaries is entered or cleared by customhouse officials. This is not the case with so-called *invisible* items of international trade.

Table 54 and accompanying paragraphs suggest that the merchandise imports of a country may be paid for in a number of ways. The individual importer usually pays for his goods in the first instance with bank checks or drafts, but from the point of view of the aggregates of all foreign transactions merchandise imports may be offset by exports of either "visible" or "invisible" goods. When foreign securities are sold in the United States, for example, some or all of the net proceeds from the sale may be used in the purchase of American merchandise for export. Conversely, interest payments made abroad on foreign obligations held in this country may be transferred to importers who purchase foreign goods with the proceeds. Even though the aggregate of payments of, let us say, United States residents to all foreign residents must exactly equal the aggregate of payments of all foreign residents to persons living in the United States, the aggregate values of imports and exports of merchandise to and from the United States need not (as already stated) be in balance. In fact a nation's merchandise imports may consistently be in excess of its merchandise exports year after year for a period of decades. Conversely, a nation's exports may exceed its imports consistently, year after year, for long periods of time. In fact the transition from predominantly agrarian states to predominantly manufacturing states is accompanied in most countries

by cycles including, first, a period of merchandise import balances, second, a period of merchandise export balances and finally a second period of merchandise import balances. Definite and long-sustained changes in merchandise trade balances have in many cases been closely related to long-term financing. The shifts in trade balances and related phenomena are sometimes referred to as *investment cycles or cycles of international debtor and creditor positions.*

TRADE BALANCE AND THE INVESTMENT CYCLE

Starting with a nonindustrial country which borrows foreign capital to enable it to develop young industries, the first stage is one of excess merchandise imports. If borrowings continue, the foreign debt becomes so large, in the course of time, that annual interest and amortization payments exceed the annual amounts of new borrowings. At this point in the cycle the merchandise trade balance tends to change. Exports exceed imports, the excess of exports being absorbed in service and amortization charges on capital borrowed in earlier years. If the borrowed capital proves to have been wisely invested, a time comes when the borrowing nation's productivity and capacity for saving are largely increased. As the years go by, the borrowing country may gradually retire its old obligations; in fact, it may become a creditor nation itself. During the whole period when a country's interest and principal payments annually exceed its new borrowings and later when its loans are in excess of annual service charges on old loans, merchandise exports tend to exceed merchandise imports. Finally, in the last period, when the original debtor country has become a creditor country on so large a scale that its collections of interest and principal exceed the annual amounts of its new loans, then again the merchandise trade balance tends to shift. This time the trade balance becomes once more unfavorable, *i.e.*, merchandise imports exceed exports. Taking the United States as an example, it is possible to show the transition from a debtor position, when merchandise exports would be expected year after year to exceed merchandise imports, to a creditor position, when merchandise imports would be expected year after year to exceed exports. During the period from 1896 to 1914 the United States was a debtor nation. She had borrowed large amounts of capital from Europe for use in

building railroads and in making other improvements and she was obligated to transfer to Europe large annual interest payments on these borrowed funds. The aggregates of net payments made in one form or another by the United States to Europe during the period 1896 to 1914 and the aggregates of net receipts from Europe during this period were as indicated in Table 55.

TABLE 55.—UNITED STATES BALANCE OF PAYMENTS IN TERMS OF NET INCOME AND NET OUTGO BY CLASSES OF TRANSACTIONS FOR THE PERIOD 1896–1914[1]
(Millions of dollars)

Type of transaction	Net exports	Net imports
Excess of merchandise exports over imports	8,853	
American tourist expenditures abroad and immigrant remittances to foreigners	.....	6,080
Payments of interest	.....	3,599
Security movements, *i.e.*, increase in United States securities held abroad less increase in foreign securities held in the United States	1,000	
Gold movements	.....	174
	9,853	9,853

[1] SOURCE: PEAK, GEORGE N., *Letter to The President of the United States on Foreign Trade*, 1934.

No account is taken in the balance of payments statement in Table 55 of shipping services and other invisible items of less importance. The first official estimate of annual balance of payments of the United States was issued in 1923 for the transactions of the preceding year. Since that time regular annual statements have been issued. The data for the years prior to 1922 are not complete. However, notwithstanding their shortcomings, the data in Table 55, taken in conjunction with other historical records of the period covered, indicate that this country was in the second stage of the debtor-creditor cycle during the last part of the nineteenth century. The main features of the payments balance for the period in question were a merchandise balance on the export side and, on the import side, a large interest item.

Many informed students of international trade believed that the United States had entered a passive trade-balance phase of the investment cycle in 1933 because interest and dividend

receipts that year exceeded net exports of capital. In view of this fact and of the status of other payments balance items, these students of the subject expected the merchandise trade balance of the United States to become unfavorable or passive in the course of time as was the case in Great Britain, France and Germany when these countries entered the last stage of the investment cycle.

PREWAR PAYMENTS BALANCE STATUS OF GREAT BRITAIN, FRANCE AND GERMANY

To date, all the important creditor countries except the United States have had consistently unfavorable trade balances. Great Britain, France and Germany were each and all creditor nations before the World War. Each of these countries was receiving from abroad more in the form of interest and dividends than it was paying in the form of interest and dividends and in the form of new foreign security purchases. Each of the countries in question had an unfavorable trade balance. These facts may be verified by examination of the payments balance status of each of the countries under consideration.

TABLE 56.—ESTIMATE OF BALANCE OF PAYMENTS OF THE UNITED KINGDOM, 1913[1]

(Millions of pounds)

Imports	
Excess of imports of merchandise and bullion over exports	158
Available for investments abroad	181
	339
Exports	
Net income from overseas investments	210
Net national shipping income	94
Commissions	25
Other services	10
	339

[1] League of Nations, *Memorandum on Balance of Payments*, 1925. Used by courtesy of International Documents Service, Columbia University Press.

The British balance-of-payments data (Table 56) are in each case net amounts. Under "Net income from overseas investments," for example, is included the income from "Investments in empire and foreign countries remitted to the United Kingdom, less the income remitted overseas on account of the investments

of other countries in the United Kingdom." "Balance available for overseas investments" is a rough estimate. It is not the same as new issues floated in London for various reasons. "New issues may to some extent represent the funding of private credits granted to facilitate the export of goods in past years. . . . Further, large amounts of certain of the foreign loans floated . . . have been left in the country in the form of bank deposits."[1]

In spite of possible errors in the British balance-of-payments estimates the fact is clearly evident that the income from old investments abroad was in excess of new foreign loans in 1913. In addition to income on old investments the United Kingdom had a large net income in 1913 from shipping services and other services rendered to foreigners. Gold movements in this case are not segregated from merchandise, but this fact does not obscure the essential conclusion, *viz.*, that part of Great Britain's net income from foreign investments was offset by net imports of merchandise. Her merchandise trade balance was unfavorable.

Great Britain's creditor position developed gradually in the course of the nineteenth century. In the latter part of the eighteenth century she borrowed from Netherlands. Eighteenth century Netherlands was a wealthy trading nation, as was also Great Britain. In contrast with Great Britain, however, Netherlands, did not, for one reason or another, build such great manufacturing industries as those which were constructed in Great Britain. This, in part, is a reason for Netherlands' surplus of capital for export and Great Britain's need of more capital (for domestic and overseas ventures) than she had available from her own savings during the last half of the eighteenth century.

As the nineteenth century unfolded Great Britain's overseas interests increased as did also her domestic productivity and the aggregate of her national income from which to save. Foreign investment statistics are not complete at the present time. Nineteenth century statistics are even less numerous and trustworthy than those of the twentieth century. However, various estimates give an idea of British foreign holdings at particular times in the nineteenth century. In the late eighteen seventies or early eighteen eighties British investments in foreign securities probably aggregated between 1 and 1⅓ billion pounds sterling. By 1913 British overseas investments had increased to about

[1] League of Nations, *Memorandum on Balance of Payments*, 1925, p. 70.

3½ billion pounds sterling. In order to secure a net figure it would be necessary to deduct foreign investments in the British Isles. This figure is not available but there is every reason to believe it was small as compared with British holdings of foreign securities.[1]

Great Britain's merchandise trade balance shifted in 1854. Between 1815 and 1854 (and possibly before 1815) exports exceeded imports every year. For the year 1854 and thereafter until 1914 merchandise imports exceeded exports.[2] Had not Britain's net national shipping income amounted to a substantial figure the merchandise trade balance might have been "favorable" for a longer period. It will be noted that in 1913 the net national shipping income was nearly half as large as the figure for net income from overseas investments. The former was 94 million pounds; the latter, 210 million pounds. It is quite obvious from an examination of the British balance-of-payments statement that capital exports (imports of foreign securities) and income

TABLE 57.—BALANCE OF PAYMENTS OF FRANCE, 1913[1]
(Millions of francs)

Item	Exports	Imports
Merchandise	7,373	9,024
Gold	431	974
Interest, dividends, amortization, etc., received on foreign accounts	2,300	
Interest, dividends, amortization, etc., paid on foreign accounts	.....	400
Net income from shipping	515	
Income from commissions, insurance, etc	30	
Net income from foreign tourists and travelers	450	
Immigrant remittances and money gifts sent abroad (net)	.....	30
Totals	11,099	10,428
Balance (increase in floating debt)	.....	671
	11,099	11,099

[1] League of Nations, *Memorandum on Balance of Payments*, 1926. Used by courtesy of International Documents Service, Columbia University Press.

[1] HOBSON, *Export of Capital*, Chap. VI and p. 207.
[2] PAGE, *Commerce and Industry*, pp. 70, 72.

from foreign investments are not the only important invisible items to be taken into account in the interpretation of reasons for favorable or unfavorable merchandise trade balances.

Examination of the balance-of-payments statements of one or two other nations will help further to clarify the nature and interaction of the invisible items that enter into international commercial transactions. France appears to have had an import merchandise trade balance in 1913 amounting to 1,651,000,000 francs as against a net income from foreign investments of 1,900,000,000 francs. Her income from foreign investments exceeded her merchandise import balance by some 249,000,000 francs. In addition France collected a net amount of 965,000,000 francs from services rendered to shippers and tourists. Part of her net income from invisible items was offset by an unfavorable trade balance; part she took in gold and part she left on deposit in foreign banks (Table 57).

France, like Great Britain, was a creditor nation in 1913. Various estimates place the aggregate of her foreign investments in the eighteen seventies at from 12 billion to 14 billion francs and between 1912 and 1914 at a figure between 40 billion and 50 billion francs. In terms of British currency the foreign investments of France in the eighteen seventies amounted to about 500 million pounds sterling, *viz.*, an amount about one-third to one-half as great as the aggregate of Great Britain's foreign investments. By 1913 Great Britain's foreign investments had increased to something like 3½ billion pounds sterling and French investments were in the neighborhood of 1½ to 2 billion pounds sterling.[1] During the last half of the nineteenth century France appears to have been in a somewhat earlier stage of the creditor-debtor cycle than was Great Britain. "The balance sheet of French international accounts for the years 1880 to 1913 shows that the total net revenue due France from her foreign investments was no

[1] SOURCES: FEIS, HERBERT, *Europe, the World's Banker*, 1870–1914, Yale University Press, New Haven, 1930.

HOBSON, *op. cit.*, Chap. VI, p. 207 and appendix.

WHITE, HARRY DEXTER, *The French International Accounts*, 1880–1913, Harvard University Press, Cambridge, 1933, Appendix.

HANSEN, A. H., *Economic Stabilization in an Unbalanced World*, Harcourt, Brace & Company, New York, 1932, Chap. IV.

See Chap. XIX of the present volume.

greater than the total exports of capital for the same period."[1] By the year 1913, however, France appears definitely to have reached the last stage of the investment or debtor-creditor cycle.

Germany, like France and Great Britain, was a creditor nation in 1913. As in the case of France and Great Britain, her merchandise trade balance was unfavorable.

TABLE 58.—GERMANY'S BALANCE OF PAYMENTS, 1912[1]
(Millions of reichsmarks)

Item	Exports	Imports
Merchandise	9,000	10,700
Interest, amortization, etc., received on foreign accounts (net)	1,000	
Ship earnings, commissions, premiums, etc., received (net)	800	
Capital invested abroad (net)	.....	300
Excess of gold imports over exports	.....	200
Totals	10,800	11,200

[1] Adopted from estimates of Crammond, Edgar, *The Banker's Insurance Managers' and Agents' Magazine*, London, January, 1923, and "Germany's Economic and Financial Situation," *Statistisches Reichsamt*, Berlin, 1923.

Official estimates for Germany's balance of payments for prewar years are not available. However, the private estimate for 1912 (Table 58) is suggestive of the character of Germany's foreign transactions at the time. Merchandise imports were more than exports. In addition, relatively small amounts of foreign securities and gold were imported in payment, apparently, of service charges and principal on foreign loans and services rendered to foreign shippers.

The fact that the German statement is a private estimate and the further fact that it is off balance by a relatively large amount suggest that it is probably less trustworthy than the balance-of-payments statements for Great Britain and France for the year 1913. Nevertheless, the German statement is in accord with other information pointing to German's retarded financial and industrial development in comparison with financial and industrial developments in Great Britain and France. Germany's

[1] WHITE, *op. cit.*, 301.

foreign investments before the World War were less than those of Great Britain and France. In the eighteen eighties German foreign investments amounted to about 5 billion marks or approximately 250 million pounds sterling, as compared with nearly twice that sum for France and four or five times as much for Great Britain. In 1913 German foreign investments had increased to some 30 billion marks, about 1½ billion pounds sterling, as compared with 1½ to 2 billion pounds sterling for France and about 3½ billion pounds sterling for Great Britain.

CHAPTER XXIII

INTERACTION OF FOREIGN EXCHANGES, INTERNATIONAL PRICES AND PAYMENTS BALANCES

Examination of payments balance statements leads to the conclusion that the balance of merchandise trade and other transactions that cause money to flow into or out of a country are causally connected. Mercantile writers advocated collection of favorable trade balances in gold. Obviously this was not the general practice at the beginning of the twentieth century. Two examples will suffice to illustrate the point. Between 1900 and 1914 the value of United States exports of merchandise exceeded the value of imports by more than 6 billion dollars. During the same period the value of this country's gold imports exceeded its gold exports by only about 100 million dollars.[1] Obviously the excess of exports was not all paid for with gold. During the same period the value of Great Britain's imports of merchandise exceeded her exports by nearly 2 billion pounds sterling. The excess of merchandise imports could not have been balanced by gold exports because, in fact, gold imports exceeded gold exports.[2] Merchandise imports may be paid for with interest on foreign loans or they may be balanced by security transactions and in various other ways. The offsetting effects of various types of international transactions have been clear for a long time, but the exact manner of striking a balance between them is a subject not easy to comprehend.

THE PROCESS BY WHICH PAYMENTS BALANCE ITEMS ARE ADJUSTED

Flexibility there must be in the aggregates of financial transactions between citizens of a particular nation and those of other countries. Otherwise debts would accumulate on one side or the

[1] 1901–1913 inclusive. SOURCE: *Statistical Abstract of the United States*, 1922.

[2] PAGE, *Commerce and Industry, Tables of Statistics for the British Empire from* 1815.

other and repudiation would be a more usual and ordinary procedure than it is. Among the largest items contributing to the aggregate volume of international transactions are (1) merchandise exports and imports, (2) loans, (3) interest and principal payments on old loans, (4) expenditures of foreign travelers and (5) shipping services. Loans are of two kinds: long-term loans, usually represented by bonds or stocks, and short-term loans, which usually take the form of commercial bank credits. A sixth type of transaction appearing in the international balance

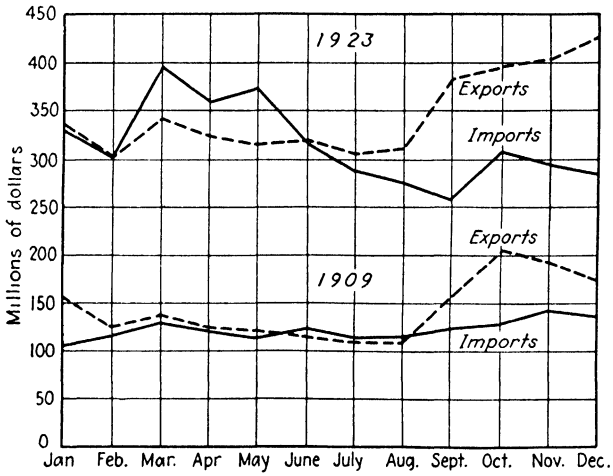


FIG. 25.—SEASONAL FLUCTUATIONS IN THE FOREIGN TRADE OF THE UNITED STATES

SOURCE: *Foreign Commerce and Navigation of the United States*, U. S. Department of Commerce, calendar year 1924, p. xiv.

sheet, one which is very important even though relatively small in magnitude of value, is the transfer of gold from one country to another.

The most sensitive and readily adjustable categories of transactions in the international balance sheet appear to be short-term loans, gold movements and merchandise trade balance. Temporary adjustments between the aggregates of money owed by the people of a nation to foreigners and money owed by foreigners to them may be made by short-term loans. In Europe and North America grain crops and cotton are harvested and placed on the market in larger amounts in summer, fall and early winter than in other months. As a result industrial countries that import grain and cotton "tend to owe money to agricultural countries

in the second half of the year and to repay it in the first half."[1] Take as an example of seasonal movements of international trade monthly exports and imports of the United States as shown in Fig. 25. Both in 1909 and in 1923 United States exports were substantially in excess of imports from September to December inclusive. In 1913 imports exceeded exports in March, April and May. In 1909 imports exceeded exports in June. Seasonal movements of merchandise and other predictable causes of periodic inequalities in international payments may be financed with short-term credits. Short-term credits may be used also to postpone adjustments in other payments balance items. If, however, an inequality in payments that is temporarily balanced by short-term credits is persistent, if it is not a seasonal phenomenon that is periodically corrected or the result of an erratic change in business conditions that soon is reversed, more enduring corrections than short-term credit extensions must be brought into play. In some instances international payments are kept in balance for a period of years by capital loans, as illustrated in connection with the discussion of the international investment cycle.[2] In other instances values of merchandise exports and imports change sufficiently to keep the international payments in balance. In still other instances there may be sufficient variation in aggregate expenditures for foreign travel or in other so-called invisible items to balance the international account. In all cases changes in the magnitudes of the various items entering into the international balance-of-payments statements are initiated by modification in the price structures of the trading countries.

THE PRICE-SPECIE-FLOW THEORY

The classical economists held that necessary adjustments in international payments items were initiated by specie flows (if the trading countries had specie money in free circulation). The specie flows, in turn, were believed to cause price levels of the trading countries to change, falling in the gold-exporting country and rising in the gold-importing country, in accordance with the quantity theory of money. The country in which prices rose,

[1] KEYNES, J. M., *Monetary Reform*, Harcourt, Brace & Company, New York, 1924, p. 118.

[2] Chap. XXII of the present volume.

according to the classical analysis, became a better market in which to sell and a dearer market in which to buy. Conversely, the country in which prices fell (the gold-exporting country) became, according to the theory, a cheap market in which to buy and a poor market in which to sell. Thus, as a result of changing prices in the two countries, commodity trade and to some extent invisible items were automatically altered by amounts sufficient to maintain an equilibrium of international payments. The 1929 payments balance statement of the United States may be used to illustrate the way in which international gold movements are presumed to contribute to a balancing of international accounts. In summary, the 1929 payments balance statement of the United States was as indicated in Table 59.

TABLE 59.—BALANCE-OF-PAYMENTS STATEMENT, UNITED STATES, 1929[1]
(Millions of dollars)

Items	Export credit	Import debit	Balance
Merchandise	5,241	4,400	−841
Shipping and freight services	206	272	− 66
Tourist expenditures	183	821	−638
Charity, immigration remittances, etc	24	289	−265
Miscellaneous service items and government transactions	60	257	−197
Interest and dividends	979	414	+565
War debt receipts	207	.....	+207
Capital movements	2,328	2,640	−312
Totals	9,228	9,093	+135
Gold and currency		135	−135
Balance	9,228	9,228	000[1]

[1] SOURCE: *The Balance of International Payments in the United States in* 1935, U. S. Department of Commerce, 1936.

NOTE: The "residual item" which in 1929 was comparatively small (−95) was included with the capital movements item.

Initially the gold imports, shown in the statement, balanced the deficit between the credit items and the total of other debit items. Secondarily, the gold imports might have contributed to a rising price level in the United States and falling price levels in the gold-exporting countries. These changes in price levels might have contributed to reduction in the favorable trade balance of

the United States, increase in expenditures of American tourists abroad and increase in charitable contributions and immigrant remittances on the part of Americans. As a matter of fact, price levels declined after 1929 both in the United States and abroad. The favorable trade balance of the United States declined, tourist expenditures were reduced, collections of World War debts, interest and dividends declined and capital exports were reduced.

The price-specie-flow theory rests upon two basic assumptions. The first is that exchange rates in gold-standard countries fluctuate between upper and lower limits determined by expenses of transferring gold from one country to another—the so-called gold-shipment points. The second assumption is that changes in a nation's price level are functions of its monetary gold supplies which, in turn, are controlled by international gold movements. If the price-specie-flow mechanism were to operate with high degrees of sensitivity and precision, it would be necessary for the total currency of a country (bank credit included) to remain always in a fixed ratio to monetary gold supplies and for velocity of circulation to remain relatively constant, or for both the amount of currency and its velocity of circulation to be functions of monetary gold supplies. Let us examine these two basic assumptions of the price-specie-flow theory of international prices one at a time.

Gold-shipment Points.—Statistical tests show that fluctuations of exchange rates between monetary units of gold-standard countries do tend to range within narrow limits. Before the World War the cost of moving gold from Great Britain to the United States or vice versa was in the neighborhood of 2 cents for each pound sterling transferred from the one country to the other. The 2 cents covered expenses of packing, shipping and insuring and loss of interest on the gold while en route. Costs of shipping gold, like costs of performing any other business transaction, are variable. The 2 cents per pound cited is believed to have been somewhere near the cost of shipping gold from London to New York or vice versa[1] during a period of two or three decades

[1] The cost of shipping gold from New York to London was ordinarily a fraction of a cent less per pound sterling than the cost of moving gold in the opposite direction. Inasmuch, however, as the cost of moving gold varied according to the form in which the gold was shipped and the bank making the shipment, fractional differences in costs are ignored at this point for purposes of clarifying the illustration of the principle.

before the World War. The prewar gold dollar contained 23.22 grains of fine gold. The British pound sterling contained approximately 113 grains of fine gold. The par of exchange between dollars and pounds was $4.8665 per pound sterling, *i.e.*, 113 divided by 23.22. If 2 cents may be taken as the approximate cost of shipping 113 grains of gold between London and New York the upper gold-shipment point (at which movement of gold from New York to London took place) was represented by a dollar-sterling exchange rate of approximately $4.8865 in New York, *i.e.*, par of exchange plus the 2-cent cost of shipping gold from New York to London. The dollar-sterling exchange rate tended to rise above par ($4.8665 per £1) whenever demands for sterling bills presented to United States banks exceeded offerings of sterling bills to them. As indicated in an earlier chapter,[1] a sterling bill of exchange corresponds with a check drawn upon a British bank. Imagine a British importer of American cotton drawing a check upon a London bank and sending it to the American exporter in payment for the cotton. In order to realize on the sale, in dollars, the American cotton exporter must sell the British check to a United States bank that is willing to pay out dollars for it. Conversely, a United States importer of British woolens may wish to buy with dollars in the United States a London bank check which he may forward to the British exporter. When more checks on London banks (bills of exchange) are demanded of banks in the United States than are offered to them (more in aggregate value), one way for the United States banks to put themselves in position to continue the sale of checks on British banks is to make additional deposits in British banks by shipping gold to them. Thus, in prewar years, when the demand for checks on London by banks in the United States tended to exceed supply, the dollar-sterling exchange rate, responding to forces of demand and supply, rose to around $4.8865, and gold tended to be moved from United States banks to British banks. Conversely, when supplies of sterling bills in the United States tended to exceed demands for them, the dollar-sterling exchange rate tended to fall. When it fell to a figure around $4.8465 per £1—the lower gold-shipment point (par of exchange less the assumed cost of shipping gold from Great Britain to the United States)—gold tended to be moved from

[1] Chap. XXI.

British banks to United States banks. The statistical fact that dollar-sterling exchange rates did stay within narrow limits during the period from 1890 to the beginning of the World War tends to substantiate assumption number one of the classical price-specie-flow explanation of the manner in which international financial transactions were kept in balance. High and low quotations of dollar-sterling exchange rates for a series of years before 1914 are given in Table 60.

TABLE 60.—DOLLAR-STERLING EXCHANGE RATES, YEARLY HIGH AND LOW FOR PREWAR YEARS

Posted rates for sight exchange at New York on London for banking bills[1]

Year	High	Low
1890	$4.90	$4.84
1891	4.90	4.84
1892	4.89½	4.85
1893	4.90½	4.83
1894	4.90	4.86½
1895	4.91	4.87½
Actual rates for sight foreign exchange at New York on London for Bankers' bills[1]		
1896	4.89½	4.84¼
1897	4.88½	4.84¼
1898	4.87	4.83
1899	4.88¼	4.84¼
1900	4.88½	4.83
1901	4.88½	4.84
1902	4.88	4.85¼
1903	4.883	4.827
Actual rates of sterling exchange at New York on London for cable transfers[2]		
1904	4.8910	4.8440
1905	4.8855	4.8535
1906	4.8815	4.8370
1907	4.9150	4.8325
1908	4.8785	4.8575
1909	4.8875	4.8585
1910	4.8850	5.8525
1911	4.8750	4.8550
1912	4.8820	4.8485
1913	4.8870	4.8530

[1] 1890–1903 inclusive from National Monetary Commission, *U. S. Senate Document* 570, Vol. XXI, pp. 189–202.

[2] 1904–1913 inclusive from *The Financial Review*, published annually by William B. Dana Company, New York, publishers of the *Commercial and Financial Chronicle*. Annual numbers 1905, p. 52; 1906, p. 52; 1907, p. 55; 1908, p. 59; 1909, p. 60; 1910, p. 60; 1911, p. 66; 1912, p. 75; 1913, p. 77.

At no time during the entire period of 24 years cited in Table 60 was sterling exchange posted in New York at a rate exceeding $4.915 or below $4.827. These extremes are not within the specific upper and lower gold-shipment points cited, *i.e.*, $4.8865 and $4.8465. However, as already stated, the 2 cents per pound sterling specified as being the cost of shipping gold is an arbitrary figure, 2 cents being selected as probably somewhere near a variable actual cost. Furthermore, it is quite reasonable to expect that actual rates might fluctuate above or below par by amounts slightly in excess of gold shipping costs for short periods of time during commercial crises. This condition is due to the time required to move gold from London to New York or vice versa and the uncertainties which prevail in times of financial stress, 1895 and 1907 for example. The 1907 rates (high $4.915 and low $4.8325) were, in a sense, depreciated money rates—not gold rates—inasmuch as the New York quotations were in New York bank funds, which for a temporary period during the financial panic were not fully transferable into gold. In general, the statistical facts tend to bear out assumption number one of the price-specie-flow analysis. So long as gold is free to move from one country to another and so long as it is available in quantities ample for the settlement of international balances in case gold settlements are demanded, there is no cause for variations of exchange rates largely in excess of costs of transferring gold from one nation to another. Businessmen tend to think and deal in futures. The fact that gold can be had from abroad in the course of time tends to induce exchange speculators to absorb current offerings of bills of exchange when rates are such as to hold promise of a small margin of profit.

During the years 1890 to 1913 both United States and Great Britain maintained free gold-standard monetary systems except for brief periods, as in 1907. Paper currencies and subsidiary currencies of these nations (and in addition silver dollars in the United States) were freely convertible into gold and bankers were privileged to move gold freely from one country to another. During this period fluctuations of dollar-sterling exchange rates were confined within narrow limits. More recently, when the monetary system of one of these nations was "off gold," *i.e.*, when paper currencies in one of the countries were not freely convertible, fluctuations of dollar-sterling exchange rates have

not been confined within the gold-point range. In Table 61 are low-high rates of dollar-sterling exchange for the years 1922 and 1932.

TABLE 61.—DOLLAR-STERLING EXCHANGE RATES: MONTHLY LOW AND HIGH QUOTATIONS, 1922 AND APPROXIMATE MONTHLY LOW AND HIGH QUOTATIONS, 1932[1]

Month	Par of exchange	1922 cables		1932 cables	
		Low	High	Low	High
January	$4.8665	$4.1865	$4.2767	$3.35½	$3.50½
February	4.8665	4.2878	4.4322	3.42¼	3.49½
March	4.8665	4.2936	4.4408	3.48½	3.83¼
April	4.8665	4.3765	4.4300	3.63¼	3.83¼
May	4.8665	4.4291	4.4510	3.65⅜	3.72¾
June	4.8665	4.3838	4.5095	3.57	3.70⅜
July	4.8665	4.4240	4.4605	3.49⅞	3.61½
August	4.8665	4.4429	4.4831	3.45	3.52½
September	4.8665	4.3660	4.4734	3.45	3.49¾
October	4.8665	4.3869	4.4748	3.27⅜	3.46¼
November	4.8665	4.4488	4.5210	3.20½	3.34½
December	4.8665	4.5198	4.6799	3.14½	3.34⅜
Year	.....	4.1865	4.6799	3.14½	3.83¼

[1] SOURCES: *Statistical Abstract of the United States*, 1922, p. 718, and the *Annalist*, January 20, 1933. The *Annalist* quotations are weekly low and high rates. Inasmuch as some weeks overlap the end of one month and the beginning of another, one is not sure which month the high or low quotation for such a week occurred in. However, the quotations as given serve the purpose at hand.

Table 60 indicates that dollar-sterling exchange rates conformed roughly with the "gold-shipment-point" assumption of the price-specie-flow theory before the World War, when United States and Great Britain maintained free gold-standard monetary systems. Table 61 indicates that in 1922 and again in 1932, when Great Britain's monetary system was "off gold," *i.e.*, when British paper currency was not freely convertible into gold, dollar-sterling exchange rates did not stay within the gold-point limits. These facts are in accord with the gold-point theory.

International Gold Movements in Relation to Changing Price Levels.—The second assumption of the classical price-specie-flow explanation of the manner in which international payments are

kept in balance, *if interpreted in a literal and short-time sense,* is rejected by nearly all present-day economists. Statistical studies have shown very little short-period conformity between changes in general price levels and international gold movements.

It is perfectly obvious that neither the magnitudes nor the directions of the international flow of gold are adequate to explain those close and comparatively rapid adjustments of payment-disequilibria, and of price relationships, which were witnessed before the war.[1]

In all countries using deposits and checks freely, the looseness of the connections between bank reserves and bank deposits leads not infrequently to a chronological order different from that assumed in the Ricardian reasoning. An inflow of specie may follow, not precede, an enlargement of the circulating medium and a rise in prices. So it may be, at least, for a short time, even for a period of many months. Indeed, if there be further forces at work than those merely monetary, it may remain so for years.[2]

Figure 26 shows the relationship between a general price level in the United States as measured by the Bureau of Labor Statistics index of wholesale prices and gold movements into and out of the country from 1900 to 1913. The correlation obviously is not very close even for this period of relatively stable world economic conditions. One can be reasonably sure without pursuing the subject further that a high degree of correlation between international gold movements and changes in national price levels does not necessarily exist. This conclusion does not imply that the price-specie-flow explanation of international prices has no significance, nor that price movements do not contribute to keeping international payments in balance. It merely suggests that adjustments of price levels and gold flows do not necessarily coincide in short periods of a few months or in some cases, even a few years.

In a number of cases subjected to statistical analysis, movements of general price indices in different countries (in terms of gold) have been found similar with respect to long periods of several years or more. By way of example take the movements of prices in Great Britain and United States from 1830 to 1930,

[1] ANGELL, JAMES W., *The Theory of International Prices*, Harvard University Press, Cambridge, 1926, p. 400.

[2] TAUSSIG, *International Trade*, pp. 207, 208. Quoted by permission of The Macmillan Company.

Fig. 27. The two series fluctuated in the long-period movements in similar directions. Whether international gold movements were results or contributing causes of these similarities in the

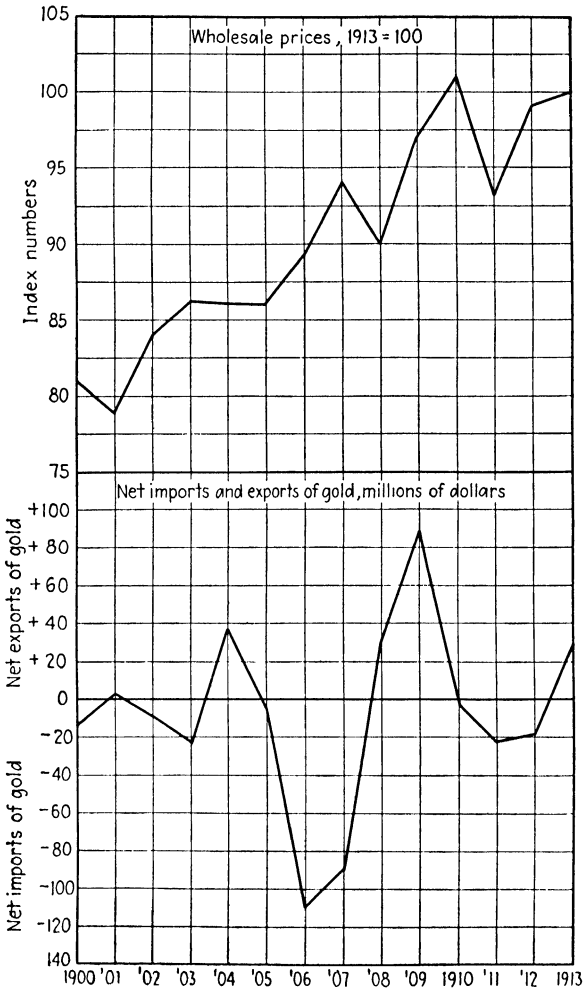


FIG. 26.—WHOLESALE PRICES AND GOLD MOVEMENTS, UNITED STATES

SOURCES: *Statistical Abstract of the United States*, 1930, p. 472, and Bureau of Labor Statistics, *Wholesale Prices Series, Bulletin* 335, 1923, p. 9.

long-time trends of price levels in these two countries is a question that has not been answered to the satisfaction of many intelligent students of the subject. Gold movements are not the only influ-

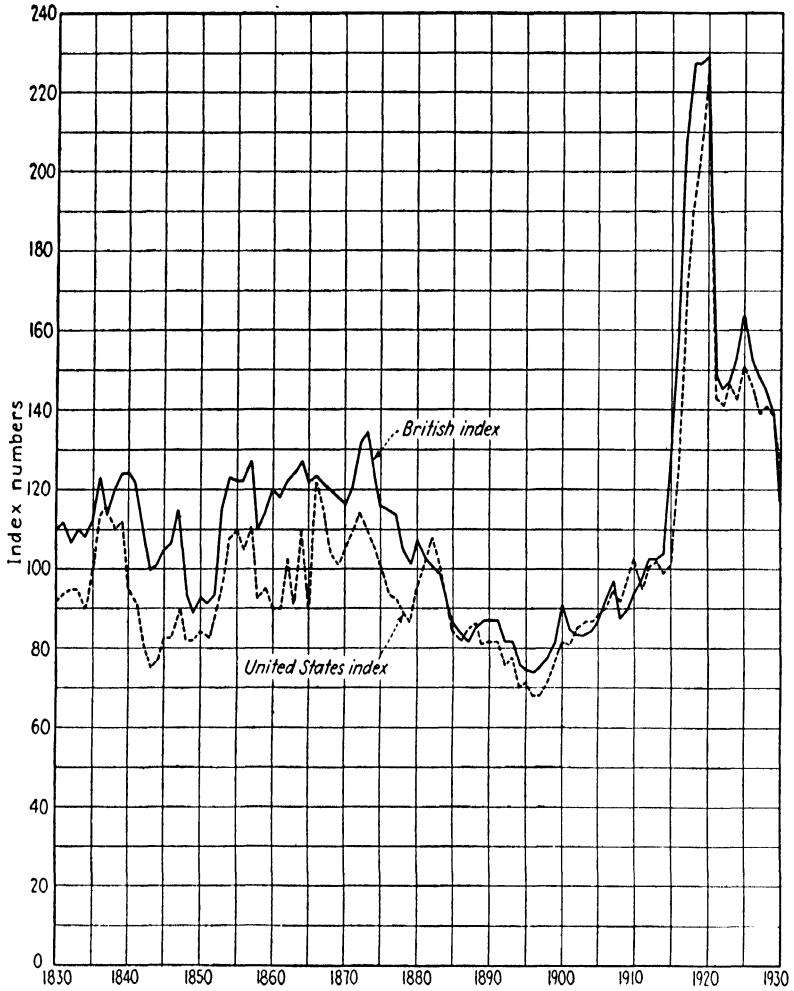


FIG. 27.—INDEX NUMBERS OF WHOLESALE PRICES IN GREAT BRITAIN AND UNITED STATES IN TERMS OF GOLD, 1830 TO 1936

1910–1914 Average Equals 100 Per Cent

SOURCES: Data from Warren and Pearson, *Prices* and *Aldrich Report, U. S. Senate Report* 1394, 52d Congress, 2d Session. The British index is in terms of gold prices. It was assembled from various generally recognized British sources, by Warren and Pearson. (See their *Prices* note p. 75.) The United States index was compiled by Warren and Pearson for years earlier than 1890. The Warren-Pearson figures 1860–1880 are supplemented with the Aldrich report index in terms of gold, converted to a 1910–1914 base period (see *Aldrich Report*, Part I, pp. 99–100). The figures from 1890 to 1930 are Bureau of Labor Statistics figures as adapted by Warren and Pearson to a 1910–1914 base period. Data from Warren and Pearson, by courtesy of Messrs. Warren and Pearson.

ences at work to create greater or less degrees of mutual interdependence among different national price systems.

One important economic force, aside from gold movements, that acts to bind national price systems into a universal whole is the action of the prices of those goods which regularly enter into

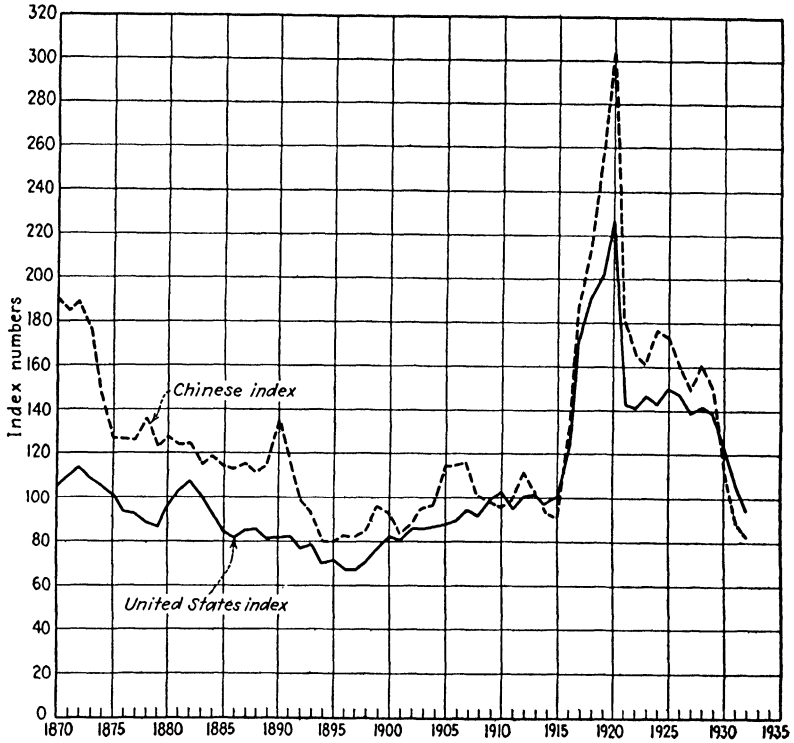


FIG. 28.—INDEX NUMBERS OF WHOLESALE PRICES, UNITED STATES AND CHINA, IN TERMS OF GOLD, 1870 TO 1932
1910–1914 Average Equals 100 Per Cent

SOURCES: The Chinese index from 1870 to 1932 is from Warren and Pearson, *Prices*, p. 148. Ratios of exchange between silver and gold used in reducing the Chinese index to terms comparable with that of the United States were obtained from the same source, p. 144. Data used by permission of Messrs. Warren and Pearson. The United States devalued her gold dollar in 1933. The Chinese index is more representative of port cities than it is of China as a whole.

international commerce. In Fig. 28 price levels in China and the United States are compared from 1870 to 1932. In spite of the fact that the Chinese and American index numbers are composed of different combinations of commodity prices and are weighted differently, and the further fact that the two countries

have very different monetary systems, the long-time trends of the two index numbers (Fig. 28) are similar. The manner in which prices of international commodities like silver, wheat, rice and cotton are determined accounts at least in part for the apparent connection between both the American and British and the American and Chinese price systems. Prices of some commodities are dominated by supply and demand factors operative in relatively small market areas, whereas the markets for other commodities are practically world wide in the sense that factors of world supply and world demand are more dominant than conditions of local supply and demand. When the world crop of wheat, for example, is abnormally large wheat prices in the United States tend to be low more or less regardless of the size of the wheat crop in this country. The reason is obvious. United States farmers produce a surplus of wheat for export. There being no unified control of wheat supplies, competition is keen. Domestic prices tend to equal the prices which export surpluses of wheat will bring in foreign markets (allowance being made for carrying costs and other marketing expenses) because no farmer will sell for export if his wheat will bring a higher price for domestic consumption. Prices of a commodity like potatoes that do not enter so largely into international trade, because of perishability, relative bulk and other reasons, are more largely determined by domestic supply and demand. The generally available index numbers of prices have not been compiled primarily with the idea of differentiating between domestic and international commodities. Recognition of the importance of such a classification has, however, resulted in a number of special studies of the possibilities of segregating commodities into domestic and international groups.[1] Mere recollection of the fact that direct and indirect competition tends to weave all prices into a single system is sufficient to discourage attempts to draw sharp and permanent lines of distinction between domestic and international goods. Like the effect produced by pulling one corner

[1] Federal Reserve Board, *Prices in the United States and Abroad*, 1919 to 1923, Washington, D.C., 1924.

Harvard Economic Society, *Weekly Letter* 7, February 19, 1927.

KREPS, THEODORE J., "Export-import and Domestic Prices in the United States, 1926–1930," *The Quarterly Journal of Economics*, February, 1932.

of a fish net, some parts of the price system may respond to a depressing or an elevating force more readily than others until the force brings the whole system into motion. Figure 29 suggests that in the business depression beginning in 1929 the general price level in the United States was led down by the international commodity group.

The connection between export and domestic prices may run through the indirect channel of demand. On the downgrade, industries with reduced margins of profit because of reduced prices of international commodities buy less industrial goods and employ less labor. United States wheat and cotton farmers who receive low prices for their cash crops have less money to spend for farm improvements requiring the purchase of building materials. The Argentine wheat farmer who also receives a low price for his cash crop is in position to purchase less farm machinery and fewer American-made automobiles. Losses in sales and "layoffs" of labor in practically all sectors of industry follow: in the farm-machinery industry, in the automobile industry, in the building trades and elsewhere. Unemployment increases; buying power for domestic goods and for import goods is progressively reduced. The price decline spreads. Reverse changes occur as prices rise. Thus the fact that market areas for many important commodities and dominant forces of supply and demand that condition prices cut across national boundaries helps to explain the centripetal force which appears to act upon gold prices of goods in all countries. Similar reasoning applies to prices of invisible goods that are bought and sold in international trade; *viz.*, services, securities, etc. These prices, also, tend toward conformity in the several national markets where international purchase and sale is common practice. Existence of general tendencies toward conformity of national price levels does not imply that prices of particular goods or even averages of all prices are exactly the same in different countries. Tariffs, costs of transportation and other influences tend to prevent absolute equality of prices in different countries. Furthermore, the pulls of freely traded international commodities upon the several price systems may not be equally potent even though their effects are to move the several price systems in similar directions. Finally, this explanation of one of a number of possible connecting links between national price systems, reasoning as it does from inter-

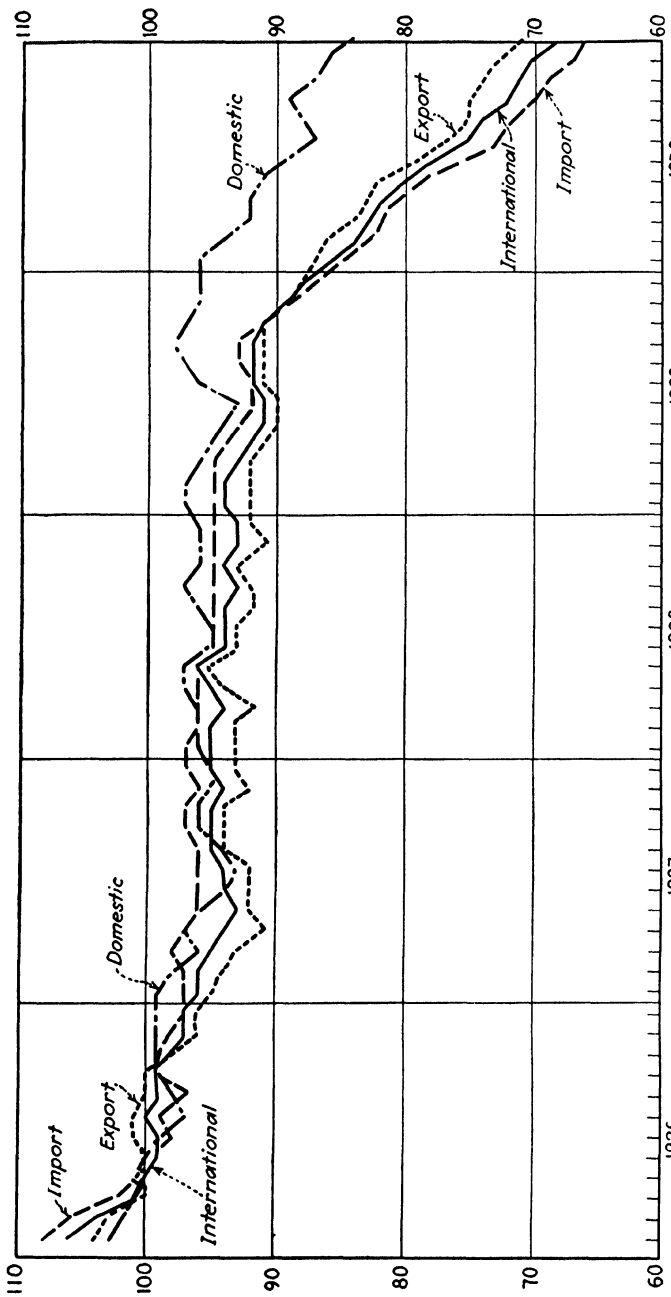


FIG. 29.—EXPORT-IMPORT PRICES AND DOMESTIC PRICES IN THE UNITED STATES, 1926 TO 1930

SOURCES: Reproduced by permission from the article by Kreps, *op. cit.* Among the articles in the domestic group were eggs, potatoes, milk, bread, peas, salt, hay, explosives, crushed stone, building sand, cement, brick, sulphuric acid, asphalt, building gravel, coal, iron ore, pig iron, wool yarn, steel billets, traveling bags, manufactured gas, furniture, sewer pipe and building tile. The export index included such goods as condensed milk, lard, canned fruit, flour, fuel oil and gasoline, sulphur, lubricating oil, wheat, cotton, tobacco, copper, lead, lumber, hosiery, steel pipe, steel rails, tin plate, agricultural machinery, automobiles and electric apparatus. The import index included wool, raw silk, jute, sisal, nickel, tin, rubber, hides, crude petroleum, asbestos, metal alloys, wood pulp, glass and paper.

national commodity prices to industrial profits, to changes in demand, to changes in national price levels, does not exclude gold movements either as a primary or as a secondary price-making force. So long as all kinds of money in a country are freely exchangeable for gold, international gold movements are likely to exert some effect upon the national price structures both of the gold-exporting and of the gold-importing countries. However, because gold movements are not the only connecting link between national price systems, national price levels need not be highly sensitive to changes in gold reserves in order to insure a rough conformity among them. In short, exchange rates between free gold-standard countries are relatively stable; gold-standard price systems are interdependent, and this interdependence results in such changes in international transactions as are necessary to keep the aggregates of international payments in balance.

GOLD PRICES VERSUS PAPER-MONEY PRICES

Exchange rates between countries with depreciated paper-currency standards need not be relatively stable. Their variations are not confined within the limits of upper and lower gold-shipment points. Exchange rates between countries with depreciated paper-money standards may vary between the limits of zero and infinity. In this case adjustments of international transactions necessary to a balancing of international payments may be brought about by variations in exchange rates, by variations in national price levels or by variations both in exchange rates and in national price levels.

If dollar exchange becomes scarce in England at a time when the United States monetary system is on a gold base and that of England is not, the pound sterling depreciates in terms of dollars. A dollar tends to buy more British goods than it did before depreciation of the pound and English exports tend to increase, thus increasing England's supply of dollar exchange. Vice versa, a pound tends to buy less in the United States after depreciation, thus reducing English imports and English demand for dollar exchange. This analysis of the manner in which adjustments of items entering into payments balances are achieved when one or more of the trading countries is on a paper-standard monetary system is sometimes referred to as the purchasing power parity analysis. The theory underlying the purchasing power parity

analysis assumes that prices at which goods and services can be purchased in the country with depreciated money, in relation to prices at which goods and services may be purchased abroad, will determine the exchange rates. The theory has been expressed in terms of a formula: the so-called purchasing power parity formula.[1]

Purchasing Power Parity Formula.—An ingenious formula, the so-called *purchasing power parity* formula, has been developed for explaining the relation between paper-money price levels, legal gold pars of exchange and market rates of exchange between two countries both of which have been forced "off gold."[2] The purchasing power parity formula assumes merchandise movements to be sufficiently flexible to keep international payments in balance. The formula may be illustrated with price indices in France and Great Britain for, let us say, the year 1921.[3] The equation for calculating purchasing power parity is in this case:

$$\frac{\text{French Price Index}}{\text{British Price Index}} \times \text{gold par} = \text{Purchasing Power Parity}$$

The index numbers are on a 1913 base, the base year exchange rate being approximately equal to the gold parity between francs and pounds sterling. Substituting average figures for 1921 we get:

$$352\tfrac{2}{197} \times 25.2 = 45$$

The actual average rate of exchange between francs and pounds in 1921 was around 52 paper francs per paper pound. The two figures do not conform with a high degree of accuracy. They

[1] The formula takes only merchandise into account. Services and other nonmerchandise types of goods taken into account in the theory are for statistical reasons excluded in the formula.

[2] The purchasing power parity theory was developed at the time of the bullion controversy early in the nineteenth century. It was revised by Professor G. Cassel during the World War. See his article, "The Present Position of Foreign Exchanges," *Economic Journal*, 1916; *La Monnaie et la change depuis* 1914 (translated by G. Lachapelle), Paris, 1923; *Money and Foreign Exchange after* 1914, Archibald Constable & Company, Ltd., London, 1922; *The World's Monetary Problems*, Archibald Constable & Company, Ltd., London, 1921, and other of Cassel's publications.

[3] The currencies of both France and Great Britain were "off gold" in 1921.

might have been more nearly comparable had the price indices been confined to international goods.[1]

The purchasing power parity formula assumes that, in the absence of gold, international payments are kept in balance by variations in merchandise trade. Variations in merchandise trade constitute, however, but a partial explanation of variations in exchange rates. For this reason purchasing power parity calculations give only an approximation of exchange rates. In countries that have paper-money standards, as in countries that have gold standards, speculators anticipate slow-moving adjustments in all the items that enter into payments balances and act accordingly in their bids and offers for exchange.

Whether or not countries have gold-standard monetary systems or paper-standard monetary systems, it is in last analysis a tendency toward conformity of their price levels, measured in terms of a common denominator, that initiates the adjustments in payments balance items necessary to keep the international accounts in balance. A close interdependence exists between the national price systems of trading countries whether the countries have gold-standard monetary systems or paper-standard monetary systems.

Interdependence of Paper-standard Price Systems.—When, because of paper-currency inflation, gold has been driven from circulation in a particular nation, a practical way of arriving at estimates of the gold values of the country's paper-currency prices is through the medium of exchange rates with some gold-standard currency. In the upper half of Fig. 30 are British, United States and French index numbers of wholesale prices in terms of paper currencies; in the lower half are wholesale price

[1] Even in gold-standard countries, general price levels calculated by averaging prices of both domestic and international goods do not vary in such perfect unison as do prices of international commodities like wheat and cotton. Wheat and cotton prices in New York, Liverpool, Hamburg, Tokyo and other large markets are kept in harmony by arbitrage transactions consummated by telegraph. Days, weeks, months or even years may elapse before the effects of changes in international commodity price movements are completely diffused to the more purely domestic parts of a country's price structure. It is possible at a given time roughly to distinguish between goods which are internationally traded and those which are not, but the list of items and the volume of trade in each are constantly changing.

indices of these nations in terms of gold. In spite of currency inflation in France during the nineteen twenties and Great

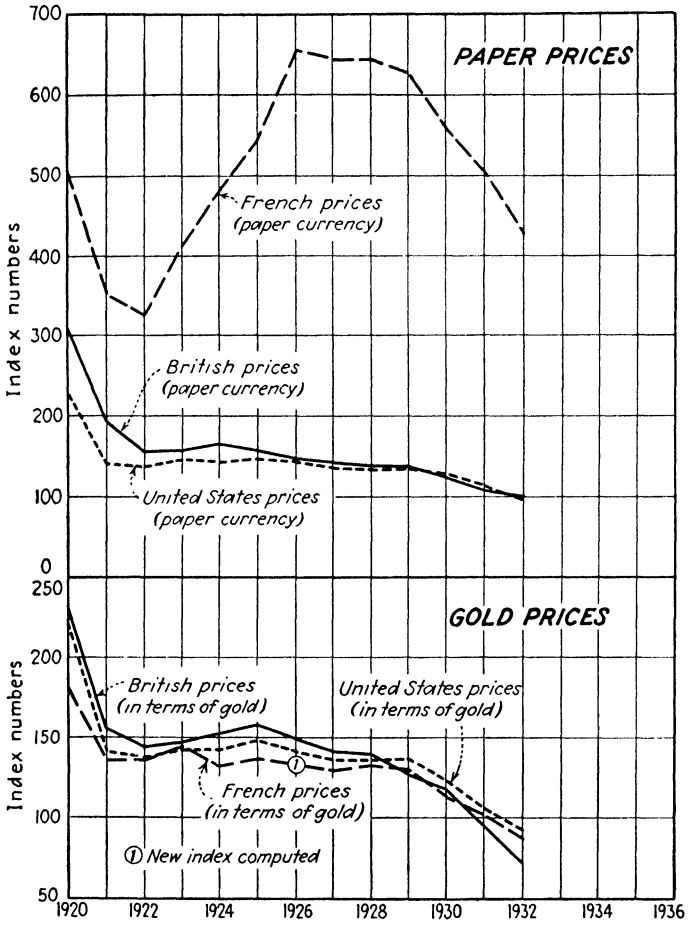


FIG. 30.—WHOLESALE PRICE INDICES OF FRANCE, GREAT BRITAIN AND UNITED STATES, 1900 TO 1932. 1913 EQUALS 100 PER CENT

SOURCES: *Monthly Bulletins of Statistics*, League of Nations, and *Commerce Yearbooks*, U. S. Department of Commerce. The indices are not carried beyond 1932 because the French gold index was calculated by relating French prices to United States prices and the United States devalued her currency in terms of gold in 1933. See Fig. 33, p. 410, for paper prices indices after 1932.

Britain's shift from a paper standard to a gold standard in 1925 and again to paper in 1931 the commodity price levels in terms of gold in the three nations followed similar downward courses from 1920 to 1932. The procedure of converting paper-currency

prices into gold prices may be illustrated with the French paper-currency price index which stood at 642 in 1921 (1913 base).

The par of dollar-franc exchange was \$0.193 per franc.[1]
The prevailing average rate of exchange (cables) was \$0.0392 per franc.
\$0.0392 divided by the gold par (\$0.193) gives 0.203.
642 times 0.203 is 130, the gold price index for France in 1927.

The extreme variations between French paper-currency prices and British or American paper-currency prices between 1920 and 1932 is largely accounted for by the depreciation of French currency and variations in exchange rates between the monetary units of these countries. Exchange rates between the currencies of a paper-standard country and a gold-standard country tend to measure the extent of monetary depreciation in the paper-standard country.[2]

CONCLUSIONS

Although price levels in different countries and exchange rates between the currencies of such countries are related, neither the prices nor the exchange rates need be regarded as cause or result of the other's fluctuations. A more accurate statement probably is that both are common products of common antecedents. When general price levels in different countries tend to pull away from one another (allowances having been made for accompanying variations in exchange rates) corrective forces come into play. Among the corrective forces are gold movements, changes in commodity trade balances, international loans, debt cancellations, debt repudiations and adjustments in other items that enter into international payments balances. There is little reason to assume that the sequence or the relative magnitudes of adjustment of the several payments balance items is uniform between all nations and under all circumstances.

The process by which a nation's payments to foreign countries and its receipts from them are kept in equilibrium is not exactly the same in detail when countries are on paper standards as when gold is the monetary standard in the trading countries. In the

[1] Prewar par. The prewar par of exchange between dollars and francs was still in effect before devaluation of the franc in 1928.

[2] This fact was recognized by Ricardo more than a century ago. See RICARDO, DAVID, *High Price of Bullion*, 1810.

latter case (*i.e.*, when the trading countries have gold-standard monetary systems with free convertibility of paper currency into gold) exchange rates tend to vary within narrow gold-shipment-point limits. When the trading nations are operating with paper-money standards there is possibility of wide foreign exchange fluctuations. When there is no possibility of making payments balance adjustments by means of gold flows, they may be made either through the medium of widely fluctuating exchanges or through that of fluctuating national price levels or a combination of the two. International gold movements may cause fluctuations in national price levels but they are not the only cause of such fluctuations.

CHAPTER XXIV

GAINS FROM TRADE AND THEIR DIVISION[1]

The classical economists, Adam Smith,[2] David Ricardo[3] and John Stuart Mill,[4] expounded the fundamental nature of gains arising from territorial division of labor. Their thesis was that adaptation of industries to particular natural resource and population advantages of different regions tended to maximize aggregate physical volume of production. This fundamental principle is as true today as it was 150 years ago. If, for example, people in a region with abundant and easily accessible coal and iron resources and relatively little agricultural land devote the major part of their energies to manufacturing with power machinery and people in regions with little or no minerals and an abundance of agricultural land devote their major energy to agricultural production, such division of labor tends to maximize output both of the manufactured goods and of the agricultural products. Mill's figures given to illustrate the foregoing facts are on page 334.[5] These assumed data illustrate the so-called principle of comparative advantage. According to the illustration, a day's labor produces more corn in Poland than in England. A day's labor also produces more cloth in Poland than in England. Poland has an advantage in the production of both corn and cloth, but she has a greater advantage in corn production than in cloth production. A day's labor produces twice as many bushels of corn in Poland as are produced in England and only 1½ times as much cloth. Consequently, more corn and cloth in the aggregate will be produced in the two countries if Poland specializes in corn production

[1] This chapter was written with the assistance of Mr. M. P. Stoltz, sometime assistant, and graduate student, Economics Department, Brown University.

[2] SMITH, *Wealth of Nations*, 1776.

[3] RICARDO, *The Principles of Political Economy*, 1817.

[4] MILL, *Principles of Political Economy*, 1848.

[5] MILL, *op. cit.*, Ashley ed., 1929, p. 577. See also Chap. IX of this volume.

PRODUCTION OF CORN AND CLOTH IN POLAND AND ENGLAND
Without Territorial Specialization

Country	Corn	Cloth
Poland	100 days of labor, 50 bu.	100 days of labor, 200 yd.
England	200 days of labor, 50 bu.	150 days of labor, 200 yd.
Total production	100 bu.	400 yd.

With Territorial Specialization

Country	Corn	Cloth
Poland	200 days of labor, 100 bu.	None
England	None	350 days of labor, 466⅔ yd.

and England specializes in cloth production. The net gain from specialization may be 66⅔ yards of cloth, as indicated in the illustration. If so it may all go to Poland or it may all go to England, depending upon the ratio of exchange between corn and cloth. If the ratio of exchange is 1 corn to 5⅓ cloth, Poland gets all the gain, *viz.*, 66⅔ yards of cloth more than she had before specialization. If the ratio of exchange is 1 corn to 4 cloth, England gets all the gain, *viz.*, 66⅔ yards of cloth more than she had before specialization. The 1 to 5⅓ ratio is that between corn and cloth in England before specialization; the 1 to 4 ratio is that between corn and cloth in Poland before specialization when, as assumed, the goods within each country exchange in proportion to the amounts of labor required for their production. If the exchange ratios are greater than 1 to 5⅓ or less than 1 to 4 there will be no reason for trade between the two countries. Poland will produce cloth rather than purchase it at a cost greater than 1 corn for 4 cloth and England will produce corn rather than purchase it at a cost greater than 5⅓ cloth for 1 corn.[1] Stated simply, *the principle of comparative advantage* is as follows: *a country tends to export those products in the production of which it has the greatest advantage or the least comparative disadvantage and to*

[1] If the exchange ratio is 1 corn to 5⅓ cloth (or less) and England gets more cloth than she desires, a small part of her labor may be devoted to the production of corn.

import those products in the production of which it has the least advantage or the greatest comparative disadvantage.[1]

It is because of this principle that a densely populated, low-wage country, like Japan, can trade with a sparsely populated, high-wage country, like the United States, without wages in the high-wage country being forced down to the level of wages in the low-wage country. The output per worker employed in cotton-textile manufacturing in the United States, for example, is greater than that in Japan; so also is the output per worker employed in the manufacture of automobiles greater in the United States than it is in Japan. But in the manufacture of automobiles the United States has a greater advantage over Japan than is the case in cotton manufacturing. Hence, in spite of a high tariff on cotton-textile imports, United States citizens buy cotton textiles in Japan and sell automobiles in Japan. The money cost of manufacturing textiles in the United States tends to be higher than it is in Japan because of the high American wage level. The demand for labor in the more efficient high-wage industries, such as automobile manufacturing, tends to keep wages relatively high in all industries in the United States, the textile-manufacturing industry included.

The case for territorial specialization and international trade is even stronger than the foregoing illustration suggests when one country has an absolute advantage in one industry and another country has an absolute advantage in some other industry. Japan, for example, with a dense population of patient, skillful workers and relatively little natural resources, exports raw silk and manufactures requiring large amounts of hand labor per dollar of sales. Argentina, on the other hand, with a sparse population and an abundance of fertile agricultural land per capita, exports wheat and wool, in the production of which relatively little labor per dollar of sales is utilized.

Economists of the present day accept the fundamental principle that production advantages arise from territorial division of labor. However, they are aware of the fact that the *law of comparative advantage*, couched in terms of labor ratios, is not very realistic. As a result of efforts to apply the classical formu-

[1] For further exposition of the *principle of comparative advantage* as developed by a neoclassical economist see Taussig, *International Trade*, Chaps. I–X inclusive.

lation of principles governing gains from international trade to present-day problems, the whole subject has been reexamined by thoughtful students, and tangible results have been achieved in the way of more realistic statements.

REEXAMINATION OF THE PRINCIPLE OF COMPARATIVE ADVANTAGE

The older formulation of the comparative-advantage doctrine expressed costs in terms of human effort or sacrifice as measured by days of labor. Goods were supposed to exchange in domestic markets in proportion to the amounts of labor (homogeneous labor) embodied in them. Internationally, goods were presumed to exchange (within the limits of labor cost differences in various countries) in proportion to relative intensities of reciprocal demand. Present-day economic theory assumes that the ratios of exchange of goods, both in domestic and in international markets, are in proportion to marginal money costs of production.[1] In addition to labor, a number of factors contribute to production costs. Outlays for dissimilar production factors are expressed in a common unit, money. Opportunity costs, measured in money units, determine the uses to which production factors are put. Present-day theory thus substitutes marginal money costs of production for homogeneous labor content as a standard for the determination of ratios at which various kinds of goods exchange both in domestic and in international markets.

Gold prices of internationally traded commodities tend to differ in freely trading countries by relatively small amounts.[2] Export commodities tend to sell in countries of origin for amounts only slightly below prices of such goods in freely trading import countries. Differences in prices of international commodities[3] between freely trading countries arise mainly from transportation costs and other expenses incidental to transfer of the goods from one country to another. Comparative advantage is reflected more largely by differences in labor efficiencies and in wage levels in the

[1] This statement applies to reproducible goods, which constitute the greater part of goods that enter the channels of trade, and it assumes perfect competition. The situation under noncompetitive conditions is discussed briefly on pp. 348–351.

[2] See Chap. XXIII of the present volume.

[3] An international commodity is one which freely enters the channels of international trade.

trading countries and by geographical concentration of the various industries than by differences in money prices of internationally traded goods in different countries. If marginal money costs[1] of producing a particular international commodity in two freely trading countries diverge by amounts much greater than carrying costs, equalizing economic forces are set in motion. These forces initiate rearrangements in trade that continue until the volume of goods of various classes produced in one country and that produced in the other country are consonant with near equality of marginal costs and prices of the commodity in the two countries.[2] In the absence of customs tariffs and other artificial trade barriers, international commodity price differ-

[1] Marginal cost is the average cost of production per unit of product of those firms which, over a period of years, realize just enough profits to induce them to continue in business. This is the cost about which selling prices tend to fluctuate. Firms with lower costs realize more profits than marginal firms, their profit per unit of sales being the difference between their money cost per unit and prevailing prices. Firms with per unit costs that exceed those of marginal firms will, in time, be forced either to reduce their costs or to discontinue production. This statement assumes that all firms operate under conditions of "decreasing and increasing costs."

[2] In the case of goods produced under competitive conditions in all the trading countries, the fact is obvious that the ratios of exchange, both intranational and international, are approximately equal to the ratios of marginal costs of production of the goods traded. This conclusion rests on two conditions: the first is that prices and marginal costs of production in every producing region tend to equality; the second is that international prices tend to equality. In the case of goods that are not produced in all the trading countries, the ratios of exchange of those which are bought and sold internationally tend also to be in proportion to marginal costs of production. The reason is twofold. On the one hand, sale of international goods for substantially more than their marginal costs of production results in increased output in relation to other domestically produced goods, followed by changes in relative costs and prices of the classes of goods effected. On the other hand, sale of international goods for less than their marginal costs results in reduced production and changes in cost and price in relation to costs and prices of other domestically produced commodities. Substitution and shifts in production factors from one industry to another in the domestic markets of the trading countries tend to hold international, as well as purely domestic, goods at prices which approximate their marginal costs of production. The term "opportunity cost" has been used in this connection to indicate forces which condition expenses of production in situations where production factors are in demand for many competing uses.

See HABERLER, GOTTFRIED VON, *The Theory of International Trade*, William Hodge and Company, Ltd., London, 1936, Chap. XII.

ences between trading countries and money cost differences (in terms of gold) at the margin in the various trading countries tend to be relatively small. The price and money-cost equalizing process takes place through expansion of strong firms and bankruptcy liquidation of the weaker ones. The weak concerns (weak from a competitive point of view) may be forced out of business or their costs per unit to produce may be reduced (by a writing down of the valuations of their fixed capital assets or otherwise). Thus as a result of cost adjustments necessitated by competition, international commodity price differences between trading countries and money cost differences (in terms of gold) at the margin,[1] in the various freely trading countries tend to be relatively small. It is not a wide price differential per se that stimulates the flow of trade from one country to another so much as it is desire on the part of low-cost producers to increase sales volume at world-market prices. Similarity of marginal money costs of production and similarity of prices of international commodities in the various trading countries are in harmony with the theory of comparative advantage, not in contradiction to it.

Comparative Advantage Rests upon the Principle of Proportionality.—The foregoing conclusions and those to follow turn on the principle of proportionality. From an interregional or an international standpoint this principle may be stated simply as follows:

> Disadvantage attends any excess or deficit in the supply of productive factors relative one to another.[2]

It is common knowledge that different nations are differently endowed with the various factors of production.[3] Some countries have large populations and relatively meager supplies of agricultural and mineral resources: Italy and Japan, for example. Other countries have small populations in relation to available supplies of agricultural land and mineral resources. Political instability discourages capital from flowing to some countries whereas apparent stability of existing governments tends to

[1] See note 1, p. 337.

[2] DAVENPORT, H. J., *The Economics of Enterprise*, The Macmillan Company, New York, 1919, p. 423.

[3] Land, labor, capital, business and technical leadership. See Part IV of this volume.

encourage capital investments in other countries. For this and other reasons, capital is not distributed over the world in proportion to natural resources and populations. Furthermore, improved technical skills are not achieved at the same time and in the same degrees in all countries. In consequence of these circumstances, factors of production are available in substantially different proportions in the various commercial nations. The actual combination of productive factors in any particular country where capitalism is in vogue tends to be determined by judgments of business leaders who constantly seek to produce goods at money costs low enough to permit the goods to be sold at a profit. In a country like Italy, where labor is relatively cheap, industries thrive best which employ relatively more labor and relatively less capital and natural resources than is the case in countries like the United States and Canada, where capital and natural resources are more plentiful in relation to available supplies of labor. In countries of the latter class, heavy, mass-production industries and agricultural staples industries tend to predominate. Examples are steel smelting, paper manufacturing and wheat growing. In countries of the former class (Italy, Japan, etc.) light industries tend to predominate in manufacturing and intensive industries in agriculture. Examples of comparatively light manufacturing industries are textiles, jewelry, hats, gloves, toys, pottery, drugs, etc. Agricultural emphasis in the densely populated countries tends to be placed more upon intensive undertakings such as poultry raising and vegetable and fruit growing and relatively less upon the growing of staples (such as wheat) than is the case in sparsely populated countries. These tendencies toward regional specialization result from the activities of businessmen who seek to maximize their profits by producing low-cost goods that can be sold at a profit.

Least Cost Combinations.—In a free-market economy,[1] producers must combine available factors of production in such manner as to result in least money cost per unit of product if they are to maximize their profits. In a country where labor is abun-

[1] The free-market economy is one in which consumer choices, freely made, in the purchase of goods, on the one hand, and competitive activities of profit-seeking enterprisers to produce such goods at a profit, on the other hand, regulate production and direct the utilization of a country's productive factors.

dant and relatively cheap, industries that can make profitable use of an abundance of cheap labor tend to predominate. Within such industries the most profitable producing units tend to be those in which natural resources, labor, capital and management are combined in such fashion as to minimize money costs of production per unit of output. A clearer conception of the least cost combination of factors in a single producing unit may be had from the arithmetic illustration in Table 62.

TABLE 62.—COST PER UNIT OF OUTPUT IN A PARTICULAR FACTORY IN THE SHOE-MANUFACTURING INDUSTRY OF A SPARSELY POPULATED COUNTRY

Salaries of management, taxes, interest on investments in fixed equipment and other comparatively fixed costs	Variable costs		Units produced	Fixed costs per unit	Variable costs per unit		Total costs per unit
	Labor	Raw materials			Labor	Raw materials	
$10,000	$ 6,000	$4,000	5,000	$2.00	$1.20	$0.80	$4.00
$10,000	$ 7,500	$4,800	6,000	$1.67	$1.25	$0.80	$3.72
$10,000	$ 9,310	$5,740	7,000	$1.43	$1.33	$0.82	$3.58
$10,000	$10,650	$6,375	7,500	$1.33	$1.42	$0.85	$3.60
$10,000	$11,620	$6,942	7,800	$1.28	$1.49	$0.89	$3.66

The least cost combination of factors in Table 62 is $9,310 worth of labor and $5,740 worth of raw materials associated with the $10,000 outlay covering fixed costs. The least cost per unit of product is $3.58. More labor and raw materials or less labor and raw materials associated with the given expenditure for management and other relatively fixed costs results in costs per unit of product higher than $3.58. Given prevailing market prices for raw materials, labor, management and other requisites of production, and little or no control over such prices by any one producer, the producer's problem is to associate and utilize these factors in a manner calculated to minimize money cost per unit of output. If, by chance, the concern represented by the data in Table 62 is a representative firm, one that over a period of years earns just enough profit to keep it going, the sales price of the product will tend to be in the neighborhood of $3.58 per unit. If the product

in question is an international commodity, produced in greater or smaller amounts in nearly all countries—ordinary shoes, let us say—selling prices and marginal costs of producing like qualities

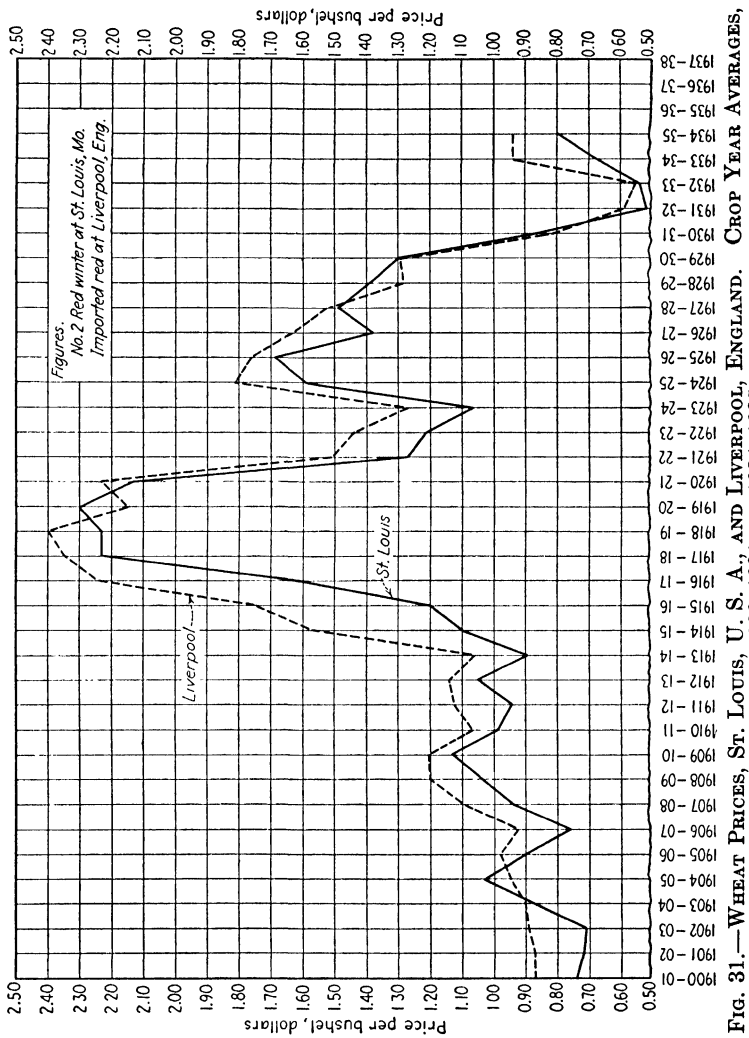


FIG. 31.—WHEAT PRICES, ST. LOUIS, U. S. A., AND LIVERPOOL, ENGLAND.

SOURCE: *Agricultural Statistics*, 1936, U. S. Department of Agriculture.

of shoes in the several freely trading countries will not vary very far from $3.58 (gold) per pair. This statement assumes the firm in Table 62 to be a marginal firm in a low-cost country which has facilities for expansion of output for export.

Similarities in Marginal Costs of International Commodities in Various Trading Countries.—The fact that marginal costs of producing international commodities in various trading countries are not very different is suggested by a comparison of prices of freely traded international commodities. Wheat is one of the best examples of such a commodity for three reasons. In the first place, wheat is grown in greater or less amounts in nearly every important commercial country. In the second place, wheat is a standardized commodity, thus affording reasonably accurate quality comparisons in various countries. In the third place, wheat prices, over a period of years, are easily available for different markets. Wheat prices in terms of dollars in St. Louis, United States, and Liverpool, England, are shown in Fig. 31, year by year from 1900 to 1935. In spite of the fact that Great Britain imports wheat, she produces a substantial amount at home each year. Before the World War, when wheat entered the British market substantially free of import tariff duties, wheat prices in Liverpool year after year were above those in St. Louis by amounts approximately equal to costs of moving wheat from the one market to the other. The only year between 1900 and 1913 when prices in St. Louis were above those in Liverpool was the crop year 1904–1905, and, in fact, the relationship of St. Louis wheat prices to Liverpool wheat prices holds reasonably stable right through the World War years and the postwar period. Had marginal costs of producing wheat in England been very much more than prices of wheat in the Liverpool market, English farmers would have ceased to grow wheat altogether, or, at least, they would have reduced the acreage planted much more than they did.[1]

Although price data for all international commodities in the various markets are not easily available for comparisons similar to that made for wheat in St. Louis and Liverpool, such information as is available suggests that marginal costs of production in the various countries and prices in the various countries do, in the absence of tariffs, bounties and other trade restrictions, tend toward near equality, as is the case for wheat. This conclusion does not necessarily mean that land, labor, capital and other

[1] Acreage planted to wheat in Great Britain in 1900, 1910, 1920 and 1930 was as follows: 1900, 1,845,042 acres; 1910, 1,808,854 acres; 1920, 1,929,011 acres; 1930, 1,400,077 acres. *Statistical Abstract of the United Kingdom.*

productive factors are associated in equal proportions in the production of similar goods at near-equal marginal costs. If the factors of production were freely mobile, internationally, factor combinations would be approximately the same in similar industries in the various trading countries. However, as already indicated, the factors of production are not freely mobile internationally; some of them, particularly labor, are highly immobile. As a result, factor combinations may be very different in the different countries, even though marginal costs of producing similar commodities are nearly the same.

Mobility of Factors in Relation to Least Cost Combinations.—Labor is among the least mobile of the several productive factors. Custom, home ties, racial bonds, lack of knowledge of conditions elsewhere and legislated immigration restrictions in sparsely settled countries, all act to prevent mass migration of populations from overcrowded nations. One might argue that agricultural land, mineral deposits and other natural resources are even less mobile than populations. In a sense this is true. However, the first derivatives of agricultural land and mines move internationally more freely than do populations. In case of the extractive industries—agriculture, mining, lumbering, fishing—land is less mobile than labor. In case of manufacturing industries, labor is less mobile than raw materials, *i.e.*, metals, textile fibers, fuels, etc. Crude products of agriculture, such as wheat, raw cotton and unmanufactured wool; metals, such as iron ore, copper ore or blister copper; and fuels, such as crude petroleum and coal, are among the list of leading international commodities.

Capital, like the raw materials of manufacturing, is more highly mobile internationally than is labor. Interest rates tend toward equality in different countries, where competition in comparatively free markets is a characteristic institution and where differences in political stability are not extreme. When a country rich in natural resources is in the early stages of settlement and industrialization, returns on capital investments are likely to be somewhat higher than are returns to capital in industrially older nations.[1] However, if political conditions in the new country are stable and investments reasonably secure, capital flows to it from older countries, where interest rates are lower. In time, yields on

[1] In the older countries relatively more capital has, in all probability, already been associated with available natural resources.

investments in the new country approach levels of near equality with those in the older country. For purposes of indicating divergencies of interest rates and yields on investments in various countries, average rates of interest on the face values of certain government bonds and average yields on the market values of these bonds for the period 1901 to 1913 are given in Table 63.

TABLE 63.—RATES OF INTEREST ON GOVERNMENT SECURITIES IN A NUMBER OF COUNTRIES AND AVERAGE YIELDS ON THESE SECURITIES FOR THE PERIOD 1901 TO 1913[1]

Country and issue	Rate of interest, per cent	Average yield, per cent
Brazil, 1889	4	4.94
Argentina, 1886–1887	5	4.93
China, gold	4½	4.74
Japan, sterling	4	4.73
Russia	4	4.43
Hungary, gold, 1881–1892	4	4.43
Austria, gold, 1876	4	4.07
German bonds	3	3.54
Cape of Good Hope	3	3.47
New Zealand	3	3.41
India, stock	3	3.36
United States, 1925	4	3.21
Canada, stock	3	3.15
France	3	3.12
United Kingdom, consols	2½	2.94

[1] SOURCE: Report of the Board of Inquiry, Ottawa, Canada, on *Cost of Living*, Vol. II, pp. 707–716, 1915, as adapted by Warren and Pearson, *Prices*, p. 277. Used through the Courtesy of Messrs. Warren and Pearson.

Differences between yields on bonds of the United Kingdom, France and the United States as listed in Table 63 are small, the maximum difference being about ¼ of 1 per cent. The largest difference in yield indicated in the table, *viz.*, 2 per cent, is between British consols and Brazilian bonds. This difference may be accounted for in large part by inequality in the risk factor between investments in Great Britain and Brazil. Magnitudes of international capital movements are treated elsewhere in the present volume.[1] The point of emphasis here is the tendency for capital

[1] See Chap. XIX.

costs, like the costs of international commodities, to seek uniformity in world-wide markets, as a result of international mobility of capital.

A third production factor, technical ideas, appears in times gone by to have been comparatively immobile, at least for short periods of a few years or a few decades. However, improved communication facilities make possible at the present time comparatively quick acquisition of new technical ideas by all the more progressive nations. Technical ideas are at present relatively mobile.

Aside from mines, agricultural land and other immovable resources that contribute to primary production, labor, as already stated, appears to be the least mobile of the factors of production employed in modern industry. In consequence, and as already remarked, light industries that utilize relatively large amounts of labor tend to gravitate to densely populated, low-wage countries if artificial barriers against movements of capital, raw materials and finished goods do not prevent. Illustrations are the rapid growth of cotton and wool manufacturing in Japan and the rapid growth of the rayon industry in Italy.[1]

As a result of labor immobility (and to a less extent costs of transporting fabricating materials, fuels and finished goods) least cost combinations in a particular industry may be quite different in different countries. The arithmetic example of a least cost combination presented in Table 62 might take on some such

[1] In the United States, labor expense ranges from about 25 per cent to more than 50 per cent of total expenses of production in cotton manufacturing and rayon industries as compared with a labor expense of only about 5 to 10 per cent of total expense in the blast-furnace industry, an average labor expense of about 20 per cent in "iron and steel and their products" industries and 15 per cent to 20 per cent in the aluminum industry. The foregoing data are based on Census of Manufactures statistics. The proportions of labor expense to total expense in these industries in other countries varies with the availability and relative wages of labor, and prices of raw materials, fuels, capital and other requisites of production and their association in least cost combinations.

Between 1913 and 1930 rayon output in Italy increased from about 200,000 metric tons to approximately 30,000,000 metric tons per annum. In the United States, where the rayon industry was protected by import tariffs, the increase in output during this period was from about 700,000 metric tons to approximately 53,000,000 metric tons per annum. The rate of increase was greater in Italy than in any other country. Likewise, the rate of increase in output of cotton and wool fabrics has been greater in Japan in recent decades than in other countries.

characteristics as those exhibited in Table 64 if the industry in question were being examined in a more densely populated country than that represented in Table 62.

TABLE 64.—COST PER UNIT OF OUTPUT IN A PARTICULAR FACTORY IN THE SHOE-MANUFACTURING INDUSTRY OF A DENSELY POPULATED COUNTRY

Salaries of management, taxes, interest on investments in fixed equipment and other comparatively fixed costs	Variable costs		Units produced	Fixed costs per unit	Variable costs per unit		Total costs per unit
	Labor	Raw materials			Labor	Raw materials	
$5,000	$ 9,500	$4,000	5000	$1.00	$1.90	$0.80	$3.70
$5,000	$11,700	$4,800	6000	$0.83	$1.95	$0.80	$3.58
$5,000	$14,560	$5,740	7000	$0.71	$2.08	$0.82	$3.61

The marginal cost per unit of producing shoes is the same in Table 64 as it was in Table 62, *viz.*, $3.58. Relatively more labor is associated with relatively less capital and management in the Table 64 illustration. Labor is abundant and wage rates are relatively low in the second illustration. If a day's labor produces two pairs of shoes in the first illustration (Table 62), the wage rate may be $2.66 per day. If in illustration two (Table 64) a day's labor produces one pair of shoes the wage rate may be only $1.95 a day. In general, wage rates and labor efficiency tend to be low in the country with a large population and a scarcity of raw materials, even though raw materials are freely available for purchase abroad at world-market prices. Conversely, the country with an abundance of natural resources and a relatively small population will have a relatively high wage level if its people have or can secure capital, technical leadership of a high order and business leadership of a high order. The country with a high wage level may have large and profitable mining industries, large and profitable mass-production manufacturing industries and profitable extensive farming industries. Differences in national prosperity are conditioned more by differences in factor combinations than by differences in money costs of production. Also differences in factor combinations are more significant than differences in money costs in determining both the geographical location of industries and the flow of international trade. Min-

imization of artificial trade barriers tends to result in maximization of the volume of international trade, maximization in the degree of territorial specialization and minimization of differences in factor combinations in a particular industry in different countries. In order for territorial division of labor to be maximized by the development of light manufacturing industries in countries with an abundance of cheap labor and relatively little natural resources, these countries must be able to purchase fabricating materials and fuels at world-market prices and they must have access to foreign markets for their finished goods. Without access to foreign markets for finished goods, the densely populated country is likely to be without the necessary purchasing power with which to buy foreign raw materials. The advantage of free trade and a maximum degree of territorial division of labor arises from more effective combination of productive factors in all the trading countries and a tendency thus to increase the combined productions of such countries, as illustrated hypothetically by Mill.[1]

Comparative Advantage, a Labor Efficiency Principle.—"Comparative advantage" in the international sense in which the term is used in classical economic theory signifies a relatively high degree of labor efficiency. The industry with the greatest advantage is the industry in which, because of abundant natural resources, superior scientific and business leadership or some other favorable condition, labor is most efficient and wages are relatively high. "Least comparative disadvantage" is a phrase employed to refer to the most efficient industry in a country where, because of a dearth of natural resources, inadequate technical knowledge, ineffective business leadership or some other cause, productivity of labor and wages are, in general, low. Industries with the greatest advantages or the least comparative disadvantages tend to be the export industries and, for the country concerned, the industries which contribute to establishment of the highest competitive wage level possible for that country.

International trade permits every country to employ its labor force in those industries where labor efficiency tends to be greatest. Where trade is free, prices of international commodities are

[1] See p. 334. The qualifying term "tend" is here employed because labor efficiency is conditioned by national industrial stability and many other factors in addition to territorial specialization.

determined by world-wide conditions of supply and demand. The country with superior labor efficiency in particular industries can pay relatively high money wages (in terms of gold), produce its export goods at marginal money costs no higher than marginal costs of similar goods in import countries and sell its goods at world-market prices. Thus *comparative advantage*, in the sense in which the term is employed in international trade, rests upon comparative labor efficiency. Labor efficiency, in turn, is conditioned in no small part by factor combinations. As already stated, money costs of production (at the margin) and prices of international commodities tend toward near equality in freely trading countries. Labor efficiency and wages in the various trading countries do not necessarily tend toward equality.

Exchange Values.—As already stated, value theory as developed by present-day investigators applies alike to international purchase and sale and domestic purchase and sale. Value analysis may be divided into three aspects, dependent upon the presence of effective competition, the absence of competition or the presence of a state of imperfect competition or partial monopoly. Competitive value tends to rest upon marginal cost of production, *i.e.*, average costs[1] per unit to produce, on the part of firms that, over a period of years, realize little or no profit over and above expenses of management, going rates of return on capital investments and other outlays incident to continued operation. When profits in a competitive industry are greater than those in surrounding industries, the high-profit industry tends to expand and competition tends to reduce prices of the goods produced by it. Competitive firms which do not keep their average costs per unit to produce equal to or below average price per unit of goods sold are called submarginal firms. A submarginal firm will, in time, be forced either to find ways and means of reducing its costs or go out of business. Competition among low-cost firms and withdrawal of submarginal firms are the flexible elements in a competitive economic system which, over a long period of time, cause the lower limit of prices of reproducible goods to fluctuate about costs per unit to produce on the part of the marginal firms, as defined.

[1] This statement applies to conditions of decreasing and increasing costs of particular firms, the condition which is most typical of modern industry.

Assumptions underlying the foregoing statement of value determination are essentially those associated with "free" or "perfect" competition. When competition is not free, as is often the case, prices do not necessarily tend toward average costs per unit to produce on the part of marginal firms. Possibly, the most characteristic market condition of modern times is that where gradual and imperceptible gradations are to be found all the way from a condition of near-perfect competition in some industries to a condition of complete monopoly in others. A monopoly, as the term is employed in economics, is a condition of complete and unified control of the supply of particular kinds of goods. If the total supply of a product is controlled by a unified group of producers, their best interest, ordinarily, is to control the flow of the product to market in such a manner as to maximize their net profits. An example of a monopolized industry is diamond production. The British South African diamond mines are so far superior to any other known diamond mines in the world as to place the group who exercise unified control of these mines in a monopolistic position in the sense that effective production control is possible. Furthermore, the two other essentials of an effective monopoly are present in the case of diamonds, *viz.*, (1) no low-cost substitute exists, and (2) the demand for diamonds is inelastic.[1]

As between the two extreme market conditions just cited, the one described as free competition, the other as monopoly, a great many degrees of imperfect competition or partial monopoly exist both in domestic commerce and in international trade. Without attempting to review the whole complicated theory of market value, we may cite a number of generalizations that have an important bearing upon the question as to how the gains from international trade are divided among the trading countries. First, low-cost production and international competition tend to affect export prices of competitive international commodities much as low-cost production and competition affect domestic prices of competitive domestic goods. If, for example, an international commodity can be produced competitively in a number of

[1] If the demand for diamonds were highly elastic, monopoly might exist, but the fact that higher prices would tend sharply to reduce the number of diamonds sold under this condition would tend to narrow the range of price increase that would be profitable to the monopolist.

countries, marginal cost of production in some one of the low-cost producing countries that has ample resources for expansion of the industry is likely to be the point toward which export prices of the commodity, wherever it be produced, tend to gravitate.[1] Low-cost production of cotton textiles in Japan, for export, is tending, for example, to force British textile exporters either to meet Japanese prices or to lose a part of their foreign markets. So also low-cost production of wheat in Canada, Argentina and elsewhere is tending to force United States wheat exporters either to meet Canadian and Argentine price competition or to lose a part of their foreign markets for wheat. What is true in this respect in cotton textiles and wheat markets is true also in greater or less degrees in the marketing of other international commodities. Second, the elasticity of international demand affects the amounts by which prices of monopolized international goods are held above marginal costs of production in the low-cost countries, much as elasticity of domestic demand affects monopoly prices of purely domestic goods.[2] Third, in international markets, as in more purely domestic markets, various degrees of imperfect competition or partial monopoly exist in different industries. Fourth, whereas international goods are subjected directly to forces of supply and demand that cut across international boundaries, goods that do not enter the channels of international trade may be subjected directly only to forces of supply and demand that act in restricted markets. However, as explained in Chap. XXIII, even the purely domestic commodities are, in time, indirectly subjected to international price-making forces through the ebb and flow of domestic buying power in so far as it may be affected by international transactions. Fifth, since the gain from territorial specialization is not subject to precise measurement and since its division among the several

[1] Allowance being made for differences in transportation and other marketing costs.

[2] Furthermore, if competition among the several producing and exporting countries is not free, a demand that is not highly elastic combined with decreasing production costs in an exporting country may encourage dumping. Dumping may be defined as sale abroad at prices below those prevailing in the producing country. In this case, different degrees of elasticity of demand in exporting and importing countries may affect export prices. Also import tariffs imposed by importing countries may affect export prices of goods produced under conditions of increasing and decreasing costs.

trading countries is conditioned by all these complex price-making forces, each country's share of the gain is not subject to accurate measurement. However, it is possible, over a period of time, to determine roughly whether a country's terms of trade tend to become more favorable or less favorable. It is common knowledge that in international trade, as in domestic trade, an industry which can produce at relatively low cost goods that are in relatively great demand and that are subject to relatively slow increase in supply is in a favored trading position. Conversely, the industry producing goods the demand for which does not increase as rapidly as supply, and the prices of which sink lower and lower in relation to production costs, is likely to be faced with the necessity of liquidating high-cost units. These liquidation processes may lead to acute conditions in geographical areas largely dependent upon one or two export industries.

MEASUREMENT OF CHANGES IN TERMS OF TRADE

Examples of Regional Difficulties Arising from Variations in Prices of Particular Export Commodities.—In Table 65 are indices of prices of sulphur and average prices of several hundred leading commodities at wholesale from 1900 to 1935.

TABLE 65.—INDICES OF SULPHUR PRICES AND ALL-COMMODITY PRICES IN THE UNITED STATES, 1900 TO 1935[1]
(Base year, 1900 equals 100)

Year	Indices of sulphur prices	Indices of prices of all commodities
1900	100	100
1910	104	125
1920	113	279
1930	85	162
1935	85	142

[1] SOURCE: U. S. Bureau of Labor Statistics, *Wholesale Prices Series of Bulletins.* See also Fig. 24, Chap. XVII.

In 1935 sulphur prices were 15 per cent lower than they had been in 1900, whereas the index of all-commodity prices was 42 per cent higher in 1935 than it was in 1900. Prior to 1900 about 90 per cent of the world's supply of commercial sulphur originated in Sicily. After 1900 the Frasch process of extracting sulphur

was introduced in the United States with the result that costs and prices of sulphur declined and United States sulphur producers forced a large part of the Sicilian sulphur-producing industry out of business. Sicily experienced great difficulty in finding substitute industries to employ the labor and capital utilized in sulphur production prior to the industry's migration to the United States. Other examples of regional difficulties arising from decline in relative prices of leading export commodities in various countries are to be found in Chile, Cuba, Japan, Malay States and Australia. Introduction into Europe and United States of machinery for the fixation of atmospheric nitrogen during and after the World War crippled Chile's principal export industry, *viz.*, extraction of nitrates from salt mines. During the last 10 or 15 years Chile has been hard put to it to find profitable employment for labor and capital formerly engaged in nitrates production. While Chile suffered from loss of a large part of her export market for nitrates, Cuba suffered from declining sugar prices. Cuba's principal industry is sugar production for export. Between 1923 and 1933, prices of 96-degree (centrifugal) sugar in New York declined from about 7 cents a pound to a figure around 3 cents a pound.[1] The decline in prices of raw sugar in Cuba was even greater than that for 96-degree sugar in New York. The decline in sugar prices was so severe that a ton of sugar bought less and less of the goods which Cuba ordinarily imports. The suffering arising from disorganization of her sugar industry has been so intense as to lead to a series of political revolutions in Cuba. In Japan, a leading industry is raw-silk production. Decline in silk prices[2] in relation to other commodity prices during recent decades has caused hardships for Japanese silk producers. Japanese silk growers have been hard put to it to make a living during recent decades. In the Malay States, buying power declined with falling prices of rubber[3] during the nineteen twenties and early nineteen thirties. Australians suffered when wool prices slumped in relation to other commodity prices.[4] So it is whenever any country has a large export industry turning out goods the prices of which fall in relation to prices of import commodities, unless compensating reductions in production costs

[1] See Fig. 4, Chap. XIII.
[2] See Fig. 19, Chap. XVI.
[3] See Fig. 23, Chap. XVII.
[4] See Fig. 17, Chap. XVI.

are achieved or the country in question can readily shift its energies to other and more profitable industries.

An unfavorable drift in the trading position of a one-industry country is not difficult to sense. When a country's export and import trades are diversified, the problem of measuring changes in its over-all trading position is complicated. When, in addition to a diversity of merchandise exports and imports, invisible items, such as shipping services, interest on foreign loans, emigrant remittances and capital exports, constitute substantial items in payments balances, the problem of measuring trends of change in the gain which a country realizes from its external commerce is, to say the least, difficult. Bowley,[1] Taussig[2] and other students of the subject have suggested two methods of approximating changes in a country's *barter terms of trade.* One approach to the subject is through construction of indices of so-called *gross barter* terms of trade. Another approach to the problem is through construction of indices of so-called *net barter* terms of trade. The *net barter* terms-of-trade indices are less complicated and more generally used than the gross barter terms-of-trade indices.[3]

Net Barter Terms of Trade.—The indices of net barter terms of trade are a series of ratios between average per unit prices of export goods and average per unit prices of import goods. An example is given in Table 66.

Between 1890 and 1900 prices of merchandise imported declined in relation to prices of merchandise exported. Between 1900 and 1910 a reverse movement occurred, *i.e.*, prices of merchandise imported increased in relation to prices of merchandise exported. One cannot arbitrarily conclude that a nation's foreign trade is becoming less advantageous from the mere fact that average prices per unit of its export goods are declining in relation to average prices per unit of its import goods. The decline in prices of export goods may be a result of cost reductions in export industries made possible by technological improvements. Furthermore, the composition of aggregate exports and of aggregate

[1] BOWLEY, A. L., "Statistical Methods and the Fiscal Controversy," *The Economic Journal,* December, 1903. See also his book, *England's Foreign Trade in the Nineteenth Century,* 1st ed. (1893), rev. ed., George Allen and Unwin, Ltd., London, 1922.

[2] TAUSSIG, *International Trade,* Chap. XXI.

[3] For a detailed illustration of gross barter term-of-trade indices see Taussig, "Changes in Great Britain's Foreign Trade Terms after 1900," *The Economic Journal,* March, 1925, or *id., International Trade,* Chap. XXI.

TABLE 66.—NET BARTER TERMS OF TRADE OF GREAT BRITAIN, 1890 TO 1910[1]

Year	Import price index 1900 equals 100[1] 1st column	Export price index 1900 equals 100[1] 2d column	Net barter terms of trade: 1st column divided by 2d column times 100
1890	107	95	113
1900	100	100	100
1910	110	95	112

[1] SOURCE: TAUSSIG, "The Change in Great Britain's Foreign Trade Terms after 1900," *The Economic Journal*, March, 1925.

NOTE: When import prices are divided by export prices and the results multiplied by 100 indices are secured which decline as the terms of trade improve. A less confusing comparison is obtained by dividing export prices by import prices and multiplying the results by 100. In this case the indices increase as the terms of trade improve.

imports may be changing from year to year in such a manner as to affect the ratios of average per unit prices without affecting the division of the gains from trade. A shift in a country's exports from a preponderance of fine goods to a preponderance of coarse goods might, for example, reduce the average per unit prices of the exports without affecting its foreign trading advantage. When, however, the limitations of terms-of-trade indices are recognized and taken into account, such indices are useful as a starting point in estimating directions of change in a country's foreign trading position.

The net barter terms-of-trade index as calculated in Table 66 suggests that Britain's foreign trade became more favorable between 1890 and 1900 and less favorable between 1900 and 1910. Inasmuch as the character of British exports and imports did not undergo extreme modification during the 20 years 1890 to 1910 and inasmuch as there is no evidence of a radical change in the rate of technological improvements in British export industries during this period, the evidence points rather definitely to a worsening of Great Britain's foreign trading position during the first decade of the twentieth century. Other evidences that point in the same direction are increased exports between 1900 and 1910 of low-cost German steel goods for sale in competition with British steel exports and increasing vigor of Japanese-British competition in foreign markets for textile manufactures.[1]

[1] British terms-of-trade indices for postwar years are given in Chap. XXXI of the present volume.

CHAPTER XXV

TRADE RESTRICTIONS

Seldom, if ever, is a nation entirely free of measures that exercise some regulative effect upon its external commerce. Examples of trade regulations are customs tariffs, merchandise quotas, embargoes, subsidies and foreign exchange controls. Tariffs are the most widely used and have brought forth the most discussion of any of these measures. Evaluation of government regulations over international trade involves two types of consideration. The first concerns the possibility of attaining certain ends by the use of trade restrictive devices. The second deals with the evaluation of the desirability of these ends. Whether or not a tariff or other measure is likely to raise domestic prices or stimulate a specific industry are questions of the first type, the answers to which may be obtained by scientific or semiscientific methods. The question of the desirability of bringing about these or other ends is less capable of objective treatment. An end which may be highly desirable for one group or community at a particular time may be objectionable from the point of view of some other interest. The following discussion is concerned primarily with the probable results of trade restrictions rather than with the rightness or wrongness of these results.

EFFECTS OF TRADE RESTRICTIONS ON PRICES

Trade restrictions ordinarily make their effects felt through the medium of prices. Both the effects of particular trade restrictive measures upon the prices of particular goods and their indirect effects upon the multitude of prices that are interdependent parts of the whole price system are important. An important tariff on wool may raise prices of men's suits, women's coats, underwear, sweaters, golf hose, blankets and rugs. The wages of workers employed in industries which produce the aforementioned goods may be altered, and their purchases modified. Demand for industrial goods used in wool manufacturing may be altered. It is impossible, even theoretically, to trace all the myriad of

indirect effects of a trade restrictive measure in a price system that is assumed to be freely competitive. The fact that the price system of no country is freely competitive further complicates an already too complicated problem. Who can be sure of the correctness of any detailed analysis of causes and effects of price changes in a country where monopoly, partial monopoly and free competition are mingled and confused? In spite of these difficulties, trade restrictive measures are applied and evaluated largely on a basis of assumptions as to the manner in which they alter prices. If we are to attempt any evaluation of such measures we are obliged to state at least a few generalizations concerning the relationship between trade restrictions and prices. The generalizations to follow have stood the tests of usage and theoretical analysis for a long time. The tendencies suggested are believed to be sufficiently accurate to serve as a basis of judgment.[1]

In order to analyze the primary effects of trade restrictions on prices it is necessary to consider the relationship between such restrictions and costs of production. Import tariffs and other trade restrictions tend to retard territorial specialization by countries. Gains that arise from territorial specialization in the form of increased efficiency and lower cost are well known. In the United States, for example, raw cotton could not be produced in New England with as little expenditure as is required for its production in South Carolina or Mississippi or Texas. Coal cannot be mined so easily where mine shafts are deep and seams thin as where mine shafts are shallow and seams are thick. More labor is required to take ore for a ton of iron from the ground where the iron content of ore runs only 20 or 30 per cent

[1] Other treatments of the subject are to be found in the following references:

TAUSSIG, *Some Aspects of the Tariff*, Harvard University Press, Cambridge, 1915, Chap. I.

PIGOU, A. C., *Protective and Preferential Import Duties*, 1935 ed. (series of reprints of source works on political economy, No. 2), London School of Economics, 1935, pp. 94 *et. seq.*

WRIGHT, PHILIP G., *Sugar in Relation to the Tariff*, McGraw-Hill Book Company, Inc., 1924.

SCHULTZ, H., "Correct and Incorrect Methods of Determining the Effectiveness of the Tariff," *Journal of Farm Economic*, 1935, pp. 625 *ff.*

MARSHALL, ALFRED, "Memorandum on the Fiscal Policy of International Trade," *Official Papers by Alfred Marshall*, Macmillan & Co., Ltd., London, 1926.

than is required where the iron content of ore is 60 or 70 per cent and is easy to get at. So it is with industries all over the world: labor is more productive in the aggregate, if put to its best use in each locality. Trade makes territorial specialization possible without restricting diversity of consumption in the different regions. Trade barriers tend either to restrict diversity of consumption or to reduce the efficiency of labor by forcing its employment in industries poorly suited to particular regions where a diversity of goods is demanded for consumption. Industries which are least efficient in a region or country are high-cost industries. They are import industries if trade between countries is not restricted. Industries which are most efficient cannot grow so large if trade is restricted as they might grow under conditions of free trade because tariff barriers tend to reduce the size of export markets.

The placing of an import tariff tends to raise prices of dutiable imported goods in the importing country. It tends also to reduce the amount and total value of such imports and to increase prices of alternative domestic goods. The magnitude of price increases in the protected market in relation to the magnitude of the tariff rate cannot be precisely determined. In the relatively rare case of an imported good which is completely controlled by a foreign monopolist the imposition of a tariff might bring about no price increase. The monopolist might find it more to his advantage to absorb the tax than to suffer the loss of sales which would follow from an increase in price. A possible case at the other extreme might be the imposition of a prohibitive tariff on a commodity which had been freely imported because conditions in the importing country were distinctly unfavorable for its home production. In such a case the price might be raised by the full amount of the tax. Some important factors which determine the amount by which tariffs raise prices are the elasticity of the demand for the commodity, the nature of its cost curve, the elasticity of its supply and the extent to which its price may have been above a freely competitive level when the tariff was imposed.

When an import tariff is placed upon a commodity which was not being imported anyway it will not affect its price. Sometimes such tariffs are placed on goods which are continuously exported. If the goods are sold under competitive conditions their prices will be determined in a world market and will not be changed by the

imposition of an import tariff in an exporting country. In case such goods are produced at home under monopolistic or semi-monopolistic conditions an import tariff might enable the home producer to sell abroad at a price lower than the domestic price. The tariff would prevent the return of the dumped goods and thus help to keep the home market prices above the foreign market prices. In the case of commodities sold abroad under freely competitive conditions an import duty will not affect home prices in even this indirect fashion. Sometimes commodities are not imported because of embargoes or already existing high tariffs. Under such conditions an increase in the tariff rate will have no effect on the price.

As already stated, import tariffs tend to reduce the aggregate value of the tariff-imposing country's merchandise imports. An indirect effect that is likely to occur is reduction in the value of the tariff-imposing country's aggregate exports through the operation of payments balance mechanism. How are prices of the country's merchandise exports affected if the aggregate value of exports is thus reduced? This question cannot be answered in general terms. There is no way of knowing which of a country's exports will be lessened by reason of the imposition of import duties. Suppose, for example, that the United States were to impose such heavy duties on the importation of certain French products that their importation practically ceased. It is highly probable that Frenchmen would then be unable to continue the purchase of certain American products, which would result in the diminution of our exports of those products. It seems reasonable to suppose that this decrease in demand for American products might result in a lower price. Before coming to final conclusions, however, consideration must be given to many factors such as the nature of the cost curves, elasticity of demand and size of world market for the goods in question in relation to the volume of imports of such goods by the tariff-imposing country.

Whenever a country reduces its imports by means of a tariff some other country or countries necessarily suffer a reduction of exports. The general effect of this diminution in export is a tendency for prices of export goods in the exporting countries to be reduced. The precise effect will depend upon cost conditions in the export industries in question, the availability of alternative markets, elasticity of demand for the product and the amount of

rigidity or flexibility that exists in the exporting country's industrial structure.

Trade restrictions other than tariffs may also bring about price changes in the countries concerned. Exact determination of the amount and nature or such price changes can be made, if at all, only by detailed analyses of specific situations. A few general tendencies are evident. Merchandise quotas, foreign exchange restrictions and other measures that limit imports tend to affect prices in much the same manner as they are affected by import tariffs. Measures that directly restrict exports (export quotas and export tariffs, for example) tend to raise prices in foreign markets. Export bounties tend to lower prices in foreign markets; they may or may not raise domestic prices, depending upon whether the commodity is produced under conditions of increasing or decreasing costs and the character of its demand. Monopoly dumping ordinarily tends to reduce foreign prices of the dumped goods; their domestic prices may be maintained or even increased.

MEANING OF THE TERMS PROTECTIVE AND FREE-TRADE POLICIES

In general, the nation which maintains a system of trade restrictions for the purpose of shielding a large portion of its domestic industry from the competition of foreign goods is described as a country with a protective policy. The nation that does not maintain a system of trade restrictions sufficient to protect domestic industries and that does not pay export subsidies or manipulate foreign exchange rates for the purpose of favoring domestic industries is commonly referred to as a free-trade country. At the present time no important industrial nation in the world maintains a free-trade policy. Great Britain's external trading system during the last half of the nineteenth century came nearer to being on a free-trade basis than that of any other important nation at the time or since.

BRIEF SURVEY OF CUSTOMS TARIFF SYSTEMS

Great Britain.—A low-tariff policy prevailed in the United Kingdom from about the middle of the nineteenth century to the beginning of the World War. British free-trade doctrine was expounded in Chaps. IX and X of the present volume. It will

suffice to recall here the removal of the corn laws between 1840 and 1860 and the vigorous advocacy by the British of world-wide removal of trade barriers on the grounds that free trade would promote a system of territorial division of labor which in turn would tend to maximize industrial efficiency in every nation that participated therein. Since the World War the United Kingdom, like every other independent state, has resorted to the expediency of increasing the number and severity of her trade restrictions. Reasons for the postwar change in British policy are analyzed in Chap. XXXI.

France.—France had a protective system of tariffs when the World War broke out. Since the War protection in France has increased. For a time after 1860 French tariff policy followed that of Great Britain[1] but after about a decade of low tariffs between the eighteen sixties and eighteen seventies French sentiment returned strongly to protection. By 1877 the demand for protection was so vociferous that a commission was appointed to analyze the reasons for decay of French trade. The commission reported that in a number of trades production costs could not be brought down to the level of British competition and recommended compensatory duties. Among the industries for which protection was urged were the iron industry and agriculture, which was faced with the competition of low-cost wheat from America. Few important upward revisions in the tariff were made immediately. However, tariff sentiment continued to grow until 1892, when the Meline tariff act was passed placing high duties both on agricultural and industrial goods. The tendency to revise tariffs upward has continued since that time.

Russia.—Prior to the recent revolution, the people of Russia had been subjected for hundreds of years to the joint influence of western Europe and the Orient. Before 1700 Russia was more largely Asiatic; after 1700 she gradually became Europeanized.

[1] In 1860 a treaty was negotiated between France and England (Chevalier on the French side and Cobden on the English side) providing for reduction of duties on English goods imported by France to 30 per cent as a maximum until 1864 and 24 per cent thereafter. Other measures reducing trade restrictions followed. Tariffs on coal and raw materials were removed between 1860 and 1863; agricultural protection was done away with between 1861 and 1863. In 1861 duties were lowered on ships constructed abroad; already in 1860 all preferences given to French ships over foreign ships had been abolished.

Peter the Great is said to have forced Russia to look west instead of east. With her large area, lacking in transportation facilities, and her Asiatic traditions, Russia failed to progress industrially during the nineteenth century as rapidly as did Great Britain, Germany or France. Throughout the whole period from 1800 to 1914 Russia maintained a system of trade restrictions. The national policy was a mixture of mercantilism, to bring in the bullion needed in the evolution of a money economy in the early decades of the nineteenth century, with protection to secure revenue and to shield infant industries. As in Germany and France there was some relaxation of import tariff duties in Russia for a period of two decades or more after 1850 with reversion to more rigorous protection before the end of the century and maintenance of a protective policy until the World War and the Russian Revolution. The foreign trading policy of Communist Russia is treated in Chap. XXXVI of the present volume.

Italy.—Italy's tariff policy prior to the World War was essentially one of internal free trade to promote national solidarity and import tariffs on manufactured goods to foster development of manufacturing industries at home. As late as the eighteen sixties the Italian peninsula had been divided into a number of independent states separated one from another by customs barriers. In the north, Austria exercised a controlling influence. In the south were papal states and other independent kingdoms. Political unification of Italy and internal free commerce followed the war between Prussia and Austria in 1866. After her unification, Italy's external commerce increased, but, unlike Germany and Great Britain, she had no rich coal and iron mines around which to build a system of low-cost power-machinery manufacturing. In 1913 Italy's production of pig iron was only 426,000 tons as compared with 10,260,000 tons in Great Britain, 19,000,000 tons in Germany and 5,126,000 tons in France.[1] Likewise Italy's textile industry was smaller than that of France, Germany or Great Britain. Because of a dearth of fuel and fabricating materials such manufacturing as Italy had was built upon a foundation of low-wage labor. For many decades Italy has had a protective tariff system but in the absence of basic resources she has not succeeded in stimulating development of industries

[1] *Commerce Yearbook of the United States*, 1929, U. S. Department of Commerce, Vol. II, p. 729. The figures are for prewar territories.

capable of raising standards of living of the Italian people to a par with living standards of the French, German or British.

Japan.—Prior to the World War Japan had not enjoyed tariff autonomy for a sufficient period of time to enable her to formulate a clearly defined tariff policy. The treaty of 1858 with the United States limited Japanese import duties to a low rate: 5 per cent ad valorem was the typical figure. During the next half century treaty agreements were modified from time to time. In 1894 a treaty was concluded with Great Britain which gave Japan the right to fix her own import duties. Similar treaties with other powers followed. Complete tariff autonomy was not obtained until 1911. Japan's postwar tariff policy is discussed in Chap. XXXV of this volume.

United States.—The external commerce and the tariff history of the United States are examined in Part VIII of the present volume. At this point we need give only a few summary statements to indicate dominant tendencies in the United States for comparison with prewar tariff tendencies in Europe. Following in general the precepts of Hamilton and List, the United States erected a system of tariff protection for manufacturing early in the nineteenth century. Starting at the end of the eighteenth century as one of the world's principal sources of supply of raw cotton, tobacco, timber, foodstuffs and other raw materials and an importer of European manufactures, this country adopted improved European methods, borrowed capital from Europe and built large domestic manufacturing industries. Tariffs for revenue were imposed in 1790 by the first Congress. The removal of the embargoes incident to the Napoleonic Wars in Europe was followed by increasing shipments of European goods to this country. In the face of these increasing imports United States tariffs were substantially increased in 1816. Although there have been marked variations in individual tariff acts the general trend of tariff rates in this country has been upward ever since.

Canada and Australia.—Protection of the home market in Canada followed the shift to a free-trade policy in Great Britain in the eighteen forties and loss to Canada of heavy preferences for her raw materials in markets of the United Kingdom. The Dominion of Canada came into being in 1867. Political leaders in Canada in the eighteen sixties dreamed of a nation independent industrially, and the national policy became highly protectionist.

Political and financial forces worked in Canada in Sir John A. Macdonald's day similar to those which had worked in the United States in the time of Alexander Hamilton. Liberal parties later came into power in Canada on free-trade platforms but the difficulties and political dangers of extreme tariff reduction were great. Consequently, the World War found the Canadians with a protective tariff system comprising rates not so high as those of the United States, but effective, nevertheless, in accelerating transition of the young nation from a predominantly agricultural to a predominantly manufacturing state.[1] Protection has been maintained in Canada since the War.

Australia, like the United States, Canada and many other young nations, made use of protective tariffs to foster nationalism and to accelerate the growth of manufacturing. Australia's separate states became in 1900 a commonwealth with a federal parliament composed of representatives from the state parliaments. The constitution provided for a federal tariff system with rebates to the states of three-fourths of the revenue. Many of the colonial tariffs had been protective, and protectionists clamored for a self-contained, self-supporting, nicely balanced, industrial nation. The first federal tariff in 1902 was a disappointment to many of the old guard because it was a compromise between the ideals of tariffs for revenue and tariffs for protection. However, protectionism fed upon itself and grew. Before the outbreak of the World War the rates of the 1902 tariff had been nearly doubled and the free list had been reduced. Since the War Australian tariffs have been raised still further.[2]

Germany.—In Chap. XI reference was made to the Zollverein and to the development of Friedrich List's doctrine of national protection. During the eighteen fifties and the eighteen sixties the Zollverein's tariff policy was influenced by British and French tariff treaties; this was a period of downward tariff trends all over Europe. Germany, like most of the other Continental countries, was swept in the direction of international free trade by a movement which started in England and was strengthened

[1] BEVERIDGE, ALBERT J., "Canada's Tariff Policy," *American Review of Reviews*, June, 1911.

[2] For a discussion of Australian tariff history, see Shann, Edward, *An Economic History of Australia*, The University Press, Cambridge, England, 1930.

by general recognition of the advantages of free internal commerce. In 1873 Germany had no primarily protective agricultural tariffs; all her export duties inherited from the mercantile period had been abolished; in fact, excepting small duties on textiles, Germany had nominal revenue tariffs only in 1873. Before the decade had come to a close, however, the "free-trade" tendency was definitely reversed. During the last two decades of the nineteenth century List's doctrine of internal free trade and external protection prevailed in the German Empire. In Germany, as in France, the difficulty of meeting the low-cost competition of British manufactures and American grain strengthened a rising protectionist group. Tariffs, both on manufactured goods and on agricultural products, were increased from time to time between 1873 and 1900. The years 1900 to 1913 marked a period of expansion in German commerce; tariff policy in Germany at this time appeared to be in a transition state. This subject is discussed further in the section to follow. Since the World War Germany has reverted to a policy of extreme protectionism (see Chap. XXXIII).

THE AGRARIAN VERSUS MANUFACTURING STATE CONTROVERSY

In Great Britain and Germany the shift from a predominantly agricultural state to a predominantly manufacturing state was marked by policies which had far-reaching effects upon world economy. The British Corn Law controversy of the eighteen forties, Britain's acceptance of a free-trade policy and world-wide expansion of British commerce during the last half of the nineteenth century have already been discussed.[1] The Agrarian versus Manufacturing State controversy in Germany at the beginning of the twentieth century was in many respects a repetition of the Corn Law controversy in Great Britain half a century earlier. The issues raised in the British Corn Law controversy and the German Agrarian versus Manufacturing State controversy are of particular significance at the present time because the United States is faced in the nineteen thirties with somewhat similar issues.

By the beginning of the twentieth century the German iron and steel industry and related industries were in position to compete successfully in foreign markets. Certain of these groups swung

[1] Chaps. IX, X.

over to a free-trade point of view. The English controversy which had occurred half to three-quarters of a century earlier was reenacted in twentieth century Germany in many of its more important aspects. German manufacturers could not, however, invade the world's markets for manufactured goods with as little opposition as the British had experienced because the British were already there. Political arguments in Germany centering about tariff policy suggest the gravity of the struggle between British and German manufacturers that was pending at the beginning of the twentieth century. One party in Germany feared the consequences of a trade war with Great Britain; another major party advocated a policy of vigorous external expansion at all costs. The controversy was popularly referred to as the question of an "Agrarian versus Manufacturing State." Was an economic system to be developed in Germany that would require ever-expanding markets for manufactured goods and was a constantly increasing portion of the country's needs for foodstuffs and raw materials to be obtained from less densely populated foreign countries or was Germany to remain essentially self-sufficient? Adolf Wagner,[1] an opponent of the so-called manufacturing state, hesitated to sanction a low-tariff policy for encouraging exports of manufactures and imports of foodstuffs and fabricating materials, for four reasons. In the first place he argued that the change in national life incident to free trade would be too precipitately, too immoderately carried out for a wholesome development of German national life. He foresaw a too-rapid increase in population, a too-rapid shift of rural folk to urban communities; a crowding together of agglomerations of people in industrial and mining regions; an undermining of the health and vigor of the population and a destruction of certain higher social values in ruthless pursuit of material gain. In the second place, he feared shortage and intermittent supply of foreign-produced foodstuffs and possible embarrassment for a dependent Germany in time of war. In the third place, Wagner feared that ruthless competition for markets on the part of Germany, Great Britain, France, United States and possibly other nations would lead to an unwholesome type of imperialism in

[1] WAGNER, ADOLF, *Agrar- und Industriestaat*, 2d ed., G. Fischer, Jena, 1902. See Taussig, *Selected Readings in International Trade and Tariff Problems*, Ginn & Company, Boston, 1921, for translated passages.

industrially backward regions and possibly to war between the industrialized nations. Finally Wagner professed to foresee a day when Asiatics with their cheap labor and imported Western methods would be able to undersell Western manufacturers in the world's markets for manufactured goods and thus would create confusion in all the highly industrialized nations of Europe which were dependent upon foreign markets. Wagner was a forerunner of twentieth century "economic planners." His recommendations were that Germany should sacrifice, if necessary, some part of the immediate economic gains which the "cheap recipe of *laissez faire*" might provide, in order to insure a greater measure of future economic stability, national security and peace.

Among the stanch advocates of the so-called manufacturing state was one Lujo Brentano.[1] He attributed the transition in Germany from the predominantly agricultural state to the predominantly manufacturing state to operation of the law of diminishing returns. A growing population in Germany, he argued, could be supplied with German-produced foodstuffs only at greater expense than hitherto, whereas manufacturing, being more dependent than agriculture upon large accumulations of man-made capital, could better accommodate a growing population. Brentano was not fearful of the dangers to national security and well-being which might lurk in the path of a predominantly industrial state. Preventive measures, he argued, such as protective labor legislation, housing reform and other safeguards of personal hygiene, could take care of the physical health of the nation's population. Fears of inadequacy of the supply of foreign-produced foodstuffs he believed to be irrational illusions because the sources of supply would be numerous and diversified. Exclusion of certain German manufactures from foreign markets by tariffs and domestic competition was recognized as a possibility but not one to be seriously concerned about so long as German industrial organization remained mobile and flexible. Brentano did not question the agrarian argument that free trade and external expansion might lead to a ruthless policy

[1] BRENTANO, LUJO, *Die Schrecken des überwiegenden Industriestaats*, 1901. See Taussig, *Selected Readings in International Trade and Tariff Problems*, Ginn & Company, Boston, 1921, for translation of selected passages.

resulting in conflicts between nations in the interests of securing markets. But, he queried, should that be a deterrent, now that the German nation, which had been handicapped by political disunity during the parceling out of the world in the nineteenth and earlier centuries, was in position to profit by the political power for which she had yearned for a century? The answer was to the effect that faintheartedness should not deter Germany from taking her place in the sun because "We Germans fear God—and nothing else." Brentano then went on to show that an industrialized nation with a large population and mechanical contrivances was much stronger from a military point of view than a predominantly agrarian state.

The industrialists gained their ends in the Agrarian versus Manufacturing State controversy to the extent that agricultural tariffs were not increased and manufacturing continued its rapid development between 1900 and 1914. Principles embodied in the tariff act of 1902 were exemption of raw materials not produced in Germany and maintenance of moderate protection for agriculture and manufacturing. The 1902 tariff act refused, on the one hand, to sacrifice agriculture by removing the agricultural duties and, on the other hand, to build up agriculture at the expense of manufacturing by raising the agricultural tariffs. It was definitely a compromise.

OTHER ARGUMENTS FOR CUSTOMS TARIFFS

Tariffs for Revenue.—Revenue duties are for the primary purpose of providing income to defray state expenses. They represent a particular type of taxation. If the goods subject to an import duty cannot be produced at home or if home production bears a tax comparable with the import duty, revenue tariffs do not discriminate in favor of home industry. The import tariff system which affords a maximum of state revenue is incompatible with a system of import tariffs for the primary purpose of protecting home industry. Maximum protection of home industry is afforded by tariffs high enough to exclude foreign goods. In this case no revenue is collected on imports because there are no imports. Arguments in favor of import tariffs for purposes of raising state revenue involve the whole theory of taxation and public finance. Their evaluation will not be attempted in this

volume. We may in passing, however, call attention to the fact that income and inheritance taxes have become an increasingly important source of state income during recent decades. Whereas revenue derived from import duties was a principal source of state income in many countries a century ago, today revenue from import duties constitutes a relatively small proportion of the aggregate state income of the great industrial and commercial nations of the world.

Tariffs to Accelerate Introduction of Improved Methods of Production.—Superior efficiency of one country over another in a particular branch of production may arise only from having an earlier start. As an industry grows, skill and experience are acquired in it. A country that has this skill and experience yet to acquire and that in other respects is well suited to a particular industry's development may find tariff protection to be a convenient means of initiating the industry and of fostering its early growth. Alexander Hamilton, in his *Report* on *Manufactures*, and Friedrich List, in his *National System of Political Economy*, developed what is commonly known as the Infant Industry argument for protective tariffs. Basically the idea of these two men was to use tariffs for the purpose of accelerating the development of improved methods of production in industrially backward countries. The subject has been discussed at length in Chap. XI of the present volume. List's idea was that infant-industry tariffs should be imposed only for a temporary period and that they should be removed when the protected industries had had ample opportunity to overcome the disadvantage of a late start in the employment of improved methods. The logic of the Infant Industry argument is accepted by many free-trade economists: John Stuart Mill[1] and F. W. Taussig,[2] for example. The principal objections to an infant-industry tariff are: (1) it is very difficult to know in particular cases which of the potentially low-cost industries will not develop rapidly without protection and (2) infant-industry tariffs once established are very difficult to get rid of. Under protection, weak concerns develop along with strong concerns. Weak concerns which could not exist

[1] MILL, *Principles of Political Economy*, Ashley ed., p. 922.

[2] TAUSSIG, *Some Aspects of the Tariff Question*, Harvard University Press, Cambridge, 1915, Chap. II, and *Free Trade, the Tariff and Reciprocity*, The Macmillan Company, New York, 1927, pp. 16 *ff.*

without protective tariffs oppose tariff removal. Strong concerns which enjoy wide margins of profit because of the tariffs are also opposed to their removal. Many students of the subject take a position that if and when subsidization of infant industries is necessary, a direct subsidy is preferable to an indirect tariff subsidy. Direct subsidization may be preferable to indirect tariff subsidization in a wealthy country with a strong central government and adequate sources of state revenue, while it would be impracticable elsewhere.

Tariffs as a Means of Improving a Country's Terms of Trade.—Tariffs have sometimes been advocated as a means of improving a country's terms of trade—that is, increasing the prices of its exports in relation to the prices of its imports. This would enable a country to buy a larger quantity of foreign goods with its exports than had been possible before the terms of trade were improved. The effect of an import duty upon the terms of trade of the country that imposes it depends upon whether domestic consumers of imported goods or foreign producers of such goods ultimately bear the burden of the tax. This is a question of the incidence of an indirect tax, a question which in most cases cannot be answered unequivocally. It is generally believed, however, that in most cases some or all of the tax is borne by the domestic consumer of the imported product. Under such conditions it is obvious that a tariff could not improve a country's terms of trade. In some cases, no doubt, foreign producers bear all or a large portion of an import tax burden. This is likely to be true if the foreign producer enjoys a monopoly profit from sales of the product taxed. It may be true also if the product is produced under conditions of decreasing costs and the producer has access to no other market that will absorb the taxed portion of his output unless prices are reduced by an amount substantially more than the tax. Even in cases where foreign producers bear the full burden of import tariffs on particular commodities, the ultimate effect upon the tariff-imposing country's terms of trade, when all articles of import and export are taken into account, is indeterminate. The fact that the foreign producers bear the burden of the tax may, for example, cause them to purchase less goods from exporters of the tax-imposing country, causing a substantial decline in the prices of such goods and thus reducing the net advantage to the tariff-imposing country. In general

a policy of tariff imposition for the purpose of improving terms of trade is extremely hazardous in final effect.

Bargaining Tariffs.—Bargaining or retaliatory tariffs are based on the idea that a free-trade country is in a weak bargaining position from the point of view of international tariff adjustments, because it has no concessions to offer. In general, students of tariff history take the position that the country with high tariffs may initiate a general movement toward lower tariffs by reducing its own (as illustrated in the middle of the last century, when Great Britain shifted from a protectionist policy to a free-trade policy) but that a retaliatory raising of tariffs tends to cause tariffs in all countries to be raised.

Tariffs to Equalize Production Costs.—The notion underlying *tariffs to equalize production costs* is that of enabling domestic producers to compete on even terms with foreign producers. The theory is to determine money costs of producing a commodity at home and abroad and to adjust tariff rates in such manner as to prevent the foreign good from entering the domestic market for sale at prices less than domestic costs of producing it. The equalization-of-costs conception of tariff making bristles with difficulties. In the first place, costs of producing particular goods at home and abroad are difficult to secure accurately and on a comparable basis. Neither domestic nor foreign concerns give their cost data freely; accounting methods of different firms are frequently dissimilar in important respects; and cost of production calculations for particular items in nearly all cases are subject to arbitrary apportionment of overhead expenses. In the second place, costs of production vary considerably as between different domestic companies. Shall cost figures employed for tariff making be those of low-cost firms, high-cost firms, or firms with intermediate costs? If the last, how are such firms to be selected? Even if accurate costs could be secured, the theory would not work satisfactorily because it is fundamentally unsound. International trade is primarily a result of differences in money costs of producing goods at home and abroad.[1] If this

[1] This statement is not in conflict with the idea that marginal money costs of goods in freely trading countries tend toward near equality. The low-cost country may produce a relatively large volume of the good in question, the high-cost country a relatively small volume, as in the United States-British wheat illustration.

difference is equalized by tariffs, international trade will disappear. In spite of these and other difficulties involved in using differences in costs of production as a scientific basis for tariff making, cost data serve a great many practical uses in the expedient construction of tariff schedules. They indicate roughly whether a particular schedule of rates is likely to act as an embargo. They indicate roughly the extent of liquidation that might follow removal of particular tariff schedules, and they suggest the extent to which particular rates and schedules serve to foster monopoly profits. Comparative money-cost-of-production data, such as they are, serve to assist legislators to a more realistic sense of proportions in tariff matters than would prevail in the absence of cost calculations.

Tariffs to Prevent Unemployment and an Undermining of Living Standards.—The arguments for tariffs to prevent unemployment and an undermining of living standards may be divided into two groups. First, there are emergency arguments for tariffs to prevent or diminish the effects of a temporary crisis due to cyclical depression or some such cause as exchange depreciation on the part of a foreign country, or sporadic merchandise dumping[1] on the part of a foreign country. Among the difficulties of employing general tariff measures for emergency purposes are (1) the fact that much of the damage may have occurred before the tariff can be brought into effect, and (2) the political difficulty of removing an emergency tariff once it has become effective. The imposition of a tariff to reduce cyclical unemployment does not contribute to a removal of the fundamental causes of maladjustment in world economy. It merely tends to transfer the burden of adjustment from one country to another in so far as it is effective in reducing unemployment in the tariff-imposing country. In view of this fact, imposition of a tariff to reduce unemployment in one country is likely to lead to similar measures in other countries with the result that, in last analysis, no country benefits by the procedure, except possibly for a very short period.

[1] Merchandise dumping is the sale of goods abroad at prices below those which prevail in the domestic market. A country dislikes to have goods dumped in its domestic market by foreign producers because of the unsettling effect which the practice has upon domestic business activity. This is particularly true if the dumping is sporadic.

Second, there are the arguments for tariffs to prevent a general long-run undermining of wages and living standards in a high-wage country as a result of the competition of low-wage countries. These arguments are refuted by the principle of comparative costs (see Chaps. IX, X, and XXIV of this volume). However, the principle of comparative costs assumes high degrees of mobility of labor and capital within national boundaries. In point of fact, labor is not highly mobile and investments in fixed capital equipment are not highly mobile. Because of these facts, there are grounds for maintenance of tariffs already in existence or possibly, in some cases, for the imposition of new tariffs to minimize the confusion incident to transition from one type of industrial structure to another as a result of foreign competition. In such cases, tariffs may serve to ease the transition by prolonging its period. It is very difficult in a democratic state, however, to administer a tariff policy in such a manner as to ease a transition from one type of industrial structure to another without going to extremes of protection designed to prevent the change from occurring.

Tariffs to Shield a National Economy from Disruptive Influences Abroad.—No general answer can be given to the question as to whether or not tariffs serve the purpose of shielding a national economy from disruptive influences abroad, thus contributing to an increase in the country's national income. Reasons for lack of a general answer are that circumstances vary from country to country and from time to time and that in any case three unmeasured imponderables are involved. In the first place, the amount of the gain from free trade and consequent territorial division of labor is unknown. In the second place, the amount of loss incident to economic instability is not subject to precise measurement. In the third place, the extent to which tariffs in a particular case might reduce economic instability is an uncertainty. This argument would apply most logically to one-industry countries—Cuba, for example—which have potentialities for the development of other profitable industries. Here the argument is one of industrial diversification which becomes confused with the Hamilton-List idea of tariffs to accelerate the introduction of improved methods in backward industries. Whether in industrially diversified countries there are greater or less degrees of economic stability incident to protection or nonprotection, short

of autarchy, is a business-cycle question that has not been answered to the satisfaction of all informed students. The mere fact that countries which have protective systems are subject to the ups and downs of the business cycle is no answer to a question that is concerned primarily with causes of cyclical variations.

Tariffs to Stimulate an Inflow of Capital.—In recent years the fact that branch foreign plants have been established in countries that have raised their restrictive trade barriers has gained widespread attention. Trade restrictions have been cited as a means of attracting foreign capital to a country. In one sense this phenomenon is nothing more than a shift in a country's *available* (owned and borrowable) means of production from one industry to another. If Italy, for example, is favorably circumstanced from the point of view of enlarging her textile industry and her textile exports she can borrow capital for that purpose. If instead of enlarging her textile industry she places a tariff on automobiles, thus reducing both imports and exports, the textile industry may not expand so much as it otherwise would expand, and a domestic automobile industry may spring up. The automobile industry may be manned with foreign managers and financed with foreign capital. The initial effect of the tariff may be to increase capital imports. If, as a result, a part of the country's export market for textiles disappears, more or less fixed equipment in the textile industry becomes worthless and useless except as junk.[1] This might nullify the advantage of the capital import.

[1] The question of tariffs to stimulate capital imports invariably raises the long-persisting controversy as to whether capital exports do not, in the long run, injure the exporting country. The answer is brief and in three parts. In the first place, capital exports to a region of relatively high productive possibilities tend to increase aggregate world production of goods and to enlarge the aggregate world market in which the capital-exporting country shares. If its industrial structure is sufficiently flexible the capital-exporting country enjoys a gain. In the second place, if the country which imports the capital in good faith later expropriates it, the country of origin takes a loss. In the third place, an embargo on capital exports placed by a country whose loans normally exceed its borrowings would tend to reduce the country's aggregate national income and at the same time to divert a larger proportion of the national income to laboring classes. Either rates of return to capital would fall in relation to real wages or the country's savings would shrink or some combination of these two phenomena would occur.

Tariffs to Foster Industries Deemed Necessary to National Defense.—Among the tariff arguments which cannot be evaluated with accuracy against the *maximization of national income* criterion is that for fostering certain industries deemed necessary to national defense. Some industries may appear to be more necessary to national defense than others. Examples are munitions making and production of related chemicals. Tariffs may be levied for the purpose of favoring such industries. The topic is involved and controversial because circumstances of national defense differ from country to country. After the World War the United Kingdom applied preferential tariff rates to scientific instruments on the grounds that they were "key industry" products for which Great Britain had been too dependent upon Germany. The "key industry" idea is not a very satisfactory basis for tariff making because almost every industry is more or less essential for national defense. No very clear criteria exist for the selection of industries that are most essential in time of war. Even if a rough-and-ready selection of industries that deserve special assistance on national defense grounds is possible, the question is open as to whether tariff subsidization is the most effective kind of encouragement for them. Possibly direct subsidization through grants in aid would serve the desired ends more effectively than indirect tariff subsidization.

Exclusion of Harmful Goods.—Nearly every nation excludes certain foreign goods deemed detrimental to its welfare. Diseased livestock and plants, opium and other narcotics and lascivious literature are examples of goods that are included in this category by some countries. Regulations to exclude undesirable goods may be incorporated in general tariff legislation or they may be covered by independent and specific acts. In any event, the criterion upon which a judgment for or against such measures is formed is not primarily economic.

A CONFUSION OF MOTIVES

Much of the argument and misunderstanding concerning tariff theory and policy arise from a confusion of motives. The primary and fundamental objective of the free-trade argument is maximization of national income in the long run more or less regardless of the division of that income among geographical regions within

the nation, among industries or among population groups[1] within the nation. Some tariff arguments are concerned primarily with maximization of national income, others are concerned primarily with the distribution of the national income whether the aggregate income be greater or less as a result of the imposition of tariffs. Still other tariff arguments are concerned more with noneconomic motives than with economic motives. Motive in some cases is the fundamental difference between free-trade and protectionist points of view and theories. Another difference turns upon the time element. In the Agrarian versus Manufacturing State controversy, for example, Wagner argued to the effect that Germany should forego the immediate economic gains of what he believed to be a too-rapid process of industrialization in order to avoid, among other things, the possible necessity of costly rearrangement of the industrial structure of a highly industrialized Germany sometime in the distant future. The merits of the protectionist policy advocated by Wagner cannot be evaluated accurately if the sole criterion is maximization of Germany's national income in the short-run future after 1900. Among the other tariff arguments that turn upon the question of time are those of Hamilton and List and those which advocate tariffs as a means of lessening the difficulties of transition from one state of equilibrium to another.

The real objectives of tariff arguments are sometimes extremely obscure. This statement is particularly true of arguments involving industrial or geographical redistribution of income. No one will contend that tariffs may not in some instances minimize unemployment or increase employment in a particular industry. The free trader's argument is that an increase in employment in one industry, secured by the imposition of tariffs, may result in unemployment in some other industry, with a result that for the country as a whole there is no net increase in employment. Similarly, imposition of a tariff may prevent investment losses in a particular industry as distinct from capital equipment losses

[1] The available evidence indicates that free trade, where practiced, has not reduced labor's share of the national income. In so far as free trade has increased the aggregate income labor has profited by having no less a share of a larger total. This does not mean that certain types of restrictive measures might not enlarge labor's share of the national income not necessarily so large a national income, however, as might be realized under free-trade conditions.

for the country as a whole. Growth of foreign competition in a particular industry, or removal of the tariff protection enjoyed by a particular industry, may result in reducing the value of fixed equipment in that industry in particular countries to zero. However, so long as the physical capital remains in use there is no loss of capital equipment to the national economy, but only financial losses to particular investors. The capital continues in use so long as the sales prices of the goods produced exceed cash outlays incident to their production, no account being taken of interest or depreciation charges on the fixed equipment. It is quite natural that investors in a weak industry should organize lobbies for the support of tariffs to forestall personal losses. It is equally clear that their interest is a personal interest as distinct from a general national interest. The interest of the private profit seeker and that of the nation as a whole are not always identical. It is true that if prices of the products of a particular industry sink low enough, the fixed capital may go out of use and lie idle. This is a national loss only in so far as it represents misdirection in capital expenditures at some earlier period. The fact that the capital equipment remains unused signifies that it has no value. Disuse of capital equipment that has no value is not a loss from a national point of view. However, the soundness of arguments for tariffs to prevent losses on fixed capital and unemployment in weak industries is complicated by other considerations. One is that certain types of fixed capital which accumulate in an industrial community are public goods that do not enter directly into profit and loss calculations: school buildings, public parks, hospitals, homes and churches are examples. If wages were completely flexible these things would enter into workers' calculations concerning the desirability of accepting a lower money wage in one locality as an alternative to moving elsewhere in order to secure a higher money wage in a community where public goods were less plentiful. But wages are not completely flexible. Attempts to lower money wages may result in organized opposition more or less regardless of real-wage considerations. Maintenance of tariffs sufficient to keep industries from closing down in old industrial communities during a transition period may therefore prevent real national losses in certain types of public capital. If, after the industries have closed, the workers remain idle in the community, the public

capital which still has value may be utilized, but in this case the immobility of labor results in a loss in national manpower. These are some of the reasons why tariffs may serve a useful purpose in prolonging and easing the transition from one type of industrial structure to another.

Inasmuch as there may be many quite different tariff objectives, it is well to define them clearly and to decide which are to serve as yardsticks for evaluating tariff measures. Otherwise there is a danger of wasting time and generating misunderstandings and antagonisms concerning means to quite different assumed ends. If objectives assumed by different persons are not the same, quite naturally the most logical means of achieving the various objectives may differ. Obscure differences, in motives and assumptions, are causes of much of the disagreement concerning tariff questions and, we may add, other economic issues as well. An informed person may accept all the logic of free-trade arguments and still favor protection on grounds other than that of maximizing national income. He may, for example, wish to sacrifice a measure of national income in order to preserve the agricultural classes. Some students of history, politics and economics hold that the agrarian population forms a loyal and conservative element in the body politic, an element which should not be destroyed or minimized. Much of the confusion and seeming contradiction and illogic of tariff controversy will disappear if objectives are clearly and frankly stated.

DIFFICULTIES OF REMOVING AN ESTABLISHED TARIFF SYSTEM

Tariff arguments sometimes turn on the question of initiating a tariff system or of strengthening an existing system as distinct from removing a long-established system. The difference is fundamental. The person who would advocate transition from a long-established policy of tariff protection in a highly industrialized nation to a policy of free trade should deduct from his estimates of the gains to be derived from a greater degree of territorial division of labor certain costs of industrial rearrangement. Great industrial centers are populated by many specialized workers, some middle aged, who cannot break their home ties and change their occupations without extreme personal sacrifice. Such sacrifice is one of the costs of rearrangement incident to extreme tariff reduction in an industrialized country. Other

personal and community costs of tariff removal are measured in terms of investments in fixed equipment. An industrial community is provided with an extensive equipment of factories, transportation facilities, banking facilities, communication facilities, water supply systems, lighting systems, sewerage plants, educational institutions, parks, libraries, hospitals, churches, homes, roads, stores and storage warehouses. An old industrial community that has come into being behind the shelter of a tariff wall cannot be dismantled quickly or even gradually without loss to capitalists, laborers, professional people and, in fact, all whose lives are intertwined in a mode of existence that has become institutionalized. In so far as extreme changes in tariff policy cause the dismantling of long-established communities, they impose heavy burdens upon the members of such communities. Furthermore, the dismantled communities are not the only ones to suffer. No industrial region is independent of other parts of a national organism. Railway systems are patterned to serve cities; in fact, all a nation's machinery for merchandise distribution is modeled to fit existing geographical arrangements of cities and towns. The complicated fabric of a modern industrial and commercial country can be rearranged but not without cost—a cost that can be approximated only in the most general terms.

The foregoing considerations are not plausible excuses for raising the walls of a tariff system but, where such walls have long existed, costs of rearrangement are very practical reasons for long and earnest deliberation prior to radical downward revision of existing tariff schedules.

TARIFF MAKING

Among the strongest arguments against tariffs in general is the fact that under existing conditions of national autonomy, tariff systems in democratic states tend to become a hodgepodge of expediency measures and favors to special groups who are in position to exert undue political pressure. The practical difficulty of securing, in a democratic state, tariff legislation that conforms with majority interests and of administering such legislation in a statesmanlike manner are familiar to all who have followed the course of tariff hearings in the United States Congress, or the parliamentary debates on tariff issues in England. Interests that pertain to income sources of voters are likely to

be more unified than voter interests that pertain to personal consumption. Political pressure is brought to bear upon tariff-making bodies, customarily the legislative branch of a government, by vociferous groups who have special interests and desire special favors, whereas the great body of ultimate consumers, whose interests are widely scattered, tend to be relatively inarticulate in tariff matters. Only where the consumers of a product are large industrial concerns is consumer opposition to an advance in rates likely to be made effective.

Nations with dictatorial governments—Russia, Germany and Italy, for example—are in a stronger position to inaugurate and administer planned tariff policies than are the more democratic nations—Great Britain, France and United States, for example. A discussion of postwar tariff policies in a number of leading nations will be found in Parts VII and VIII of this volume.

The manner in which a tariff law in a democratic nation becomes a hodgepodge of concessions to pressure groups may be illustrated by tariff-making procedure in the United States. In this country a tariff act originates with the Committee on Ways and Means of the House of Representatives. A long series of hearings is held. Every interested group is permitted to send representatives to plead its cause and submit briefs. Naturally, those groups who stand to gain or lose most by a change in rates are most willing to incur expense in the making of a strong case. Before the tariff bill goes to the floor of the House for a final vote, House members from various sections of the nation attempt to compromise their differences and gain their individual ends by sacrificing lesser interests, measured in potential numbers of votes at the next election. Sometimes one representative can attain his ends by agreeing to vote in a manner favorable to other representatives in exchange for their favorable votes on his major issue. A representative from Montana, a representative from Massachusetts and a representative from Louisiana may, for example, agree to vote for increases in rates on copper, cotton manufactures and sugar. The Massachusetts representative may be opposed to increases in rates on copper and sugar but must get his cotton-goods tariff at all costs if he is not to be defeated at the next election. This kind of procedure is sometimes referred to as "logrolling." A separate tariff bill originates in the Finance Committee of the Senate. Senate hearings are held and senatorial

logrolling proceeds until a Senate bill is passed on the floor. The House and Senate bills then go to a Conference Committee composed of members of both House and Senate. By a process of further compromising a joint bill finally passes both House and Senate and is ready for the President's signature. If he should veto the bill it must go back to Congress and pass both House and Senate by a two-thirds majority vote or still more compromising is likely to follow. When political parties change, the complexion of Congress also tends to change. Inasmuch as parties to some extent split on geographical lines, tariff making becomes a tug of war between sectional and industrial groups each seeking its own self-interest. The larger welfare of the nation as an integral unit is likely to be lost from sight in the scuffle.

What is true in respect to weaknesses of tariff making and tariff administration in the United States is also true in greater or less degrees in other democratic nations, like France and Great Britain. Even dictators of the Russian, German or Italian types are by no means free of the influence of pressure groups in the formulation and administration of tariff policies. Although planned ends and aims may be more consistently pursued, the effects of tariff policies in dictatorially ruled nations may be even less to the interest of majority groups than those in democratic nations. In short, modern tariff procedure appears to be influenced more by self-interests of minority groups than by conceptions of the long-time interests of national majorities. In tariff making, the abstract ideal "greatest good for the greatest numbers of people in the nation," is likely to be a lost cause, and the possibility of harmful effects of tariffs upon foreign countries is likely to be given little or no consideration.

FOREIGN EXCHANGE RESTRICTIONS

Since the beginning of the business depression in the nineteen thirties foreign exchange restrictions have been extensively employed in some countries to supplement import tariffs in the regulation of foreign trade. Germany is the outstanding example of a country which has resorted to foreign exchange restrictions in recent years but by no means the only example. Some of the details of German exchange restrictions will be found in Chap. XXXIII of the present volume.

The literature dealing with foreign exchange restrictions is meager.[1] Nevertheless, it is possible to draw a few generalizations at this point concerning exchange control as one of the many trade restrictive devices that have been widely employed in recent years. Foreign exchange restrictions consist of limitations imposed by governmental decree upon private purchase and sale of foreign currencies. A government may thus regulate the foreign transactions of its citizens because purchase and sale of exchange are necessary to all foreign transactions that are negotiated with money or bank credit. An example of foreign exchange restriction is the prevention of withdrawals of bank balances held by foreigners. The restriction may take the form of a transfer prohibition affecting specific accounts or it may develop into a system of "blocked" exchanges. A "blocked" exchange system permits or requires domestic debtors to make payments on foreign obligations with domestic currency into "blocked" accounts. These blocked accounts cannot be taken out of the country without a government permit. The debtor has legally settled his foreign obligation by paying domestic currency to a domestic bank. The creditor has the problem of getting "blocked" funds out of the debtor's country. If there are exchange losses the creditor bears them. As a rule no objection is raised to the sale of "blocked" exchange by a foreign owner if he can find a buyer.

[1] Much of the literature dealing with foreign exchange restrictions is in periodicals. The following references are suggestive of its scope and character:

WHITTLESEY, C. R., "Exchange Control," *American Economic Review*, December, 1932, pp. 585–604.

Société de Banque Suisse, *Foreign Exchange Restrictions*, Swiss Bank Corporation, London, 1933.

OBERLASCHER, L., "Clearing-Erfahrungen," *Wirtschaftsdienst*, August 31, 1934, pp. 1191–1193.

HANSEN, H. E., "Blocked Marks Exchange Regulation and the German Crisis," *Annalist*, July 6, 1934, pp. 3–5.

EINZIG, PAUL, *Exchange Control* (1934) and *The Exchange Clearing System* (1935), Macmillan & Company, Ltd., London.

MACHLUP, F., "Devisenbewertschaftung," *Ein Handwörterbuch des Bankvereins*, 1935.

League of Nations, *Inquiry into Clearing Agreements*, Geneva, 1935.

RAU, B. R., "The Exchange Clearing System," *Mysore Economic Journal*, February, 1936, pp. 49–54.

RITTER, K., "Germany's Experience with Clearing Agreements," *Foreign Affairs*, April, 1936, pp. 465–475.

The best customers for such exchange are usually foreigners who import goods from the block-imposing country. The system tends to stimulate exports and to retard imports. "Blocked" exchanges have quite logically given rise to exchange-clearing agreements, under which each of two or more countries requires its importers and other debtors on foreign account to make payments into a "blocked" fund. From this fund withdrawals are made to meet claims of exporters and other domestic creditors of foreign concerns. The fixing of the exchange rate under a system of exchange clearing agreements is both complicated and arbitrary.[1] Another objective of foreign exchange restrictions may be the employment of available exchange for purchase of necessary merchandise imports. In some cases there is compulsory sale of exchange by exporters and other private interests to a government-delegated body (a central bank, for example) and allocation of the exchange for specified uses. In these cases quantities, kinds and origins of merchandise imports are subject directly to governmental edict.

Evaluation of foreign exchange restrictions like evaluation of customs tariffs must necessarily start with a consideration of objectives and alternatives. Foreign exchange restriction is but one of a number of aspects of state interventionism. The whole array of arguments against interventionism that apply to import tariffs and merchandise quotas apply also to foreign exchange restrictions. Interventionism tends to divert trade away from the channels it might take under a laissez-faire economy and to divert labor and capital to uses which they might not serve under laissez-faire conditions. To date foreign exchange restrictions have been either emergency measures, as in case of warring nations or nations in the grip of financial crises, or they have been integral parts of a system of national economic planning, as in case of the Russian economy. It is not possible to evaluate the extreme forms of exchange control to which economists have been introduced during recent years in terms of smoothly functioning competitive economies. No nation has succeeded politically since 1931 in carrying through laissez-faire deflation in sufficient amounts to balance its internal economy. Some nations have resorted to the expediency of divorcing their currencies from a

[1] See Chap. XXXIII for a further discussion of exchange-clearing systems.

gold base;[1] others have devalued their gold currency units;[2] while still others have resorted to merchandise quotas and foreign exchange restrictions[3] in an effort to protect the domestic economy from deflationary influences associated with foreign transactions. There is difference of opinion concerning which type of expediency has been least harmful.

IMPORT AND EXPORT QUOTAS

The terms "import quota" and "export quota" are used with various connotations. Here they are used to signify limitations that are imposed by executive decree and that apply to quantities or values of merchandise imports or exports during a specified period of time. Import quota restrictions have been used since the World War by a number of European countries, notably by France.[4] In general the effects of import quotas upon movements of prices, trade and production factors are similar to those of import tariffs. However, the use of a system of import quotas gives rise to certain perplexing difficulties that are not inherent in an import tariff system. A quota system, like an import tariff system, ordinarily restricts imports and raises domestic prices of the commodities affected, above world prices. In case of the quota system, the price difference in whole or in part does not accrue directly to the state in the form of an import tax. Import privileges may be extremely profitable to private business concerns in a country that maintains an import quota system. Some means of allocating these privileges among domestic concerns must be made by the state. Also some kind of system must be devised for allocating import privileges among exporting countries. These complications constitute disadvantages for an import quota system as compared with an import tariff system. Among the advantages of a quota system is its definite quantitative control of imports more or less regardless of

[1] Great Britain and other sterling-bloc countries.

[2] United States, for example.

[3] Germany, Italy, France.

[4] For a discussion of import quotas in France see, Dietrich, Ethel B., "French Import Quotas," *American Economic Review*, December, 1933, and Chap. XXXII, this volume.

violent foreign exchange fluctuations or other causes of extreme and sudden price change.[1]

Export quotas, like export tariffs, serve purposes different from those of import quotas or import tariffs. The principal peacetime use of export quotas is in connection with the administration of *raw material* controls: the Stevenson Rubber Control Plan; Brazilian Valorization of Coffee; etc. These schemes frequently combine a system of tariff-free export quotas with export tariffs applying to extraquota shipments. The history of most of the raw-material controls has been one of temporary success followed by ultimate failure and dissolution. Among the principal reasons for failure have been (1) inability of principal producers to cooperate, (2) the opening up of new sources of supply and (3) utilization of substitute products by consumers.

OTHER INTERFERENCES WITH THE FREE MOVEMENTS OF GOODS

Import tariffs, import quotas, embargoes and foreign exchange controls are the more important home-market protective measures that find expression in direct legislation. Aside from these, other protective measures of greater or less importance are brought into use from time to time. Voluntary boycotts have been employed in recent years by the Chinese against Japanese goods and by Jews all over the world against German goods. Nation-wide campaigns have been carried on for the purpose of inducing people to buy home products for patriotic reasons. Freight rates have on occasions been employed to discriminate against foreign goods; sales representatives of foreign concerns are sometimes subjected to special taxes. Inspection regulations may be devised to discourage importations, and various other expedients are resorted to for the purpose of keeping foreign goods out of the home market.

Mention has already been made of the effect of raw-material controls to distort a freely competitive flow of commodities in the channels of international trade. At this point mention may logically be made also of certain trade practices of international cartels. As in the case of raw-material controls, cartel obstructions to the free flow of international trade are ordinarily for the

[1] Import quotas are discussed in more detail in Chap. XXXII of the present volume.

purpose of maximizing profits through manipulation of prices. Dumping, and allocation of sales territories by monopoly groups are in this category. The mere mention of monopolies and semi-monopolies that thrive upon rigidities in the economic system suggests how erroneous are the assumptions of a smoothly functioning free-market economy. The absence of complete flexibility of wage rates and prices and complete mobility of labor and capital does not, however, destroy the possibility of devising long-time national policies, either unilaterally or through multilateral agreements, that will facilitate fuller realization of the production efficiencies incident to territorial division of labor.

CHAPTER XXVI

COMMERCIAL TREATIES

As world economy is now organized, nations are interdependent. Each must incur losses and inconveniences, of one kind or another, in order to enjoy the gains of world-wide territorial division of labor. Furthermore, there is no rule, easy to apply and absolutely just, whereby the aggregate burden of necessary sacrifices may be apportioned among the several nations concerned. In view of these circumstances international economic diplomacy which takes the form of commercial treaties and other voluntary agreements has very important functions to perform. Commercial treaties help to minimize the destructive effects abroad of particular national policies, on the one hand, and to enlarge the opportunities for foreign trade, on the other.

SCOPE AND CONTENT OF COMMERCIAL TREATIES AND AGREEMENTS

Many subjects come within the scope of commercial treaties and agreements. Among them are (1) considerations pertaining to consular services, (2) considerations pertaining to the rights of foreigners, (3) transport considerations, (4) trade restrictive measures and (5) foreign exchanges. This chapter confines itself to a consideration of commercial treaties and agreements in relation to the last two groups of subjects, *viz.*, trade restrictive measures and foreign exchanges. Treaties may be either bilateral or multilateral. Bilateral treaties involve only two countries. Multilateral treaties involve more than two countries. Agreements may also be either bilateral or multilateral. In general, agreements are less formal than treaties, less permanent and less subject to the dictates of precedent.[1]

[1] For detailed discussions of trade treaties see Williams, B. H., *The Economic Foreign Policy of the United States*, 1929, and *American Diplomacy*, McGraw-Hill Book Co., Inc., New York, 1936; Culbertson, W. S., *International Policies*, D. Appleton & Co., New York, 1925, and *Reciprocity*, McGraw-Hill Book Co., Inc., New York, 1937.

Some specific trade treaties are discussed in connection with the countries concerned in Part VII of the present volume.

Trade restrictive considerations have long been dealt with through both treaties and agreements. The content of commercial treaties concerning trade restrictive measures is suggested by the *parity clause*, the *reciprocity clause*, and the *most favored nation clause*. The *parity clause* provides that treatment given to the citizens and goods of a particular state shall not be worse than that given to the treaty-making state's own citizens and goods. Treatment stipulated by a parity clause is sometimes referred to as *national treatment*, treatment equal to that accorded a country's own nationals. A general guarantee of *national* treatment in the colonies of colonial powers is the *open door* for commerce. The reciprocity clause provides for special arrangements between two nations whereby the citizens of each obtain advantages or privileges in their trading relations with the other. The nature of advantages or privileges granted under reciprocity clauses is specified in each case. A treaty may provide, for example, for *reciprocal national treatment, reciprocal reductions in specified tariff rates* or *reciprocal most favored nation treatment*.

The Most Favored Nation Clause.—One of the most universal features of commercial treaties of recent times is the most favored nation clause. It is to the interest of every country to secure, for its outgoing merchandise, terms of entry abroad as favorable as those enjoyed by any competitor exporting country. Treatment equal to the best enjoyed by any competitor country is the objective of a most favored nation clause. Such clauses occur in one form or another in a majority of nineteenth and twentieth century commercial treaties. Sometimes a most favored nation clause achieves its purpose and sometimes it does not; there are always practical questions of legal interpretation. For example, is the clause in a particular treaty *conditional* or *unconditional*? If a most favored nation clause is interpreted as being unconditional, minimum rates of entry are automatically granted to the goods of every contracting party by every other contracting party. If, on the other hand, a most favored nation clause is interpreted as being *conditional*, a *quid pro quo* is called for. The conditional most favored nation clause provides that a contracting party shall receive minimum rates of entry on its exports going to other contracting parties only in those cases where it grants concessions equivalent to those granted by the nation that enjoys the minimum rate. Most favored nation clauses do not prohibit

special reservations. Seldom, if ever, is there an international commercial treaty without special reservations of one kind or another. The United States, for example, has consistently reserved the right to give Cuba special tariff rates to which the most favored nation clause does not apply. In Great Britain's most favored nation treaties a right is reserved to grant preferential duties to countries of the British Empire. In nearly all the treaties and agreements embodying most favored nation clauses reservations applying to possible future customs unions are made. A contracting state has the right to insert whatever limitations it wishes into its commercial treaties.

CUSTOMS TARIFF BARGAINING

Treaty forms employed for customs tariff bargaining purposes are conditioned by the type of tariff systems maintained. There are three types of customs tariff systems: single, double and multiple. The single-tariff system imposes equivalent duties upon the goods of all countries to which tariffs apply. Under this system all countries take equivalent rates except in so far as some countries may be exempt from any duties. The double-tariff system distinguishes between maximum and minimum duties. In this case maximum duties apply to countries with which there is no trade treaty or agreement, whereas minimum duties are the lower limits of concessions that may be granted to favored countries. The multiple-tariff system provides for discrimination among countries according to points of origin or points of consignment of the goods imported.

Inasmuch as the trade restrictive policy of a country involves not only customs tariffs but also merchandise quotas, foreign exchange controls and other trade regulatory devices and inasmuch as trade policy is nearly always a political party issue, lines of action are seldom continuous and consistent. Particularly has this been true since the World War. For a long period before the War, Great Britain pursued a fairly consistent policy of free trade and equal treatment of all countries with which she traded. The equal-treatment feature of the British policy was characterized by a world-wide network of treaties with foreign countries embodying unconditional most favored nation clauses. Prewar France was typical of those countries which maintained multiple-tariff systems and pursued a policy of tariff bargaining. Since

the World War virtually every important commercial nation has resorted to trade regulatory bargaining in one form or another. The numbers of reciprocal commercial treaties, export-import agreements and foreign exchange agreements have increased enormously during the last decade.

INTERNATIONAL AGREEMENTS

International understandings less formal and permanent than those embodied in treaties are to be found in international agreements. During the last decade, a great many so-called international agreements have been negotiated to cover a variety of commercial and financial considerations. An example is the so-called exchange clearing agreement which came into widespread use during the depression years 1934 and 1935. Countries which had divorced their currencies from gold entered into agreements whereby payments for merchandise imports were to be made into specified domestic banks and collections for exports were to be drawn from funds thus accumulated in these banks. Other agreements negotiated during this period involved merchandise quota considerations, raw-materials production limitations and customs duties.

A number of attempts have been made since the World War to negotiate multilateral trade and monetary agreements in the atmosphere of a world economic conference. A lowering of trade barriers and stabilization of foreign exchanges have been among the principal objectives of these world assemblies. In each case the results obtained have been far below the modicum of positive accomplishments hoped for. Any multilateral agreement that involves the principal commercial nations of the world and that achieves positive results in the way of freer trade and stabler currencies necessarily demands sacrifices on the part of the negotiating countries. To date the negotiating countries have been unwilling or politically unable to submit individually and collectively to sacrifices necessary to the achievement of far-reaching, constructive results.

CUSTOMS UNIONS

A customs union provides for a common tariff against foreign imports and freer or free trade among the countries participating in the union. The outstanding example of a successful customs

union in comparatively recent times is the German Customs Union, which led to the formation of the German Reich after the Franco-Prussian War (1870–1871). Removal of trade barriers between states always gives rise to protectionist resistance. In addition to this obstacle to the success of attempts to form customs unions are other political and administrative problems. Agreement concerning tariff rates must be reached by the participating governments; it is difficult enough to get tariff rate agreement on the part of the conflicting interests of any one government much less those of two or more governments. Much has been heard since the World War about a possible European Customs Union. Under prevailing conditions of economic nationalism an all-European customs union is probably as utopian an idea as is that of universal, international free trade. However, it is easily possible that certain small groups comprising only two or three European nations with similar political interests and complementary economic systems might succeed in negotiating customs unions, possibly as a first step to an enlargement of political units in Europe. In 1931 a proposal was made for a customs union between Germany and Austria. It provided for the gradual reduction of duties during a period of transition. Gradual reduction of duties as a preliminary to the formation of a complete customs union is a logical step where highly industrialized nations are involved. Such a development raises some interesting questions concerning customs tariff treaty commitments of the uniting countries. If, for example, the initial reduction in duties is interpreted as initiating an incomplete customs union and paving the way for a complete customs union, a third state (according to the way most commercial treaties are drawn) has no right to claim equal treatment by virtue of a most favored nation agreement. If, on the other hand, the initial reduction in duties between nations contemplating a customs union is interpreted as being a preferential duty, other states may claim similar treatment by virtue of their most favored nation treaties. The difficulties of forming customs unions are many. They are political as well as economic; they involve commitments both among the negotiating powers and between these powers and other nations.

PART VI

DISLOCATING INFLUENCES OF THE WORLD-WAR PERIOD

INTRODUCTORY

During the last two decades the newspapers have been replete with headlines calling attention to international debts, unbalanced national budgets, monetary instability, unemployment and political turmoil. These phenomena are evidences of extreme economic disequilibrium the world over. For three centuries before the World War the influence of Europe had been steadily advancing. The white and yellow races of other continents had admired European civilization and gradually adopted it. In 1914 Germany, Belgium, Great Britain and France were supplying manufactures for less industrialized countries on every continent; here was a nerve center of world commerce and world finance. Four years of armed conflict disorganized the peacetime activities of these four great industrial nations and disrupted the continuity of a commercial system which had developed around them. World commerce has not yet, after two decades of uncertain peace, overcome the disorganization and confusion which the World War wrought.

CHAPTER XXVII

BOUNDARY CHANGES AND PRODUCTION SHIFTS

Since the World War a slow-moving process of industrial liquidation and reorganization has been in progress all over the world. One of the causes has been rearrangement in geographical distribution of peacetime industry which occurred during the War. Another cause has been rearrangement in the industrial structure of Europe as a result of political boundary changes made by the Treaty of Versailles.

DISORGANIZATION OF PEACETIME CONDITIONS OF PRODUCTION AND TRADE

Industrial and Agricultural Production.—It is not possible to segregate, with complete assurance, industrial shifts which are direct results of the War from those which might have occurred had there been no war. It is possible, however, to indicate, in the aggregate, certain industrial migrations that occurred during and after the World War and that appear to have been largely influenced by wartime circumstances. Between the periods 1909–1913 and 1921–1925 Europe dropped 35 to 40 million acres

TABLE 67.—WHEAT ACREAGE AND PRODUCTION IN EUROPE AS COMPARED WITH THAT IN CANADA, UNITED STATES AND ARGENTINA, FOR PREWAR AND POSTWAR YEARS[1]

Years	Europe		Canada, United States and Argentina	
	Millions of acres	Millions of bu.	Millions of acres	Millions of bu.
Average, 1909–1913	147	2,107	73	1,034
Average, 1921–1925	109	1,613	97	1,374
Average, 1927–1928	144	2,106	102	1,693

[1] SOURCE: *U. S. Department of Agriculture Yearbook*, 1930, pp. 602–603. Russia is included in the compilation.

of wheat and reduced production by 400 to 500 million bushels annually. During the same period Canada, United States and Argentina increased their wheat plantings by 20 to 30 million acres and their production by more than 300 million bushels annually. These data are shown in Table 67.

After the War, soldiers went back to their farms, and shell-torn areas were leveled, plowed and once more seeded for the production of wheat, clover and other agricultural crops. By the late nineteen twenties European countries, some with the aid of protective tariffs, had got back to a volume of wheat production approximating the prewar figures.[1] However, Canada, United States and Argentina had continued to expand their wheat acreage instead of reducing it. A result was excessive production of wheat, excessively low prices for wheat and depression in important agricultural districts.

As in the case of wheat so also in the case of certain other industries: European production declined during the war period while non-European production expanded. Take the iron and steel

TABLE 68.—PIG-IRON PRODUCTION IN GERMANY, FRANCE, GREAT BRITAIN AND UNITED STATES BEFORE AND AFTER THE WORLD WAR[1]
(Millions of tons)

Years	Germany	France	Great Britain	Total, Germany, France, Great Britain	United States
1913	19.0	5.1	10.3	34.4	31.0
1923	7.2[2]	5.4	7.4	20.0	40.4
1930	9.5	9.9	6.2	25.6	31.8

[1] 1913 figures for prewar territory.

SOURCE: *Foreign Commerce Yearbook*, U. S. Department of Commerce, 1926, Vol. II, p. 629; 1933, p. 333 and *Statistical Abstract of the United States*, 1933, p. 660.

[2] Average for 1922, 1923 and 1924 because 1923 production was markedly lower than that of 1922 and 1924.

[1] Prior to the War Russia was among the leading wheat-exporting countries of the world. For a time during the War Russian exports of wheat were completely blockaded. Immediately after the War Russian wheat production was retarded by the Revolution. When conditions again became favorable Russia needed no wheat tariffs in order to swing back into an exporting position. The situation was different in the wheat-importing countries. Here tariffs were employed to shield domestic wheat producers from foreign competition.

industry as an example. Total production of pig iron in Great Britain, France and Germany was less by approximately 14 million tons in 1923 than it had been in 1913. United States production of pig iron, on the other hand, was about 9 million tons more in 1923 than it had been in 1913. These data are shown in Table 68.

Commerce.—Another indication of the tendency for industry to shift from European to non-European countries during the War is to be found in statistics of international trade. The United Kingdom, France and Germany gave ground in their world-trade positions between the periods 1911–1913 and 1926–1930; United States, Australia, New Zealand, Canada and Japan gained. These data are shown in Table 69.

TABLE 69.—INTERNATIONAL TRADE OF LEADING NATIONS
Percentages of the Total Value of the Export and Import Trade of 109 Countries[1]

Year	United Kingdom	France	Germany	Italy	United States	Australia, New Zealand and Canada	Japan	All other
1911–1913	16.4	7.2	11.8	2.9	10.3	4.7	1.5	45.2
1926–1930	15.1	6.4	9.1	2 9	13.9	6.4	3.0	43.2

[1] SOURCE: Compiled from data obtained from *Foreign Commerce Yearbook*, 1933, pp. 345–347 inclusive.

As already stated, it is not possible to know what part of the industrial changes just cited were caused by the War and what part might have occurred had there been no war. The United Kingdom's share of the world's international trade was declining before the War started. Her foreign trade constituted 21.3 per cent of the value of the total exports and imports of 25 leading nations in 1896 and only 19.9 per cent of the value of the foreign trade of these same countries in 1906.[1] Whether the United Kingdom would have been in a relatively weaker or a relatively stronger world-trade position in the period 1926–1930 had there been no war it is impossible to judge. It is reasonable to believe

[1] *Statistical Abstract of Foreign Countries*, U. S. Bureau of Statistics, 1909, pp. 15–19 inclusive.

that the foreign trade of United States, Australia, New Zealand, Canada and Japan might have increased more rapidly than that of some of the older European nations, but it is not probable that Germany's trade position would have lost ground more than that of the United Kingdom, France and Italy.

Shipping Facilities.—Let us take as another example of World War and early postwar industrial developments, that appear to have been largely influenced by special wartime conditions, the growth of merchant marines. Every merchant vessel is part of some national mercantile marine. Marine law requires that every vessel be registered and listed under some flag and at some port. In 1910 the United Kingdom had 9,417 merchant vessels of 100 tons and over; the United States ranked second, with 3,469 such vessels; Germany ranked third, with 2,178 vessels of 100 tons and over. In 1920 Great Britain had only 8,561 merchant vessels of the type in question; United States had 5,457; Germany 1,138. Japan with only 846 merchant vessels of 100 tons and over in 1910 had 1,940 such vessels in 1920. Germany lost about half of her merchant fleet between 1910 and 1920; United States enlarged her fleet by more than 50 per cent, while Japan enlarged her fleet by more than 100 per cent.[1]

Conclusions.—Statistics of industrial development cited in foregoing pages indicate that, in general, European countries came out of the War with relatively less peacetime industry than they had before the War began. Furthermore, the losses were not proportionately divided. Germany lost half or more of her merchant fleet; Great Britain's fleet was reduced in size but by not nearly so large a proportion as that of Germany. The merchant fleets of France and Italy, on the other hand, were enlarged. As in the case of merchant shipping so in the case of pig-iron production: Germany's output of pig iron sank during the War to less than half its prewar level.[2] France was producing more pig iron after the War than before; Great Britain's production declined but not so much as that of Germany.[2] Both Great Britain and France suffered losses in their proportions of the world's aggregate of international trade during the war period but not such great losses as that suffered by Germany.[3] Italy's

[1] *Foreign Commerce Yearbook*, 1933, Vol. II, p. 338.

[2] See Table 22, p. 181.

[3] See Table 69, p. 395.

international trade position, on the other hand, was as strong in the nineteen twenties as it had been before the War.[1]

ECONOMIC EFFECTS OF BOUNDARY CHANGES

Another significant body of facts which has a bearing upon Europe's postwar economic disorganization is, in part at least, a result of the "redrawing of Europe's map" in accordance with provisions in the Treaty of Versailles. The treaty reversed, for a time, a long-continued trend toward enlargement of political units. Consolidation of political units had been under way in Europe ever since the Middle Ages. Prior to the World War, Germany, France, Italy and Austria-Hungary had each attained political unity after years of strife among many petty principalities. In Fig. 32 is a map of Europe as it was in 1914 when the War began and as it was in 1934 a decade and a half after the Allies had carved half a dozen or more new nations from territory formerly controlled by the Central Powers and Russia. The boundaries of these new nations were based more upon language characteristics and racial backgrounds of the peoples involved and desire to maintain a balance of power favoring the Allies than upon production characteristics and market requirements of the European industrial system.

Before the War Germany and Belgium were centers of heavy manufacturing; France possessed diversified industries and a reasonably well-balanced domestic economy; the remainder of Europe (excluding Great Britain) was largely agricultural. Since the War each of some 26 European nations has attempted to become more self-sufficing than the area which it now includes was before the War. These efforts toward national self-sufficiency have resulted in more or less rearrangement in the whole European industrial structure. Rearrangements of this kind do not occur in a long-established industrial society without unemployment, bankruptcy, liquidation and social unrest.

Let us cite a few examples of growth in mining and manufacturing industries in Continental areas that were predominantly agricultural before the War. Italy's production of crude steel increased from about 933,000 tons in 1913 to 1,785,000 tons in 1925 and over 2,000,000 tons[2] in 1929. Even in the depression

[1] See Table 69, p. 395.

[2] Metric tons.

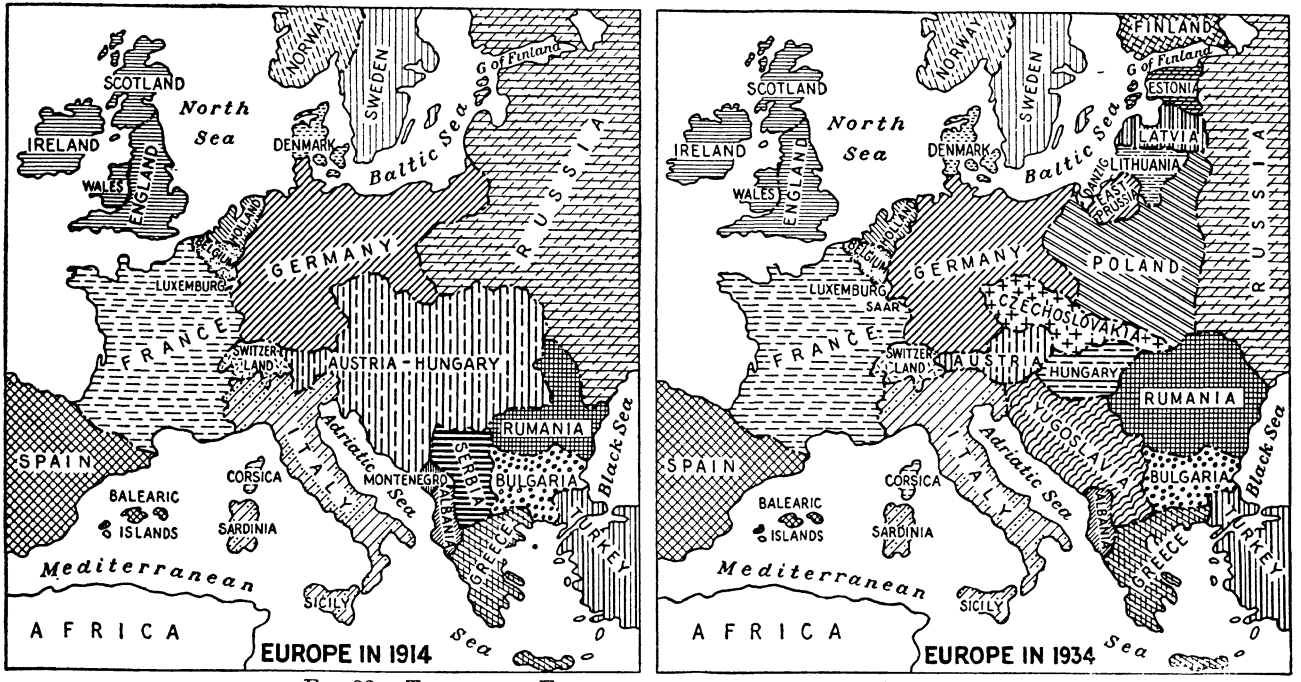


FIG. 32.—THE MAP OF EUROPE BEFORE AND AFTER THE WORLD WAR

year 1932 Italian production of crude steel was well above the annual average output for the period 1921–1925.[1] Steel production in Poland increased from an average annual output of about 890,000 metric tons for the period 1921–1925 to an average of approximately 1,400,000 tons for the years 1928 and 1929, an increase of more than 50 per cent. Production of steel ingots and castings in Czechoslovakia increased from approximately 1,200,000 tons in 1923 to approximately 2,200,000 in 1929, an increase of more than 80 per cent. Between the periods 1921–1925 and 1926–1930 Yugoslavia increased her lignite (low-grade coal) production about 60 per cent[2] and her production of iron ore by more than 150 per cent.[2] During the same period Rumania increased her average annual output of steel ingots by more than 100 per cent.[2] The industrial area which is now Austria, severed from its prewar agricultural hinterland and blocked in by tariff walls against its exports of manufactures, turned out less iron and steel goods and operated fewer cotton spindles during the years 1926–1930 than in the year 1913.[3] Aside from the developments in Russia, the aggregate quantities of goods involved in the process of building up mining and manufacturing industries in the agricultural countries of Europe are small in relation to quantities of minerals and manufactures produced annually in the larger industrial nations—Germany, France and Great Britain. Nevertheless, tendencies indicated by these attempts on the part of agricultural nations to become more independent economically are significant. Reversion to smaller economic units appears to have followed the creation of smaller political units.

Attempts made during the War to form a Zollverein of the Central and East European powers would have created one large nation where today a number of small ones are trying to exist independently. The problem of organization for economic efficiency becomes increasingly difficult as nationalism in the economic field tries to adapt itself to arbitrary political boundaries. The whole continent of Europe is comparable in size, in abundance of natural wealth and in diversity of regions with the

[1] *Foreign Commerce Yearbooks*, 1926, Vol. II, p. 331, and 1933, p. 74.

[2] *Ibid.*, 1926, Vol. II, p. 183, and 1933, pp. 17, 98, 107, 149.

[3] *Ibid.*, 1926, Vol. II, p. 42, and 1933, p. 2. For purposes of comparison the 1913 figures have been estimated for the present boundaries of Austria.

United States. Agricultural regions naturally supplement regions rich in mineral wealth. When, in such an area, political boundaries are redrawn with little regard to economic factors and each nation tries to develop a well-rounded, diversified industrial system within itself, old facilities for transportation, manufacturing, mining and agricultural production no longer serve well the purposes for which they were constructed, and confusion follows. The economic disequilibrium in Europe is not a passing phenomenon comparable with industrial depression in a nation which is undergoing internal readjustments that have relatively little effect upon its basic position in world economy. The economy of European nations was shaken to its very foundations during the War. Recovery under the new political arrangement is not merely a problem of welding and cementing cracks in the old system in order that it may function very much as it did before the War. Changes in political boundaries on the Continent, fear of future wars and economic developments in America, the Orient and Russia are altering fundamental relationships between Continental areas that once were supplementary. These same forces are altering the economic relationship of Old Europe as a whole with the rest of the world.

The end of Europe's difficulties is not in sight. It is not improbable that the European map may be subjected to further revisions before political boundaries and market areas have been harmonized sufficiently to permit wholesome expansion of the Continental economic system. Poland, Rumania, Czechoslovakia, Hungary, Yugoslavia and Bulgaria, all are in need of improved transportation facilities in order to make the most of their agricultural possibilities. Germany, France, Great Britain and Belgium are tooled to produce transportation equipment and they need more foodstuffs than can be produced economically at home. Taken as a unit, the natural resources of western Europe are not so depleted as to prevent continuation of the prewar upward trends of living standards. Divided as these nations now are by national rivalries, the struggle for sustained economic progress appears to be making little headway.

CHAPTER XXVIII

DEBT BURDENS

Every big war leaves an aftermath of government debts. These are of two kinds: "internal" and "external." By "internal government debt" is meant money owed by a government to its own subjects. In this case money collected from domestic taxpayers for the purpose of retiring the debt is paid out to domestic holders of government securities. Retirement of internal government debts does not involve, directly at least, a depletion of national wealth. It may, however, result in reduced annual production by injecting elements of uncertainty into a country's monetary and financial system and by causing industrial instability. In so far as internal debts have an influence upon international trade, the effects are transmitted indirectly. By "external government debt" is meant money owed by a government to a foreign creditor. Payment of interest and principal on external debts involves the transfer of wealth from one nation to another, and thus affects international trade in a very direct way through both payment balances and trade balances. The World War created huge government debts both internal and external. The two principal categories of external government debts that grew out of the War were German reparations and inter-Allied debts.

INTER-ALLIED DEBTS

The term "inter-Allied debts" includes a hodgepodge of obligations dissimilar in many important respects. Loans made to individual Allied governments by private bankers during the War are a part of the aggregate of inter-Allied debts, as are also loans from one Allied government to another. Some of the inter-Allied debts represent loans made prior to the time when the United States participated in the War, while still others were made after the Armistice. There are also differences in regard to purposes for which loans that have been lumped into the general category of inter-Allied debts were extended. Some were extended to facilitate purchase of ordnance, munitions and other

strictly war supplies; others were made for the purchase of food for nonparticipants in the War; still others were made for purposes of reconstruction after the War. The one aspect in which all the inter-Allied debts are alike is that they represent loans made to governments at a time when the borrowing governments were in financial difficulties resulting from the War. War debts were incurred between nearly all the Allied and cooperating powers. By far the greater part of the total, however, involved Great Britain, France, Italy, Belgium and the United States. One estimate summarized the principal inter-Allied debt claims as of April, 1922, as follows:[1]

Owed by Europe to United States approximately	$10 billion
Owed by the Continent to Great Britain about	$ 5 billion
Owed by Continental countries (excluding Russia) to France about	$ 1¼ billion

French claims were on Belgium and a number of minor countries. British claims were on France (some 500 million pounds), on Italy (some 450 million pounds) and minor amounts on other European countries. About 90 per cent of the American claims were on Great Britain, France and Italy.

GERMAN REPARATIONS

The obligation imposed upon Germany to make reparation for war damages had its origin in the Treaty of Versailles. Fixing of the exact amount of reparation which Germany should be obliged to pay was delegated to a Reparation Commission charged with the responsibility of determining the monetary sum to be paid in accordance with general provisions of the peace treaty. The reparation figures arrived at by the commission (in 1921) amounted to approximately 132 billion gold marks (about 30 billion dollars at the prewar rate of exchange). Annual payments of 2 billion gold marks and 26 per cent of German exports or an equivalent amount were to be made by Germany to retire the debt.[2]

[1] BATSELL, W. R., *The Debt Settlements and the Future*, edited by the European Economic and Political Survey, Lecram Press, Paris, 1927, p. 21.

[2] WHEELER-BENNETT, JOHN, and HUGH LATIMER, *Information on the Reparation Settlement*, George Allen & Unwin, Ltd., London: 1930, pp. 44, 46. The United States, having failed to ratify the Versailles Treaty, negotiated a separate debt settlement agreement with Germany over and above the 132 billion gold marks in question.

Transfers of wealth from one nation to another may take the form of gold movements, of security movements, of commodity movements, of services rendered or of territory ceded. Germany's colonies were transferred to Allied nations and Alsace-Lorraine was given back to France; these territorial settlements, however, and certain other property transfers were apart from the 132 billion marks which were to be paid in the form of reparations. It was not contemplated in the agreement that Germany should liquidate any of this debt by ceding additional territory to the Allies. Furthermore, Germany was not in position to liquidate the debt by rendering services such, for example, as carriage of goods in international trade or entertainment of foreign tourists. She could not pay with gold because the gold which she possessed, in excess of a minimum necessary for maintenance of a stable currency system, was of little or no consequence. This leaves foreign securities held by German citizens or the German government and merchandise exports as the only mediums with which Germany might pay reparations. The annual payments, to repeat, amounted to 2 billion gold marks plus 26 per cent of German exports. Under this arrangement, payment of the debt with merchandise exports automatically added 26 per cent to the amount due, and payment of this additional 26 per cent added another 26 per cent of 26 per cent, and so on indefinitely. Germany paid the first installment due August, 1921, with foreign balances already accumulated for the purpose. Her November installment was met with deliveries of coal and other materials. Coal was available for some further payments, and German citizens held an indeterminate amount of foreign securities which, however, were difficult for the government to find and get hold of. In analyzing the situation Mr. J. M. Keynes, who had contributed a brilliant analysis of the economics of the reparations problem in his *Economic Consequences of Peace,*[1] made the following observation, August, 1921: "Some time between February and August, 1922, Germany will succumb to an inevitable default. This is the maximum extent of our breathing space."[2] True to Keynes's prediction, Germany's reparation

[1] KEYNES, J. M., *The Economic Consequences of Peace,* Harcourt, Brace and Howe, New York, 1920. The preface was signed by Keynes at Kings College, Cambridge, November, 1919.

[2] STAMP, SIR JOSIAH, *The Financial Aftermath of War,* Charles Scribner's Sons, New York, 1932, p. 97.

payments had fallen into arrears before the end of 1922, and the French were making preparations to occupy the Ruhr.

In last analysis, Germany could not possibly pay the reparation bill as stipulated because no nation or group of nations was willing to accept additional German exports aggregating, in value, the annual reparation installments. The pattern of world industry was such that a favorable German trade balance sufficiently large to enable Germany to meet her obligations meant either a net increase in merchandise imports by the Allied nations or increased capital loans by them to other nations that would take the German exports. The Allied nations were unwilling largely to increase their net merchandise imports because such a procedure would have resulted in more or less business depression and bankruptcy liquidation of some of their high-cost industries. Triangular trade involving additional exports of German manufactures to industrially backward countries and additional imports of raw materials and foodstuffs by the Allies was suggested. This suggestion was of little help because all the Allied nations were exporters of manufactured goods in competition with Germany. Furthermore, United States and British dominions were great raw-material and foodstuffs exporters. Theoretically, increased exports of German goods to relatively undeveloped regions like South America, China and Russia, coinciding with capital loans by the Allies to these countries, might temporarily have solved the reparation transfer problem. The capital loans might have stimulated sufficient increase in rates of industrial development in the backward regions to permit temporary absorption of German exports without a corresponding net reduction in Allied exports. Capital loans were made to South American countries and to other industrially backward regions but political and sociological conditions were not ripe for rapid industrial expansion in these regions on a sound and profitable basis. The possible outcome of the Russian Revolution was very uncertain in the early nineteen twenties, while in Mexico, South America and China political uncertainty did not auger well either for the long-time planning necessary to huge and profitable expansions of capital equipment or for future security of property rights. The upshot of reparations was that even if Germany could have raised the payments internally by heavy tax levies it was not possible for

her to transfer them to the Allied nations. What finally happened was that Germany borrowed more capital from the Allied nations,[1] *i.e.*, sold them more German securities, than she paid in the form of reparations. The Dawes plan of 1924 prepared the way for large loans to be made to Germany and reduction of the amounts of annual annuity payments on reparations.[2] This plan made possible a continuation of German payments without, however, solving the underlying difficulties of the transfer problem. These difficulties centered, in last analysis, largely in the United States, to which the European Allies were obligated for war loans.[3] When reparations and war debts are both taken into account, Germany becomes the primary debtor and United States the primary creditor.[4] Basically the liquidation of reparations and war debts as they stood after the Dawes plan went into effect would have involved a vast flow of wealth from Germany through the European Allies to the United States. Only about 20 per cent of the aggregate of reparation payments would have remained as net increments to the wealth of the European Allies. The position of the United States in world economy during the nineteen twenties was that of a creditor nation which should have had an import merchandise balance. Transition from an export merchandise balance to a large import merchandise balance would have meant widespread industrial readjustment in this country. The difficulties of making industrial adjustments in the United States have been fully demonstrated since 1929. During the nineteen twenties it was easier to export United States capital to Germany and elsewhere more

[1] A large proportion of these so-called "Allied loans" was made by the United States.

[2] The Dawes plan prepared the way for reduction of the reparation debt from around 30 billion dollars to around 12 or 13 billion dollars.

[3] A separate treaty was concluded between United States and Germany, August 25, 1921. It provided for negotiation of certain separate reparation obligations directly between Germany and the United States. Under the Dawes plan of 1924 provisions were made for including German reparation payments due America with other reparation payments. The magnitude of the United States claim is suggested by the fact that her percentages of the total of the annuity payments provided for by the Young plan (1929) ranged from less than 4 per cent in 1930–1931 to less than 3 per cent in 1980–1981. See Myers, Denys P., *The Reparation Settlement*, World Peace Foundation, Boston, 1930, pp. 64–67, 179–181.

[4] See "Inter-Allied Debts," beginning p. 401.

or less regardless of the ultimate security of such investments, than squarely to face the difficulties of making modifications in this country's industrial structure necessary to collect her foreign debts.

Following a cessation of American foreign loans in the late nineteen twenties, industrial activity in Europe and America sank into the trough of the most severe business depression in recent history. After the depression had continued unabated for about three years, and when the fact that Germany was not going to meet her annuities had become quite obvious, the Lausanne Conference was opened (June 16, 1932). Out of the conference came the Lausanne Reparations Treaty between the German Reich and the governments of her principal creditors.[1] This treaty prepared the way for provisional liquidation of the reparation debt by delivery on the part of the German government of 5 per cent redeemable bonds to the amount of 3 billion reichmarks gold (about 714 million dollars),[2] to the Bank of International Settlements, as trustee. The word "provisional" is used in the foregoing sentence because the treaty had to be ratified by the signatory powers before it could become effective. Furthermore, a "gentlemen's agreement" was signed privately the same day as the treaty (July 9, 1932) by representatives of Great Britain, France, Italy and Belgium, making ratification conditional upon the reduction of inter-Allied war debts owing to the United States.

The United States had attempted consistently to prevent the connecting of inter-Allied debts with reparations but without complete success. In fact, from a balance-of-payments point of view reparations and inter-Allied debts were inevitably interdependent, and from a political point of view European diplomacy made them so. As already stated, the gentlemen's agreement at Lausanne, referred to above, provided that reduction of reparations would be made by Germany's creditors, if the United States would agree to reduction of war debts owing to this country. Since July, 1932, all the principal countries with large

[1] Belgium, United Kingdom, North Ireland, Canada, New Zealand, Union of South Africa, India, France, Italy, Japan, Poland, Portugal, Rumania, Czechoslovakia and Yugoslavia.

[2] The aggregate amount of the annuities had already been revised downward a second time under the Young plan of 1929.

war-debt obligations to the United States have defaulted payments on them.

Reparations and inter-Allied debts were a source of foreign exchange difficulties and a cause of economic uncertainty during the whole period from 1919 to 1932. They are not buried yet, but apparently have been relegated to a category of reserve sources of propaganda for influencing public opinion in the several countries concerned when and if occasions arise.

INTERNAL DEBT

Every national government that participated in the World War went deeply in debt to its citizens because the gigantic sums required to finance the War could not be raised in a short space of time by taxation alone. Taxation has psychological limits as indicated by its influence upon people's willingness to support their government with a full measure of enthusiasm at a time when high morale is absolutely necessary to victory. This is one of the reasons why governments resort to borrowing when need of funds for war purposes largely exceeds government revenue from customary sources. The services and commodities consumed during a war must come from past or current production but distribution of the burden of sacrifice may, in part, be postponed by borrowing. The person who buys government bonds gives up claims to present goods in exchange for claims to future goods. Citizens who loan to their government through the purchase of government securities contribute claims to present goods for present uses, but they do not thus part with claims to wealth when both the present and the future are taken into account. Distribution of the burden of sacrifice occurs in this case when, sometime in the future, taxes are collected for the purpose of retiring the securities.

Government expenditures amounting to from half a billion to a billion dollars a month in France, in Great Britain and in the United States—sums three to six times the tax revenue being raised in these nations for war purposes—were made possible by borrowing, paralleled by currency inflation. Purchasing power had to be placed at the disposal of the governments if the War was to be conducted with the utmost possible energy. This was done by increasing the amount of bank currency. The governments issued treasury bills and discounted them at banks, thus creating

balances against which to draw either orders or bank notes. War loans were then negotiated and the proceeds used mainly for reducing the floating debt. Among the most important dislocating influences that grew out of the War have been monetary instability resulting from internal borrowing for war purposes combined with inflationary methods of war financing.

CHAPTER XXIX

MONETARY DISTURBANCES AND PRICE UPHEAVALS

All the belligerent nations inflated their currencies during the World War. Furthermore, neutral countries experienced increases in their general price levels as a result of inflationary policies, abnormal wartime demand, curtailment of production in Europe and abnormal world distribution of monetary gold reserves.[1] By "inflation" is meant an increase in amount of money and credit in use as compared with the aggregate of goods to be bought and a concomitant rise in the average level of prices. As the general price level in a country rises in response to inflationary influences the value or purchasing power of the customary monetary unit—the dollar, the pound sterling, the franc, the mark—declines. Index numbers that would accurately measure changes in the general price level and reverse changes in the value of money would have to include all goods (both commodities and services) for which money was expended. Price averages so comprehensive as to include every class of goods for which money is spent in a particular country are not available, but index numbers that are reasonably representative of general price level changes are available. One such index is computed from prices of hundreds of representative commodities bought and sold at wholesale. The rise and fall in the averages of wholesale prices in selected nations of Europe, Asia and North and South America during and after the World War are shown in Fig. 33. The dominant idea portrayed in Fig. 33 is that during and after the War upheavals in price levels occurred both in belligerent nations and in neutral countries such as faraway Peru. Prices

[1] With regard to maldistribution of the world's stocks of gold, take the United States as an outstanding example of a country in which gold accumulated. During the period 1914–1924 United States net imports of gold totaled nearly 2½ billion dollars. Ordinarily this country, being a gold producer, has a net export of gold. Two and a half billion dollars' worth of gold before devaluation of the dollar was from one-fourth to one-third of the world's total monetary gold stocks.

the world over were doubled or trebled between 1914 and 1920. In France prices were 4 to 5 times the prewar level in 1920. The widespread rise in prices was made possible by large increases in circulation of fiat paper money in some countries and flights of gold to other countries, causing abnormal expansions of currency

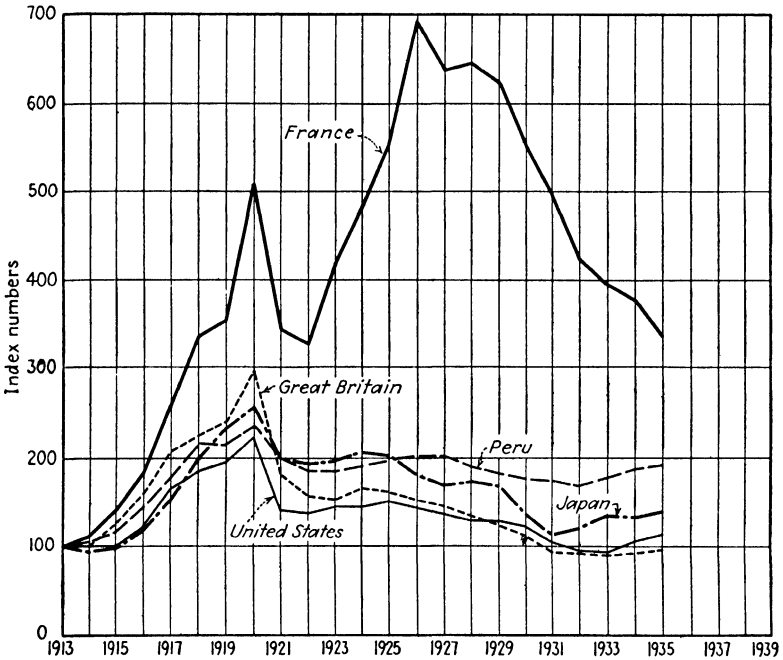


FIG. 33.—INDEX NUMBERS OF WHOLESALE PRICES IN FRANCE, GREAT BRITAIN, JAPAN, PERU AND UNITED STATES, 1913 to 1935
1913 Equals 100

SOURCE: League of Nations, *Statistical Year-books*, 1928, 1931–1932; and *Monthly Bulletin of Statistics*, 12, December, 1933, and *Statistical Year-book* 1935–1936. Used by courtesy of International Documents Service, Columbia University Press.

everywhere. Prices in countries with little gold could not continue to rise indefinitely without reduction in the value of paper money to the zero point. Paper marks in Germany[1] did, in time, become practically worthless. During the nineteen twenties some countries tied their currencies to gold by devaluing them; other countries attempted to tie their currency units to gold or to remain on a gold standard at prewar parities. In the latter

[1] Data not shown in Fig. 33 because the series is incomplete and the price rise too extreme for convenient plotting.

group of nations—Great Britain and United States, for example—price levels underwent a sharp decline during the nineteen twenties and nineteen thirties. Price instability prevailed everywhere.

In France the yearly index of wholesale prices rose from 100 in 1913 to 509 in 1920 and to 695 in 1926. In Great Britain the wholesale price index rose from 100 in 1913 to a high of 295 in 1920; after 1920 it declined to 150 in 1926, and to a low of 91 in 1933. The Japanese wholesale price index rose from 100 in 1913 to a high of 259 in 1920; after 1920 it declined to a low of 116 in 1931. The United States index rose from 100 in 1913 to a high of 221 in 1920 and declined to a low of 93 in 1932. The Peruvian index rose from 100 in 1913 to a high of 238 in 1920 and declined to a low of 170 in 1932. The wholesale price index for Germany is not available for the whole period under consideration. In so far as German price data are available, they indicate that during the War the price rise in Germany was not so great as the rise in some of the other belligerent nations—France, for example. The German price index was not more than 2½ times the prewar level in 1918 as compared with a French index 3⅓ times the prewar level in 1918, a British index 2¼ times the prewar level in 1918 and index numbers in United States and Japan ranging in 1918 from 1.8 to 2.0 times the prewar figures. It was after the War that inflationary trouble of an extreme kind began in Germany. The German wholesale price index was 8 times its prewar level by the end of 1919 and 17 times by March, 1920. After March, 1920, the Germans got their inflation in hand a bit just as every other country did and prices fell for a brief period. In August, 1921, the average of wholesale prices in Germany was only 14 times the prewar level. Then political changes in Germany and reparations pressure from the outside started inflation on a grander scale than anything which had gone before. The German paper mark depreciated in value at a phenomenal rate. Values of the paper mark in terms of its prewar value declined as follows: 14 to 1 in August, 1921; 100 to 1, July, 1922; 556 to 1, October, 1922; 1,425 to 1, December, 1922; 19,000 to 1, June, 1923; 74,000 to 1, July, 1923; 944,000 to 1, August, 1923; 7,000-odd million to 1, October, 1923; and 1,261,000 million to 1, in December, 1923. By the end of 1923, in other words, prices in Germany in terms of paper currency had almost reached infinity; the value of the mark was not far from zero.

TABLE 70.—WHOLESALE PRICE INDICES IN LEADING NATIONS, 1913–1935
(1913 = 100)

Year	Germany	France		Belgium		Italy		Great Britain	United States		Japan	Australia	Peru	Spain
	Gold	Paper	Gold	Paper	Gold	Paper	Gold	Paper	Paper	Gold	Paper	Paper	Paper	Paper
1913	100	100	100	100	Paper franc devalued approximately 5 to 1	100	100	Statist 100	100	100	100	100	100	100
1914	Old paper mark devalued 1 billion to 1	102	Paper franc devalued approximately 5 to 1	Not available		Data not available	Paper lira deflated approximately 3⅜ to 1	100		98	95	106	104	101
1915		140						127		100	97	147	120	119
1916		188						160		122	117	138	146	141
1917		262						206		168	148	153	176	166
1918		339						226		188	196	178	213	207
1919		356						242		199	236	189	220	204
1920		509						295		221	259	228	238	221
1921		345						182		140	200	175	205	190
1922		327		367		529		154		139	196	162	190	173
1923		419		497		536		152		144	199	179	189	171
1924	137	489		573		554		165		141	206	173	192	182
1925	142	550		558		646		160		148	202	170	202	185
1926	134	695	141	744		654		150		143	179	168	203	175
1927	138	642	130	847	123	527		144		137	170	167	203	168
1928	140	645	131	843	122	491		142		139	171	165	192	163
1929	137	627	127	851	124	481		134		137	166	166	186	168
1930	125	554	113	744	169	411		113		124	137	147	178	167
1931	111	502	102	626	90	342		98		105	116	131	175	169
1932	97	428	87	532	77	310		95		93	122	130	170	167
1933	93	399	...	501	...	283		91	95	Dollar devalued in 1933.	135	130	180	159
1934	98	376	...	473	...	276		83	108		134	135	188	164
1935	102	339	...	537	...	...		80	115		140	135	189	...

SOURCES: League of Nations, *Statistical Year-books*, 1928, 1931–1932 and 1935–1936. Used by courtesy of International Documents Service, Columbia University Press.

In addition to the indices shown in Fig. 33, price indices for Germany after revaluation of the mark and price indices for Belgium, Italy, Australia and Spain are given in Table 70.

The monetary units of Germany, France, Belgium, Italy and a number of less important countries were devalued before the end of the nineteen twenties.[1] In other countries price levels underwent substantial reduction during the nineteen twenties and the early nineteen thirties.

EFFECTS OF WAR AND POSTWAR PRICE DISTURBANCES

Much has been said and written in recent years concerning monetary history, theory and practice during and since the War.

[1] *The German Mark.*—In late 1923 when German marks had become practically worthless as mediums of exchange a new currency, the Rentenmark, with limited issue and mortgage securities behind it, was put in circulation. The new Rentenmark was equal to a gold mark, 4.2 Rentenmarks being equal to $1.00 (before United States devaluation in 1933). One Rentenmark was equal to 1 billion old paper marks, which had an external exchange value of 23.8 cents before United States devaluation in 1933. In 1924 the reichsmark came into being with the Dawes plan. The reichsmark had the same value as the Rentenmark, *i.e.*, one reichsmark was worth 1 billion old paper marks or 23.8 cents. With the issue of the reichsmark provision was made for retiring the Rentenmarks within two years.

The French Franc.—By 1926 inflation had gone so far in France, the public debt was so large and the government budget so far from balance that deflation by an amount necessary to link the franc to gold at the old value, 19.3 cents (before United States devaluation in 1933) or 4.48 grains fine gold content, was out of the question. What France did was to elect a strong government in 1927 which set in motion policies of economy and increased taxation necessary to link the franc with gold at a new value of only 0.91 grain of fine gold, 3.92 cents in United States money (before United States devaluation in 1933). After a period of de facto stabilization, an act of stabilization was passed in June, 1928. The franc was devalued again in 1937.

The Italian Lira.—The lira was devalued in 1927. The prewar gold lira contained approximately 4.4 grains of fine gold and was worth at par 19 cents in United States money (before devaluation in 1933). The new devalued gold lira contained only 1.22 grains of fine gold and was worth at par approximately 5.26 cents in United States money (before devaluation in 1933).

The Belgian Franc.—The Belgian franc was devalued in 1926. The prewar gold franc contained approximately 4.48 grains of fine gold and at par was worth 19.3 United States cents (before devaluation of the dollar in 1933). The belga equivalent to 2.93 grains of fine gold and 13.9 United States cents (before devaluation in 1933) was adopted as the new unit of account for exchange transactions. The belga exchanged for 5 paper francs.

The more controversial aspects of the subject had best be left to monetary specialists. However, a few accepted facts and conclusions are necessary to clarification of general international trade aspects of postwar monetary disturbances. In the first place, it is well to recall the fact that the currencies of many nations ceased to be freely convertible into gold during the War. In this category were the currencies of Germany, Great Britain, France, Italy, Belgium, Austria-Hungary, Russia and other important nations. In the second place, nations which left the gold standard during the War have experienced great difficulty in their attempts to reestablish and to maintain stable gold-standard monetary systems since the War; their efforts to regain gold have contributed to monetary confusion both at home and abroad. "In the whole history of money there has never been such a revolution . . . as that connected with the World War."[1] A third conclusion—one that is so obvious as to need no amplification—is that unless the leading commercial countries of the world do reestablish free gold-standard monetary systems, gold flows cannot function as a stabilizer of exchange rates. Finally, everyone who is at all familiar with economics recognizes the fact that postwar price disturbances have contributed to instability in the internal economies of nations and to extreme variations in foreign exchange rates. Internal economic disequilibria and erratic exchange rates have, in turn, encouraged the erection of trade barriers and in other ways have retarded the customary flow of international commerce.

DEFLATION, UNEMPLOYMENT AND POLITICAL UNREST

One of the most convincing indications of economic distress in a country is widespread unemployment. Although statistics of unemployment are incomplete, enough data are available for rough comparisons of the extent of involuntary idleness in leading countries before and after the War. The prewar data for Great Britain are not conclusive, but, such as they are, they suggest an average unemployment for the three decades prior to 1914 of about 5 per cent of the work people of classes now insured.[2] In

[1] CASSEL, GUSTAV, *Post-war Monetary Stabilization*, Columbia University Press, New York, 1928, p. 1.

[2] The insured classes of workers are reasonably representative inasmuch as they include workers in major industries such as manufacturing, mining,

the United States, census enumerations of unemployment for 1889 and 1899 supplemented by a number of sample studies indicate the average number of idle workers for the three decades prior to 1914 to have been in the neighborhood of 7 to 10 per cent in such trades as manufacturing, transportation, building and mining. For Germany, prewar unemployment data are too fragmentary for even a rough estimate of the average. However, there is no reason to believe that unemployment in Germany was any greater, in terms of a percentage of total working population, than that in the United States. Between 1920 and 1930 unemployment in Great Britain averaged about 12 per cent of the insured workpeople.[1] The average percentage of unemployment among insured workpeople in Germany from 1924 to 1930, inclusive, was about the same as that in Great Britain; between 1920 and 1924 (during the period of initial postwar depression, extreme inflation and collapse in the monetary system) the German figures were very erratic. While inflation was in progress very little unemployment existed. With stabilization, unemployment rose to a high point of 28 per cent in December, 1923.[2] In the United States, during the nineteen twenties, the percentage of workers unemployed because of slack demand for labor appears to have been equal to or in excess of the prewar average figure.[2] On the whole, the percentage of unemployment during the nineteen twenties in leading industrial nations, taken as a group, appears to have exceeded the prewar percentage by a substantial amount. Furthermore, between 1930 and 1936 the world experienced what is generally conceded to have been the severest and most widespread industrial depression in modern history. Conservative estimates of the numbers unemployed in the United States, Great Britain and Germany during the peak of depression in the early nineteen thirties run as high as 20 to 30 or more per cent of the working populations in these nations. In other countries the extent of postwar unemployment has

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transportation and building. See Hansen, A. H., *Economic Stabilization in an Unbalanced World*, Harcourt, Brace & Company, New York, 1932, pp. 124, 125, 126, for further discussion and for references.

[1] *Statistical Abstracts of the United Kingdom;* the average figure for unemployment, 1921 to 1930 inclusive, was 12.4 per cent of the insured workpeople, insurance being compulsory.

[2] See HANSEN, *op. cit.*, pp. 138, 139, 140.

varied—some countries have had more than the average, some less. In general, there appears to have been a world-wide increase in the irreducible minimum of chronic unemployment since the War.[1]

In the face of widespread unemployment, political revolutions and threats of revolution, political leaders have hesitated to support currency measures that would necessitate wholesale bankruptcy liquidation of industries with overvalued capital equipment, wage reductions and temporary increase in numbers of jobless. Political battles have waxed hot in Great Britain, France, Germany, Italy, United States and other nations over the question of deflation. Creditor classes (bondholders, holders of life insurance policies, savings bank depositors, endowed institutions such as universities, hospitals and research laboratories, that have followed conservative investment practices, mortgagees and other holders of obligations payable in a fixed number of monetary units) have favored deflationary policies. Debtor classes, on the other hand, have favored inflationary policies. The debtor classes include owners of city real estate, stockholders in financial and industrial corporations, holders of railroad and public utility stocks and farmers whose property is mortgaged. The fact is obvious that a large part of the people of a nation are both creditors and debtors. Nevertheless, the balance of interest of large groups tends to swing either one way or the other. A third group, including wage earners and nonpropertied classes, has tended to favor inflationary policies because they make for a temporary period of full employment and high wages. A part of this third group has also supported socialistic and communistic schemes. Deflationary policies tend to strengthen the hand of radical groups and if carried far are likely to put conservative administrations out of office. Inflation, while it lasts, increases numbers of jobs and tends to raise money wages. In a period of inflation producers hasten to build up their merchandise inventories and, if the price rise is long sustained, plant expansion is likely to occur. This all goes to create more jobs. Furthermore, a nation may be able temporarily to augment its favorable

[1] For additional unemployment statistics during the nineteen twenties and thirties see League of Nations, *Statistical Year-book*, 1931–1932, pp. 58–81, and earlier issues; *World Economic Survey*, 1931–1932, pp. 240–244; and other publications of the League of Nations.

international trade balance or reduce its unfavorable trade balance—as the case may be—by pursuing an inflationary policy.

INTERNATIONAL EXCHANGE RIVALRIES

When a nation divorces its currency from gold and permits inflation in excess of that prevailing in competitor countries, the value of its currency depreciates in terms of foreign currencies more quickly than internal prices and production costs rise. The inflationary country's export merchandise becomes cheaper in terms of foreign currencies; its import merchandise becomes dearer in terms of domestic currency. For example: let us assume that files, produced in the United States, were quoted for export in June, 1931, at $19.44 a gross and that British files similar in kind and comparable in quality were quoted for export at the same time for £4 per gross. After Great Britain went off gold in September, 1931, the dollar-sterling exchange rate declined rapidly. The rate was $4.865 to the pound in June, 1931. By December, 1931, it had declined to $3.374 to the pound. The value of British paper pounds declined during this period approximately 31 per cent in terms of dollars. During the same period wholesale prices in Great Britain rose only 3 per cent. Let us assume that prices of files rose by the same amount, *i.e.*, 3 per cent. The situation in December was, therefore, as follows: a gross of files could be purchased in Great Britain (for export) for 4.12 pounds' worth of United States money, *i.e.*, $13.90 (4.12 × $3.374). Similar files (for export) still cost approximately $19.44 a gross in the United States, in December, 1931. As a result of the depreciation in British exchange, Britishers got more of the export business in files and United States competitors got less. Similarly, Britishers got a larger share of the export business in other commodities so long as sterling exchange was depreciated more than internal British prices were appreciated and so long as foreigners refrained from putting retaliatory measures into effect. Changes in dollar-sterling exchange rates and changes in wholesale prices in Great Britain from June, 1931, to December, 1932, are shown in Table 71.

Coming as it did in the depression phase of a severe business cycle, Great Britain's termination of the gold standard in 1931 appears to have prevented a sharp decline in her internal price structure. The pound depreciated about 33 per cent in terms

TABLE 71.—DOLLAR-STERLING EXCHANGE RATES AND CHANGES IN WHOLESALE PRICES IN GREAT BRITAIN, JUNE, 1931, TO DECEMBER, 1932[1]

Year and month	Dollar-sterling exchange		Wholesale price, United Kingdom board of trade index 1913 = 100
	Dollars	Index $4.866 = 100	
1931:			
June	4.865	100	103
July	4.856	100	102
August	4.858	100	100
September	4.531	93	99
October	3.889	80	104
November	3.720	76	106
December	3.374	69	106
1932:			
January	3.431	70	106
February	3.456	71	105
March	3.639	75	105
April	3.750	77	102
May	3.675	75	101
June	3.647	75	98
July	3.550	73	98
August	3.476	71	100
September	3.471	71	102
October	3.340	69	101
November	3.275	67	101
December	3.279	67	101

[1] SOURCE: League of Nations, *Monthly Bulletin of Statistics*, June, 1932, pp. 262, 276, and January, 1933, pp. 24, 38. Used by courtesy of International Documents Service, Columbia University Press.

of dollars between June, 1931, and December, 1932. British wholesale prices remained fairly stable during this period, whereas wholesale prices in United States, Germany and France declined 13 per cent, 18 per cent and 20 per cent respectively. British prices do not appear to have been inflated by an amount sufficient to equalize the depreciation of the pound in foreign transactions at any time during the period June, 1931, to December, 1932. As is to be expected from the foregoing conditions, Great Britain's export position relative to that of France, Germany and United States improved somewhat after her currency was divorced from

gold. In dollar values, British exports were 25 per cent of the total exports of Great Britain, United States, France and Germany in 1930. In 1932 Great Britain's proportion of total exports of these four countries (in dollar values) was 27 per cent. This increase of 2 per cent in Great Britain's share of exports of the four countries in question is not large enough to be conclusive proof of the effects of exchange depreciation. Furthermore, in a period of price upheaval many economic forces that affect merchandise exports and imports come into play, forces the separate effects of which cannot be measured. For these reasons, the foregoing data serve more as an arithmetic device for clarifying deductive reasoning concerning the relation of depreciated currencies to merchandise trade than as statistical proof of the thesis.

For reasons similar to those explained with the British illustration, devaluation of the dollar in 1933 tended, probably, to stimulate United States exports and to retard imports. Other examples of exchange depreciation might be cited in the case of Japan, Germany, France and other nations at one time or another since the War.

Policies of exchange depreciation adopted for the purpose of gaining foreign trade advantages are, in general, shortsighted and fundamentally unsound for at least two reasons. In the first place, the advantage, at best, can be only temporary. As soon as the lag between rising internal costs and depreciation of exchange has been wiped out, the trading advantage ceases to exist. In the second place, all countries cannot gain exchange depreciation advantages over their rivals at one and the same time. What some nations gain in this respect others must lose. As a result currency depreciation on the part of one nation is likely to lead to competitive currency depreciation on the part of many nations.

Exchange stabilization with rates varying within narrow limits—either the limits fixed by the upper and lower gold points or limits fixed by international agreement and maintained by the use of stabilization funds provided for the purpose by the several cooperating nations—unites all the cooperating nations for common good. However, the advantages to all of exchange stabilization cannot be enjoyed without some or all parties to the agreement making certain sacrifices which accompany internal

deflation. Since the War, the leading nations have not been able to agree upon rates of stabilization that would be satisfactory to all concerned. France and Germany and a number of other nations did not seriously attempt to undergo the enormous amounts of internal deflation that would have been necessary to establishment of prewar exchange parities with Great Britain and United States. Great Britain attempted to stabilize her currency at its prewar gold value but abandoned the attempt in 1931. United States devalued her dollar in 1933. The least that can be said is that a lot more internal readjusting will be necessary before the currencies of all the leading nations of the world are again linked together by a system of exchange rates that fluctuate within narrow limits.

The sooner these adjustments are made the better it will be for all countries concerned. "We cannot have both our separate national desires and also the advantages of the gold standard. . . . Our object must be to maintain a standard internationally, which will go on working and producing price stability, despite folly and ignorance and sectional disadvantage."[1]

[1] STAMP, *The Financial Aftermath of War*, pp. 148–149.

CHAPTER XXX

RÉSUMÉ

During the century between the Napoleonic Wars and the World War culture and capital flowed in all directions from sections of western Europe, where the Industrial Revolution first got under way. Initially Great Britain and later France, Germany and Belgium developed industrial communities from which manufactured products were exported to distant parts of the world and to which raw materials were drawn. The intensely industrialized regions of western Europe became centers of international banking and trading as well as centers of manufacturing. The spread of industrialism from England to Belgium, France, Germany and United States, and thence to undeveloped regions in Oceania, Asia, South America, southeastern Europe, Russia and Africa was to the mutual economic advantage of all countries concerned. Localities farthest advanced in the mastery of new manufacturing and transporting techniques could accumulate wealth most rapidly by buying raw materials and selling finished goods. The more advanced countries supplied power resources, labor, machines, transportation facilities and other forms of capital equipment, banking facilities and industrial leadership. The less advanced regions which were sparsely populated—the Americas, Oceania—gave of their abundant supplies of cheap foodstuffs and fabricating materials in exchange for manufactured goods, scientific knowledge and capital. The densely populated East exchanged spices, silks, works of art and other luxury goods for the products of Western manufacture. Trade with industrially backward regions was financed with European loans. The loans were accompanied by European ideas and European emigrants.

In the course of time, expansion of the highly industrialized parts of Europe at rates in keeping with their growing capacity to produce and save became more difficult. As a result, competition for spheres of influence increased in intensity, releasing old

fears and rivalries which for a time had been in a quiescent state.[1] Germany's aggressiveness in expanding her overseas trade after about 1900 came in conflict with British interests. France and Italy looked askance at the expansion of German influence in southeastern Europe. The tension in Europe increased noticeably after about 1900.

During the last half of the nineteenth century, United States, like Germany, largely completed the initial stages of her internal mechanization. This country, like Germany, had been a rich field for British investments but the time approached when the United States would be seeking foreign investment opportunities in competition with Great Britain. Also, by the end of the nineteenth century foundations of industrialization in New Zealand, Australia and Canada had been laid. Under the shelter of protective tariffs, home manufactures in these countries were beginning to compete vigorously with foreign goods before 1914. Industrialization had not gone far in Africa, parts of South America, Asia, Russia or eastern Europe at the beginning of the twentieth century. However, European expansion into these areas at a rapid rate was hazardous because of political instability in the regions in question and jealousies on the part of the great capital-exporting nations. In spite of the hazards involved, capital exports from Great Britain, Germany, France and other capital-lending countries were largely increased between 1900 and 1914. With the increase went an

> . . . expansion of the total volume of international trade, an accentuation of international competition, a yeasty and uneasy turmoil both in the lending and the borrowing countries—the various forms of trade rivalry fomented by nationalistic sentiment and by economic jealousies and fallacies, which contributed so largely to the ensuing war.[2]

There is difference of opinion among intelligent students of history, politics and economics as to whether economic competition was among the more important causes of the World War. Be that as it may, the War occurred. During its progress economic changes were accelerated and by the time peace was

[1] The Franco-Prussian War in the eighteen seventies was the only major European war during the 100 years immediately preceding 1914.

[2] TAUSSIG, F. W., *International Trade*, 1927, p. 246, reproduced by permission of The Macmillan Company, Publishers.

achieved economic maladjustments had become seriously accentuated.

Between 1914 and 1920 industrial developments occurred in United States, Japan, Canada, New Zealand, Australia, South American countries and elsewhere that in peacetime might have been spread over a quarter century. Furthermore, the European industrial machine was thrown out of harmony with peacetime conditions in the rest of the world. Inflation, destruction of capital and diversion of productive energies to war pursuits left the belligerent European nations in a state of almost complete economic disorganization. The United States emerged from the conflict a creditor nation and a vigorous bidder for profitable opportunities to invest more capital abroad. Japan emerged from the War firmly entrenched in Eastern textile markets. In Canada, New Zealand and Australia protectionist sentiment was stronger after the War than it had been before.

During the whole of the postwar period world economy has been in a state of almost continuous confusion. The short period of apparent return to widespread prosperity prior to the nineteen thirties was highly artificial, resting as it did upon unstable exchanges and policies of borrowing which could not possibly continue indefinitely. Similarly the apparent prosperity of the nineteen thirties, such as it is, rests upon an unsolid base. One of the more important indications of postwar economic confusion has been the extreme instability of monetary systems. The nineteen twenties found most of the European nations with inflated, paper-money standards. Gold was flowing to the United States in payment of war obligations. Continuation of gold flows to this country or wholesale cancellation of war debts was inevitable because United States tariff barriers prohibited a large increase in merchandise imports in relation to merchandise exports. This impasse aggravated the difficulties of deflating European currencies and of reestablishing stable, gold-standard money systems in Europe. The political and business leaders in the United States were either ignorant of the fundamentals of this country's economic situation after the War, or, realizing the magnitude and the costs of deflation, postponed the day of reckoning as long as possible.

The severe industrial depression which began in 1929 and continued far into the nineteen thirties corrected some of the

causes of maladjustment carried over from the War. However, recovery measures were brought into play of a kind which themselves are likely to become causes of difficulty later on.[1] As time passes it becomes more difficult to distinguish among possible origins of disturbing economic factors responsible for economic circumstances since the World War. Some of the causes of existing economic difficulty are a carry-over from the wreckage of war; others may be traced to emergency measures introduced since the War, while still others are by-products of slow-moving processes of economic and political evolution that were in progress long before 1914.

In broad outline, world trade now is not very different from world trade prior to 1913. Great Britain, Germany, France and Belgium export manufactured goods, extend capital loans to less industrialized parts of the world and import raw materials. Industrial specialization in Europe encourages a brisk trade among those countries which have the most intense manufacturing systems as well as trade between manufacturing centers and agricultural hinterlands of Europe. However, closer examination reveals two conditions that may be significant of long-continued economic and political instability. The first is retardation in rates of growth of manufacturing, mining and external commerce in leading European nations. The second is decline in the proportion of world commerce and manufacturing that centers in western Europe. Indicative of manufacturing are trends in metal output.[2] In 1913 Europe produced about 48 per cent of the world's annual output of metals; in 1926, 37 per cent, and in 1934, 40 per cent. Trends in textile and other leading manufactures have moved in a similar direction. As was to be expected, Europe's share of the world's trade has declined along with the decline in her share of world manufacturing. In 1913, Europe had about 55 per cent of the world's total exports and imports; in 1926 she had only about 47 per cent and in 1935 about 49 per cent. North America's portion of world commerce

[1] Devaluation of the United States dollar, for example.

[2] The comparisons to follow come from League of Nations, *Memorandum on Production and Trade*, 1913 and 1923–1926, Geneva, 1928; *Foreign Commerce Yearbook*, U. S. Department of Commerce, 1936, and League of Nations, *World Production and Prices*, 1935–1936, p. 133. Used by courtesy of International Documents Service, Columbia University Press.

was about 14 per cent in 1913, 19 per cent in 1926 and 19 per cent in 1935. Asia's proportion of world commerce was about 12 per cent 1913, 17 per cent in 1926 and 16 per cent in 1935. It is to be expected that European industry will decline in economic importance in relation to that of the rest of the world as population and industry grow in sparsely settled regions. Possibly, more significant than the decline in Europe's relative position in industry and commerce is the fact that her share in world industry and world trade has decreased during the last two or three decades more than her share of the world's population. In 1913 Europe's proportion of the world's population was about 28 per cent; in 1926 it was 27 per cent and in 1935, 26 per cent. Let us bring the foregoing data together in tabular form by way of summary.

TABLE 72.—INDICATIONS OF CHANGE IN EUROPE'S POSITION IN WORLD PRODUCTION AND WORLD COMMERCE SINCE 1913
(Per cent)

	1913	1926	1935
Europe's proportion of world population.....	28	27	26
Europe's proportion of world production of metals	48	37	40 (1934)
Europe's proportion of world exports and imports	60	47	49

Inasmuch as political and economic strength tend to go hand in hand, trends such as those indicated in Table 72, if continued, would seem to foreshadow a waning of European political influence in parts of the world slower than western European nations to take advantage of their manufacturing and trading potentialities. It is doubtful if a change of this kind can occur without affecting national policies of external financing and external trade. The mere fact that Europe's share of world industry and commerce appears to have declined during the last two or three decades is not in itself evidence that the trend will continue. However, neither a continuation of the trend nor a reversal of the trend can occur without bringing in its wake industrial readjustments of one kind or another. Already, Great Britain, France, Germany, Italy and lesser Continental countries have had recourse to postwar trade restrictive measures of one kind or another (tariffs, currency depreciation, etc.) in an effort to stabilize their domestic economies. These restrictive measures are indications of a long-drawn-out period of industrial

rearrangement because they set in motion forces which make themselves felt in industry after industry and in country after country long after the initial impulse has subsided.

In a world as unsettled as that of the nineteen thirties few persons there are who would hazard a confident judgment concerning what changes in world industry and trade may occur during decades immediately ahead. Nevertheless, in carving out its own national policy in respect to international economic relations every nation is obliged to take cognizance of the directions in which political-economic policies in other nations appear to be moving.

PART VII

RECENT COMMERCIAL POLICY TENDENCIES

INTRODUCTORY

Long-time historical influences that affect international commercial relations are, at present, confused with war-born abnormalities of a more transitory character. Some of the latter may, in time, disappear altogether. Extreme instability of foreign exchanges and inter-Allied debt problems are examples. There is little reason to believe, however, that the commercial policies of all nations will settle back into their prewar grooves.

In a competitive world economy foreign competition may force industrial rearrangements in some nations, of such a character as to leave them in relatively weaker positions in the community of nations than they formerly enjoyed. This phenomenon is not new. Phoenicia was at one time the leading commercial nation of the world. A few centuries later Greek commerce overshadowed that of Phoenicia. In the nineteenth century, Great Britain surged foward to become the leading commercial nation. Possibly Japan, Russia, Germany, United States or some other nation will be next to assume the leading role in world trade. Changes of this magnitude proceed slowly; they seldom come to fruition without wars. Today Germany, France, Japan, Russia, Great Britain, Italy and the United States are all enlarging their armaments in preparation for the next war, which many careful students believe may occur within a generation. War motives tend to divert economic forces. These considerations the economist must take into account if he would retain a modicum of realism in his interpretation of existing national commercial policy in international relations. Considerations of war and peace are not, however, the primary interest of the economist. The student of international commercial policy, from an economic point of view, is interested primarily in such considerations as the international migration of industries, currents of merchandise trade, international movements of capital and the financial

expediencies which states resort to from time to time in efforts better to coordinate their internal economies with their external commerce. Among the expediencies in question are import tariffs, quantitative control of merchandise exports and imports, foreign exchange restrictions and currency devaluation. Seldom are either national economic objectives or national commercial policies clearly defined. However, certain long-time tendencies and their underlying causes may sometimes be discerned amidst a seemingly hopeless confusion of conflicting, short-run, expediency measures.

CHAPTER XXXI

BRITISH POLICY AND OUTLOOK

The manner in which Great Britain's tariff policy of the nineteenth century was shaped by the peculiar needs of her economy and the philosophy of the classical school has already been described. The production advantages of free trade, together with the early start of British industries in the employment of power machinery, had no small part in making the island kingdom the most wealthy and powerful of the great nations of the nineteenth century. Before the World War, Britons clung doggedly to the philosophy of world-wide free trade. British colonies and dominions agitated from time to time for imperial preference in the sale of raw materials in the English market, but the government in London was reluctant to make any engagements that would not permit British industry to purchase in the most advantageous markets. Since the World War, Britain's policy in international commerce has undergone modifications that, temporarily at least, constitute a reversal of her traditional free-trade policy.

FREE TRADE GIVES WAY TO PROTECTIVE LEGISLATION

Among the many influences that affected the policy of Great Britain toward external trade after the War, some are fairly obvious. One was a desire for greater self-sufficiency in foodstuffs. In 1917, the possibility of surrender, caused by submarine warfare and starvation, was imminent. The submarine danger impressed upon the minds of Englishmen—common folk as well as political and business leaders—the fact that Great Britain was an insular nation, dependent upon overseas markets for a large part of her food supply. This realization provided political support for legislative subsidies calculated to extend agricultural pursuits in the United Kingdom. Another reason for legislative protection of Great Britain's home market, after the War, is to

be found in a tendency of foreign markets for British manufactures to dry up. Tariff barriers imposed by foreign countries against imports of manufactures was one of the principal causes of Great Britain's difficulty in finding adequate outlets for her manufactures. Markets that were protected by import tariffs before the War were surrounded by even higher duties after the War. There was the problem of how to keep foreign markets from being progressively restricted by tariff legislation. Also there was the problem of what to do about low-cost foreign competition in neutral markets. Japanese competition in textiles, after the War, was a serious obstacle to postwar revival in the British textile trade. Necessity for curtailment in the operations of British textile factories became increasingly embarrassing year by year. In this case protective legislation could not directly assist Manchester spinners and weavers because Britain's textile industry was on an export basis. Nevertheless protective legislation might facilitate the building of home industries to manufacture import goods, thus contributing to induction of some of the idle workers into new industries. Protective measures are not uncommonly resorted to in periods of unemployment in declining export industries, even though positive action in the way of building stronger export industries in fields where foreign competition is less effective might be the wiser long-run course of action. A third reason for postwar protective legislation in Great Britain is suggested by the so-called "key industries" argument for subsidizing production of goods which the War had shown to be necessary for military preparedness. Why should England be dependent upon her potential enemies for such a wartime necessity as gun sights? A fourth motive for postwar protection in Great Britain grew out of the idea of a more closely knit, more self-sufficient British Empire to be achieved through a tariff system with provisions for imperial preferences. The movement was in evidence during the Imperial Economic Conference in Ottawa in 1932. Finally, deflation and the long period of industrial readjustment which England as well as other countries experienced after the War was a breeding ground for protectionist sentiment. These and other motives led to a series of postwar trade restrictive measures in the nation which, for three-quarters of a century, had been the foremost proponent of international free trade.

TRADE RESTRICTIVE MEASURES[1]

In general, restrictive measures employed by a nation for the purpose of improving its relative position in world trade fall into three categories: (1) currency depreciation, (2) foreign exchange controls and (3) restrictions on merchandise movements (import tariffs, industrial subsidies and import and export quotas). Great Britain has resorted since the War to all three of these general types of restrictive measures.[2]

From the McKenna Duties of 1915 to the Import Duties Act of 1932.—Before the World War British duties were collected on tobacco, tea, coffee, sugar, cocoa and a number of other articles that were not produced in the United Kingdom. These duties were levied for the purpose of raising revenue; they were not imposed for the purpose of protecting the English market for domestic or colonial industry. During the War, the so-called McKenna duties were introduced by the Finance (No. 2) Act under the name of New Import Duties (1915). The act provided for a levy of import duties on automobiles and accessories, films, watches, clocks, musical instruments, etc. The New Import Duties Act was renewed from time to time until 1924; it was repealed in 1924 by the Labor Government and reinstalled by the Conservatives in 1925. The McKenna duties were originally laid to raise revenue, check expenditures on luxury articles, save space in incoming ships and support foreign exchange. By 1925 the original purposes of the New Import Duties Act had been mostly lost from sight, and the legislation had become distinctly protective. The 1925 act imposed an ad valorem rate on motor-cars, musical instruments, watches, clocks, etc., of 33⅓ per cent.

[1] SOURCES: *Customs and Excise Tariff of the United Kingdom of Great Britain and Northern Ireland*, an annual, 1933, 1934, 1935 and 1936, His Majesty's Stationery Office, London.

HARVEY, A. S., *The General Tariff of the United Kingdom: Law and Regulations*, Sir Isaac Pitman & Sons, Ltd., London, 1933.

Imperial Economic Conference at Ottawa, 1932. *Summary of Proceedings and Copies of Trade Agreements. Appendices to the Summary of Proceedings* (published separately in Cmd. 4175 and 4174 respectively), His Majesty's Stationery Office, London, 1932.

See also Bibliography.

[2] Export quotas have been less conspicuous in British policy than the other restrictive measures cited.

Unquestionably this act served to subsidize certain British industries. The McKenna duties represent the first important departure from traditional British free trade.[1]

A second departure from a strictly free-trade policy in postwar England is to be found in the Safeguarding of Industries Act of 1921. Part I of this act provided for the imposition of duties on optical and scientific instruments, chemicals and other so-called key-industry products. Part II of the act was repealed in 1930, but key-industry duties were continued in effect by Parts I and III of the Safeguarding of Industries Act, 1921, as amended by the Finance Act of 1926. The key-industry duties had, originally, a double purpose: first, to restrict imports of particular military necessities from Germany, and, second, to stimulate production of such goods in Great Britain. In the second Safeguarding of Industries Act (1925) the key-industry idea was extended and supplemented by a conception of tariffs to minimize unemployment. This act provided for new duties in cases where the Board of Trade could be convinced by tariff seekers of three things: first, that the industry seeking protection was substantial and effectively run; second, that the imports complained of were a cause of unemployment in the United Kingdom; and third, that the new duties would not seriously handicap other domestic industries. Under this act duties were granted on buttons, gloves, laces, certain kinds of cutlery and hollow ware and various other things.

Another important extension of Britain's postwar protective tariff system came in 1931 and 1932. The Abnormal Importations (Customs Duties) Act, 1931, made provision for widening the scope of tariffs on various classes of manufactured goods. Duties under this act were not to exceed 100 per cent. Inasmuch

[1] Imperial preference was recognized in a limited sense by the McKenna duties. The rate for Empire products of particular classes was two-thirds of the full rate. In general, imperial preferential rates which had been a part of the tariff system of the United Kingdom during the first half of the nineteenth century and earlier disappeared with the coming of free trade in Great Britain (roughly 1840 to 1860). Preference was again definitely recognized and introduced by the Finance Act of 1919. Section 8 of this act provides that when certain specified goods are shown to the satisfaction of the Commissioners of Customs and Excise to have been consigned from, grown, produced or manufactured in the British Empire, preferential rates shall be charged.

as no definition of "abnormal" was given, the Board of Trade had ample freedom of action.[1] Soon after the act was formally passed, three tariff orders were issued, which levied duties of 50 per cent, in addition to existing duties, on a wide variety of goods. Among the goods subject to these orders were the following: pottery, metal furniture, carpets, woolen manufactures, gloves, paper, linoleum, cutlery, tools, typewriters, domestic metal utensils, cameras, lawn mowers, electric lamps, fertilizers, ropes, cotton manufactures, etc.

Yet another act, the Horticultural Products (Emergency Customs Duties) Act, also in 1931, provided for duties on certain classes of fresh vegetables and fruits and other classes of horticultural goods, production of which might be increased in the United Kingdom. The Horticultural Products Act and the Abnormal Importations Act were both emergency measures. They were supported by arguments to the effect that protective legislation was necessary to restrict imports into the United Kingdom until such time as other countries might acquire sufficient economic sanity to discontinue excessive tariffs and currency depreciation. The next general tariff provision was the Import Duties Act of 1932. It was supported by similar arguments but was more permanent in conception than the expediency measures passed in 1931. The Import Duties Act of 1932 added so many articles of merchandise to Great Britain's dutiable list as to make it somewhat comparable with a United States tariff schedule. The following groups and items are suggestive of the scope of the British 1932 act:[2]

[1] The Board of Trade is the governmental department in Great Britain which is principally concerned with the regulation of trade and commerce. In 1786 a board consisting of various officers of state and members of the Privy Council was constituted. In 1862 this body was designated "Board of Trade." The President of the Board of Trade has, in commercial affairs, much the same functions as United States Secretaries of State and Commerce. A reorganization of the work of the Board of Trade in 1918 created a number of new sections and departments. One of the new sections is the Commercial Relations and Transit Section. It handles matters relating to commercial treaties and agreements. Another section is that of Commercial Development and Intelligence, Department of Overseas Trade. The Department of Overseas Trade is a joint department of the Board of Trade and the Foreign Office. It is concerned with commercial intelligence work and the development of overseas commerce.

[2] SOURCE: *Customs and Exercise Tariff of the United Kingdom of Great*

Group I: Grains, fruits and vegetables, nuts, popcorns, etc.
Group II: Plants, flowers, etc.
Group III: Poultry, dairy and fish products.
Group IV: Tiles, articles of sanitary ware, fireproofings, glassware, marble, etc.
Group V: Iron and steel and other products.
Group VI: Furniture, stoves, builders' hardware, etc.
Group VII: Lead, zinc and other metals and their manufactures.
Group VIII: Cutlery, medical and surgical instruments, tools, etc.
Group IX: Electrical goods.
Group X: Machinery.
Group XI: Wood manufactures.
Group XII: Manufactures wholly or partly of cotton, wool and other fibers.
Group XIII: Articles of apparel not elsewhere specified—boots and shoes, gloves, hats, etc.
Group XIV: Chemicals.
Groups XV to XVIII, inclusive: Trunks and bags, fur goods, paper and paper products, arms and ammunition, toilet articles, jewelry, pipes, linoleum, toys, etc.

This act gave Empire countries certain preferences. It was followed in the same year (1932) by the Ottawa Agreements Act.

The Ottawa Agreements.—The purpose of the Ottawa agreements as expressed in the resolutions of the conference was extension of the mutual trade of the nations of the British Commonwealth by means of reciprocal preferential tariffs. The conclusion of the agreements was regarded by the conference (as expressed in its resolutions) as being a step which in the future should lead to further progress in the same direction, and to the utilization of protective duties for the purpose of

Britain and Northern Ireland in Operation on the 1st of January, 1936, His Majesty's Stationery Office, London, 1936, pp. 19 *ff.*

See also *Import and Export List* issued under the authority of the Lords Commissioners of His Majesty's Treasury and the Commissioners of His Majesty's Customs and Excise. His Majesty's Stationery Office, London, December, 1934.

insuring development of the resources and industries of the Empire on sound economic lines. Each commonwealth government was left to determine its particular policy in dealing with intercommonwealth preferences and most favored nation clauses in commercial treaties with foreign powers, but it was generally understood that treaty obligations would be so adjusted as to avoid interference with mutual preferences which governments of the Commonwealth might decide to accord to each other. In the opinion of the conference the object of industrial and commercial cooperation among the Commonwealth of Nations, should be, not to arrest industrialization of the less industrialized regions, but to direct and facilitate its course, thus to secure the best division of industrial activities among the several parts of the Commonwealth and the ordered economic development of each part.

Having arrived at statements of Empire policy in general terms such as those indicated in foregoing paragraphs, the United Kingdom proceeded to draw up agreements with Canada, Australia, New Zealand, Union of South Africa, Newfoundland, India and Southern Rhodesia. Certain provisions of the agreement with Canada are suggestive of the general tenor of negotiations between the United Kingdom and the Dominions. The United Kingdom-Canadian agreement called, on the one hand, for entrance into the United Kingdom, duty free (subject to certain provisions), of goods consigned from any part of the British Empire and grown, produced or manufactured in Canada, and maintenance of tariffs against such goods coming from foreign countries. The agreement called, on the other hand, for elimination or reduction of customs duties on a long list of goods (particularly manufactures) moving from the United Kingdom to Canada, maintenance of a minimum preferential in favor of United Kingdom goods, and Canadian protection against United Kingdom goods, only if the industries represented were reasonably assured of sound opportunities for success in Canada. The general purpose of the various agreements appears to have been freer trade among the British Empire countries, and maintenance of existing or higher schedules of customs duties against goods originating in countries foreign to the Empire. This imperial preference feature of Great Britain's postwar tariff policy may prove to be very important,

both economically and politically, in future international relations, because it points rather toward a unification of the Empire than toward hasty dissolution of it. One is inclined at this point to recall the Hamilton-List philosophy of internal free trade and external protection for the double purpose of fostering political solidarity and accelerating industrialization. A basic dissimilarity between the British Empire policy and the Hamilton-List philosophy would seem to turn on the latter objective, *viz.*, rapid industrialization. It is difficult to read into the Ottawa Agreements Act a major objective in the way of more rapid industrialization of the British Empire to overcome disadvantages resulting from a general backwardness of the whole Empire area in adopting revolutionary improvements in industrial technique, already acquired by competitors. However, the idea of political and economic solidarity for purposes of preserving empire or national unity (as the case may be) is a basic feature of the Hamilton-List doctrine and an important feature of the British Empire policy as evidenced by the Ottawa agreements.

Other Trade Agreements.—Another series of agreements was negotiated with foreign countries. In 1933 voluntary trade agreements were signed by Great Britain with Denmark, Sweden, Finland, Argentina, Norway and Iceland. In 1934 the policy of bilateral negotiations was continued. Agreements were signed in 1934 with nine countries. In March, 1936, agreements had been concluded by the British government with 19 foreign countries.[1] In general, the purpose of the commercial treaties or agreements was to increase trade between the negotiating countries. The magnitude of Great Britain's total purchases was regarded as entitling her to special treatment within the limits of loosely interpreted most favored nation clauses. The treaties were looked upon as substitutes for an international, multilateral agreement, pointed at relaxation of trade barriers. The commercial treaties or agreements differed from unilateral tariffs in the sense that the treaties involved mutual concessions on the part of two countries. The theory of the trade agree-

[1] The countries in question were Argentina, Denmark, Estonia, Finland, Latvia, Lithuania, Norway, Poland, Sweden, Uruguay, Rumania, Iceland, Turkey, Germany, Netherlands, Russia, France, Brazil and Italy.

SOURCE: Survey made by the *Morning Post*, London, March 27, 1936.

ments was that they tended to lower trade barriers in place of raising them.

Merchandise Quotas and Subsidies.—Great Britain has not resorted to merchandise quotas and subsidies to so large an extent as have some of the Continental countries. Nevertheless, quotas and subsidies have played an important part in British restrictive policy. Aside from a price equalizing subsidy for coal exports, after compulsory cartelization of the British coal-mining industry in 1930, and a quota-license system affecting dyestuffs, British quotas and subsidies have been confined principally to agricultural commodities and their first derivatives, such as flour.

A sugar (subsidy) act in Great Britain, providing bounties for manufacturers of home-grown beets, was passed in 1925, and a wheat-subsidy arrangement was inaugurated in 1932. The Wheat Act of 1932 provided for a deficiency payment to wheat growers, equal to the difference between the average sales price of British-grown wheat and 10*s* per cwt., full deficiency payment to be made on not more than 27 million bushels. For any year in which production exceeded 27 million bushels, the deficiency payment was to be reduced pro rata. Revenue to finance the act was to be raised by a levy on flour imports. Other measures in addition to import tariffs, incorporated in Great Britain's joint policy of agricultural expansion and imperial preference, include a series of import quotas applying to chilled beef, frozen beef, live cattle, frozen mutton and lamb, bacon and hams, condensed whole milk, condensed skimmed milk, milk powder, cream, main-crop and early potatoes, eggs and oats, from non-empire countries. These quantitative regulations of agricultural imports were accomplished under voluntary agreements[1] and under provisions of the Ottawa Agreements Act, 1932,[2] and the Agricultural Marketing Act (No. 2), 1933.[3]

[1] See *The Agricultural Marketing Register*, 1934–5, Agricultural Economics Research Institute, Oxford, 1935.

[2] See *Imperial Economic Conference at Ottawa*, 1932, *Summary of Proceedings and Copies of Trade Agreements*, and *Appendices to the Summary of Proceedings* (published separately in Cmd. 4175 and 4174 respectively), His Majesty's Stationery Office, London, 1932.

[3] The Agricultural Marketing Act (No. 2), 1933, was an act to make further provision concerning the financial powers of boards set up to administer the Agricultural Marketing Act, 1931. This act was to provide means of regulating the marketing of agricultural products. Funds were appropri-

Monetary Measures.—The slow process of adjusting the industrial structure of the United Kingdom to changing world demand for British goods has been inextricably involved with the question of unstable monetary systems. In periods of monetary instability, a temptation is ever present to postpone the political hazard of cost reduction by resorting to monetary devaluation or control of exchange. In fact, if international payments are not balanced by adjustments in merchandise exports and imports, gold may be withdrawn from a country like Great Britain, which has a relatively large volume of external trade, until the country has an insufficient supply of metal to support a free-gold-standard monetary system. This phenomenon occurred in Great Britain in 1931. In 1931 the pound was divorced from gold and thereafter it depreciated in terms of gold and in terms of currencies of gold-standard countries. The effect of currency depreciation upon merchandise movements is similar, for a time, to that of protective tariffs. Imports are retarded, exports stimulated.[1] After sterling was divorced from gold in 1931, the exchange value of sterling was determined from day to day like the price of wheat or cotton. The value of exchange moved in such a way as to equate the supply of exchange and the demand for it. An exchange equalization fund was employed to prevent extreme and erratic day-to-day fluctuations.[2] It was easier for Great Britain to reduce the prices of her export goods, in terms of foreign currencies, by depreciating sterling exchange, than it was for her to keep sterling exchange stable and reduce domestic costs and prices of her exports. Divorcement

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ated by Parliament for the purpose of making loans to boards administering schemes under the two acts. Furthermore, provision was made for limiting by quota the imports of any product for which a marketing scheme was in operation or in contemplation.

[1] See Chaps. XXIII and XXIX, of the present volume.

[2] Blocked exchanges and other forms of exchange restrictions have been most in evidence in countries that attempted to regulate their exchange rates at some predetermined value in relation to gold or otherwise. Great Britain has made some use of exchange clearing agreements. See Chap. XXXIII for a description of the operation of exchange-clearing agreements. For a discussion of exchange restrictions that have been in operation in various countries in recent years, see *Review of Principal Foreign Exchange Restrictions throughout the World*, District Bank Limited, London, December, 1934, and later supplementary reports.

of sterling from gold (1931) was the most important monetary measure taken to regulate Great Britain's external trade. Nevertheless, British finance has not been entirely free, in recent years, of foreign exchange controls. Exchange restrictions were put into effect in 1931 and 1932, to counteract flights of capital. Also a number of clearing agreements were made during the early thirties, with Argentina, Germany and other countries that had complicated systems of blocked exchanges.

Magnitude of British Protection.—The monetary measures acted in the same direction as customs tariffs and merchandise quotas in protecting Britain's home market. General indications of the magnitude of British tariffs against nonempire goods may be indicated by a few random observations concerning tariff rates that were in effect in 1936. Ad valorem rates, applying in 1936 under the Import Duties Act of 1932, ranged from 10 per cent to 40 per cent. Rates that appeared most often in the schedules were 20 per cent and 25 per cent. Rates of 30 and 33⅓ per cent occurred more often than 10 per cent and 15 per cent rates. In some instances ad valorem rates stood alone. In other instances specific rates stood alone. In still other instances the two types of rate were combined. The most commonly occurring ad valorem rate, *viz.*, 20 per cent, was in many instances combined with a specific rate. Inasmuch as these rates were minimum for nonempire countries and inasmuch as additional rates were effective in some instances under the Safeguarding of Industries Act and other enactments, Great Britain's customs tariff system, as a whole, certainly had some effect in the way of protecting her home markets from the competition of goods produced in nonempire countries. The tariff system afforded less effective protection for Great Britain's home market against empire goods because of imperial preferences granted in connection with the Ottawa agreements. If, in addition, account is taken of trade agreements, merchandise quotas and subsidies and the restrictive monetary measures, the fact becomes quite obvious that the United Kingdom is no longer a free-trade nation in the generally accepted connotation of that term. However, no composite measures of the height and effectiveness of the aggregate of protective measures is available.

Conclusions.—Postwar Great Britain was faced with two major types of adjustment. One of these types of adjustment was

deflation—necessary to reestablishment of a free gold standard, or some form of managed currency system, with elements of stability requisite to a far-flung system of commerce and finance. The other type of necessary adjustment was a result of industrial rearrangements required to meet the exigencies of changing world demand for British goods. Both types of adjustment involved reductions in costs of production of British goods, if the pound was to be put on its prewar gold base and kept there. Cost reductions are achieved in a competitive economy in one or all of several ways: (1) reduction in overhead expenses through a process of devaluing fixed assets; (2) improvement in business organization and industrial technique; and (3) reduction in wages and salaries. Improvements in business organization and industrial technique move slowly; they were inadequate, in Great Britain's case, to absorb all the shocks of postwar change. Devaluation of fixed assets and salary reductions were resisted by business interests and wage reductions were resisted by trade-union organizations. In the absence of economic balance, unemployment increased and political pressure was exerted for recourse to expediency relief measures. Home-market protection and currency manipulation, in Great Britain, as in other countries, were among the principal expediency measures brought into play.

The World War marked the end of a half century of uninterrupted British free trade. Opinions differ as to whether the United Kingdom has taken the initial steps toward a new policy of protection that is to characterize the next era in her commercial history, or whether the recent protective measures are merely temporary postwar phenomena.

PROTECTION FROM THE POINT OF VIEW OF ORTHODOX BRITISH ECONOMISTS

Neoclassical economists who have examined postwar economic conditions in Great Britain hold that little can be gained and much may be lost by resort to protective measures.[1] The argument follows lines of doctrine developed by Ricardo, Mill and

[1] For a nontechnical treatment of the subject see Sir William Beveridge, *et al.*, *Tariffs, The Case Examined.* Longmans, Green & Co., London, 1932. See also recent works of A. C. Pigou and T. E. Gregory, and bibliography of the present volume.

Marshall.[1] It holds that the facts of our generation as they bear upon British circumstances, although different from those of the middle nineteenth century when free trade was adopted as the British policy, do not justify reversion to a protective system. Conditions relevant to fiscal policy in Great Britain at present are recognized to be different from those which prevailed in the nineteenth century in at least four fundamental respects. In the first place, Great Britain is no longer in a semimonopolistic position in the sale of manufactures in world markets. Other nations have come abreast of the British in the employment of power machinery. In the second place, economic nationalism is tending to crowd British goods out of some of the most profitable foreign markets. Leading industrial nations have been following Great Britain in the employment of power machinery while at the same time they have been constructing formidable trade barriers against the sale of foreign manufactures in their home markets. In the third place, state interference with business freedom in the British Isles, growth of large-scale management organizations and spread of a labor movement have introduced greater degrees of rigidity into British economy than were present when the laissez-faire system was in the heyday of its best achievements. In the fourth place, monetary systems all over the world are extremely unstable. Monetary systems have been more unstable since the World War than at any time during the long period stretching from the end of the Napoleonic Wars to 1914. May not these facts justify reversion to a protective policy in Great Britain? The majority of English neoclassical economists say no. They have reexamined certain doctrines of Adam Smith, Ricardo, Mill and Marshall and have pronounced the doctrines sound and applicable, in many of their essential features, to present-day circumstances.

The Case for Continuation of Free Trade.—Great Britain is more densely populated than any other nation with an equally high average income. Self-sufficiency, even if possible, would undermine the foundations upon which the nation's greatness was built, *viz.*, the exchange of English coal and English ingenuity, embodied in manufactured goods, for foodstuffs and fabricating materials. If national prosperity cannot be maintained under this system—to which the industrial life of the nation is

[1] Alfred Marshall, 1842–1924.

geared—per capita prosperity must inevitably recede or population decline. Protection cannot forestall the inevitable results of diminishing returns, generalized in its application to the sum total of the natural resources of the United Kingdom.

Among the advantages of trade restrictions claimed by British advocates of a protective system are the following:

1. Protection will reduce unemployment incident to the decline of old and weak industries.
2. Protection is an instrument useful in achieving a greater degree of national and international economic equilibrium.
3. Protection is needed to foster key industries that are essential to national defense.
4. Protective tariffs will foster mass-production economies.
5. Protection will serve as a bargaining weapon for the beating down of foreign trade barriers.
6. Protection will minimize the evils of dumping.
7. Protection is necessary to a system of imperial preference for the promotion of empire self-sufficiency.
8. Protection is an effective means of increasing state revenues.
9. Protection is necessary to guard Great Britain's high standard of living against the low-wage competition of low-standard countries.

English neoclassical economists have subjected each and all of these arguments to the rigorous logic of their close-knit system of economic doctrines and have found the arguments unsound.

During a period of liquidation of old industries that have dropped below the comparative cost line, protective tariffs, say the neoclassicists, may increase employment in certain industries that produce goods for domestic consumption. But restriction of imports will increase the loss in weak-industry exports. There is no assurance that the tariff-induced increase in employment in import industries will any more than compensate for additional tariff-induced unemployment in export industries. Furthermore, the effects of trade restrictive measures cannot be anticipated with sufficient accuracy to justify their use in attempts to facilitate planned withdrawals of labor from weak industries. The new workers employed in protected industries may be fewer in numbers and different in personnel from those discharged from export industries. Last but not

least, the neoclassicists call attention to the fact that emergency duties are difficult to get rid of; they tend to accumulate and to become an enduring shelter for vested interests.

The argument for protection as an instrument for increasing national and international economic stability is concerned primarily with considerations of monetary instability. In Great Britain's case, wage rigidities and other rigidities in the economic system prevented sufficiently rapid deflation and liquidation to permit the country to remain on the gold standard, after the pound had been tied to gold in 1925 at its prewar gold value. While the pound was still on a gold basis advocates of protection stressed a need for regulating Great Britain's merchandise trade balance in order to prevent gold from being drained from the country in such amounts as to force a departure from the gold standard. Eminent students of international finance believed the pound to have been overvalued, when the gold standard was established in 1925, by about 10 per cent. Purchasing power parity as between British currency and United States currency in 1925[1] is believed to have been about $4.40 per £1; whereas the gold par after resumption of gold in Great Britain was $4.86 per £1. This overvaluing of the pound tended to retard British exports and to stimulate imports. To illustrate: Let us assume a wool sweater sold in London before resumption of gold in 1925 for £1, which exchanged for about $4.40 United States money. After resumption of gold, the rate of exchange was $4.86 per £1. If the English sweater continued to sell in London, after resumption of gold, for £1, the cost in American money was $4.86 instead of the $4.40 which it cost before resumption of gold in Great Britain. This increase in price in terms of foreign currency tended to retard exports of the British goods. On the other hand, if 4 bushels of American wheat at $1.10 a bushel before resumption of gold could be bought for £1; after resumption, 4 bushels of wheat at $1.10 could be bought for 4.40/4.86 of a pound or approximately nine-tenths of a pound sterling. This tendency for import prices to be reduced in terms of British currency stimulated British imports. A result of decreased exports and increased imports was an outflow of gold and diminution of gold reserves. Had wage rates, salaries, fixed-equipment valuations and other elements entering

[1] The United States was on the prewar gold standard at that time.

into internal costs of producing British export goods been sufficiently flexible, sterling prices of British exports would have declined. The exports would have increased. International payments would have been balanced without loss of gold reserves. But wage rates and other internal cost elements were rigid. Costs and prices of British manufactures did not decline sufficiently to cause a balancing of international payments through adjustments in merchandise movements, and in consequence, gold reserves were depleted. Before September 21, 1931, when sterling became divorced from gold, there may have been a very good argument for import tariffs and export subsidies to reduce the excess of merchandise imports and stop the loss of gold. Since September, 1931, sterling has not been tied to gold; therefore, this argument for trade regulative measures is no longer pertinent. Since divorcement of the pound from gold, tendencies toward increased imports and reduced exports and reduced income from overseas have been corrected by decline in the cost of sterling exchange in terms of foreign currencies. Prices of British goods are thus reduced in terms of foreign currencies, causing exports to increase. Vice versa, prices of foreign goods in terms of sterling are increased, causing a reduction in imports. So long as the British public retains its confidence in the paper pound (which has been depreciated in terms of gold) internal prices do not rise sufficiently to offset the increase in purchasing power of foreign currencies in Great Britain. The extent to which a policy of this kind can be carried without causing an internal inflationary rise in prices in Great Britain is a debatable question.

A third reason advanced by protectionists for extending Great Britain's system of trade restrictions is the need of fostering key industries that are essential to national defense. The neoclassical economists present two opposing arguments. First, if particular key industries need to be subsidized for purposes of national defense, the most effective and least costly means of achieving the desired end is through direct subsidization in place of indirect subsidization. Second, all industries are necessary to national defense in a modern war. Great Britain cannot strengthen her position in all directions through the instrumentality of trade restrictions, because protection for all industries would tend to reduce national productivity in the aggregate.

Tariffs to foster mass-production economies is a fourth argument for protection. John Stuart Mill and many neoclassical economists have granted a certain degree of validity to List's doctrine of scientific protectionism for the promotion of new industries and of political solidarity in industrially young nations. Great Britain, however, is not industrially young. Her political system is unified. She has long been an exporter of capital to industrially backward regions. If, it is argued, there are opportunities for mass-production economies in Great Britain, which British industrialists have been too decadent to see, more effective business leadership and not protection is the need. Protection, in an industrially mature nation, tends to perpetuate the inefficiencies of extreme conservatism. It does not contribute to the development of those qualities of initiative, courage and business leadership necessary for success in highly competitive markets. Furthermore, if subsidization were necessary to initiate mass-production economies, direct subsidization would be better for this purpose than indirect subsidization through the instrumentality of protective tariffs.

A fifth argument for protection proposes that duties be used as bargaining weapons with which to beat down trade restrictions imposed by foreign countries. Neoclassical economists take the position that retaliatory measures are more likely to cause a general increase in trade restrictions throughout the world than a reduction in the number and severity of trade restrictions abroad. Furthermore, they hold that all the advantages which a policy of free trade possesses over one of protection do not depend upon its being reciprocal. High customs tariffs imposed by foreign countries inflict injury upon a free-trade country by restricting its outward flow of trade and thus causing diminution of both its exports and its imports, the one being dependent upon the other. If the free-trade nation were to add a further check to the flow of trade by placing restrictions upon its imports, the aggregate amount of imports and exports would be reduced still further.

A sixth argument suggests that protective measures be used to minimize the evils of dumping.[1] The neoclassical economists

[1] The term "dumping" implies sale of goods in foreign markets at prices below those which similar goods command in the home market. Sporadic dumping may so unsettle the market in which goods are dumped at prices below local production costs as, ultimately, to cause a loss to consumers in

argue to the effect that a permanent protective-tariff system will not prevent sporadic dumping and that the harm resulting from such dumping is done before specific preventive-tariff legislation and machinery can be brought into action. Systematic, monopoly dumping and state-aided dumping would best be dealt with through the instrumentalities of international conventions.

A seventh argument for British trade restriction advocates that protection is necessary to a system of imperial preferences for promotion of Empire self-sufficiency and Empire free trade. The neoclassical economists do not believe that Empire free trade is a practical objective inasmuch as all the Dominions have protective tariff systems and inasmuch as the tendency is to build up these systems, rather than to tear them down. Without substantial reduction in the number and severity of trade restrictions which guard Dominion home markets against manufactures, the United Kingdom stands to lose more by a policy of Empire preference than she can reasonably hope to gain from it. The loss in question is of two kinds: first, any system of Empire preference that is beneficial to the Dominions will increase costs of foodstuffs and fabricating materials imported by the United Kingdom; second, tariffs against foodstuffs and fabricating materials coming from non-Empire countries will reduce exports of British manufactures to those countries. The loss in exports of manufactured goods to non-Empire countries could not be offset by increased exports of manufactures to the Dominions unless they substantially reduced their trade barriers. As already stated, the neoclassical economists believe that removal of Dominion restrictions against United Kingdom manufactures is not politically feasible.

Need of additional state revenues is an eighth reason advanced by politically minded Britons in favor of protection. The

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that market. Temporarily, consumers in the receiving country get goods at abnormally low prices. Later, when the dumping is discontinued, prices of the goods in question, and other goods as well, may be higher than they would have been had the dumping not initiated waves of industrial instability in the receiving country. Other types of price discrimination are systematic monopoly dumping and state-aided dumping. An objection to these forms of price discrimination lies in possible embitterment of international trade relations.

neoclassical answer is brief and concise. Great Britain has had tariffs for revenue for a long time. A tariff that is effectively protective is not one which yields a maximum of revenue because, to be protective, it must exclude some portion of goods that would be imported under a less restrictive system. This conclusion does not necessarily imply that some modification of existing rates and schedules might not augment existing tariff revenues. It merely implies that, generally, protective-tariff legislation does not maximize import tariff revenues.

The ninth claim put forth by British protectionists is that duties shield domestic workers from low-wage competition of foreign countries. This argument need not be analyzed here because its analysis is an exposition of the principle of comparative costs, a principle that has been expounded at length in preceding chapters of this volume.

It is difficult, if not impossible, to punch holes in the logic of the argument for continuation of Great Britain's free-trade policy. Inasmuch, however, as protective legislation is not always guided by economic logic, other aspects of the subject need exploration. Many of the virtues of a free-trade policy are long-run virtues; whereas immediate discontent on the part of large bodies of voters may be the controlling influence in legislative halls. Possibly it is realization of this fact which has urged a few eminent British economists to break away from some of the classical canons in a search for measures that may serve to direct tides of political expediency into channels least likely to do irreparable harm in the long-run future.[1]

SOCIAL INSTABILITY AND PROTECTION

During the nineteenth century competition was a powerful stimulus to innovation. Between 1800 and 1850, subsistence husbandry and manufacture for local consumers gave place to production for wide markets. So long as the economic life of a community was variegated and industrial units small, changes were effected without the creation of an unemployment problem so serious as to threaten legislative nullification of industrial *laissez faire*. During the latter part of the nineteenth century, British industry met the challenge of foreign competition in manufactured goods by resorting to greater degrees of specializa-

[1] J. M. Keynes is an outstanding example.

tion, both technical and geographical. The weaker industries and units succumbed, the stronger expanded and prospered. With industrialism contributing to the creation of larger producing units and more specialized manufacturing areas, a time came when the decay of a weak industry was accompanied by great capital losses and long-sustained social distress. Surplus labor from decaying trades could not easily be transferred to other trades in other areas. Losses incident to industrial innovation tended to bear more and more heavily upon the laboring classes. A community that was so unfortunate as to lose its principal industry was left with people out of work and with homes, churches, transportation and communication systems and other social capital in a state of decay. Neither the people nor the facilities for comfortable living could be moved, economically, to areas of increasing employment.[1] This was the state of affairs during the period of postwar industrial reorganization. Voices raised against the miseries of innovation grew in number and volume until, as already recounted, the traditional policy of British free trade was reversed in the halls of Parliament. The character of commercial policy legislation in years ahead may be conditioned more by numbers of votes that are cast by unemployed persons and those who live in fear of unemployment than by the sterner admonitions of economists or the less vociferous murmurings of laboring persons whose fortunes innovation has improved. The key to Britain's future commercial policy course is, at least in part, to be found in the stability or instability of her existing industries and the outlook for prosperous industrial expansion or forced industrial contraction.

STRUCTURAL CHANGES IN BRITISH INDUSTRY[2]

At the end of the World War, large staple industries, coal mining, metals, engineering and textiles, predominated in Great Britain. Between 1901 and 1914 and again between 1914 and

[1] Transfer of productive factors is particularly difficult when the areas of contraction and expansion are in different countries.

[2] SOURCES: ALLEN, J. G., *British Industries and Their Organization*, 2d ed., Longmans, Green & Co., New York, 1934.

A Research Committee of the British Association for Advancement of Science, *British Industry and Depression, A Record of British Industries Since* 1929, Sir Isaac Pitman & Sons, Ltd., London, 1935.

See also the bibliography at the end of the present volume.

1921, numbers of workers engaged in coal mining, metals and engineering trades increased more rapidly than the working population. Numbers engaged in the textile and clothing industries increased less rapidly than the occupied population in the period 1901–1914 and actually decreased between 1911 and 1921. Even before the War, the textile industry in Great Britain was showing evidence of weakness. Since the War, British metal and engineering trades, like the textiles, have suffered as a result of such influences as higher tariff barriers abroad, industrialization of foreign countries and increased use of substitute products. Whether these conditions are evidences of a serious weakness in the foundations of British industry or merely evidences of a change in the directions of British economic development (leading to redistribution of British resources and the rise of new industries) is a debatable question. Two facts, however, are clear. First, the great, unsheltered export industries of the north of England did not fully recover their prewar status in domestic economy and world trade during the period of world recovery in the nineteen twenties. Second, light industries in the south of England had recovered their prosperity by the middle nineteen twenties and were drawing workers from the north.

Coal.—Since the early nineteen twenties British coal output and persons employed in coal mining have declined. Relative inaccessibility of British coal, foreign competition, increased efficiency in the utilization of coal, technical improvements in mining methods and recourse to substitute fuels appear to be among the causes of the industry's contraction. These circumstances together with the low profits prevailing in the industry suggest the need of a permanent withdrawal of workers from coal mining to other industries.

Iron and Steel.—The outlook in Great Britain's steel industry is not one of rapid expansion and absorption of workers from coal, textile and other depressed trades. Since the World War, Britain's pig-iron trade has failed fully to recover; her plants have worked at a fraction of their capacity much of the time;[1] profits have been low, unemployment has been large and the insured labor force attached to the steel industry has been contracting. Reasons for postwar depression in Britain's steel industry are probably to be found in world-wide depression that

[1] Prior to the launching of a huge rearmament program in 1937.

has affected all countries, in shifts in demand (from British iron goods to competitive steel goods) and in relatively high costs of British iron and steel goods. Partial revival in the iron and steel industry may be achieved in the United Kingdom by better adaptation of product to demand and by cost reduction. However, there is little reason to believe that lasting future prosperity in Great Britain will center about a rapidly expanding iron and steel industry, as was the case during the last decades of the nineteenth century.

Engineering.—Engineering as classified by certain British writers is one of the great modern industries. It provides equipment for mechanical transport and power-driven factories and mines. It also provides apparatus for lighting, heating and drainage. Great Britain's overseas trade in locomotives, gas engines, agricultural machinery, electrical equipment and similar goods has not kept pace, since the War, with that of Germany or the United States. In fact, Britain has lagged behind her two principal competitors in her rate of development of foreign markets for engineering goods, for several decades. Import tariffs may have contributed, during depression, to enlargement of Britain's domestic market for her home-produced machinery. However, the United Kingdom is not a large country. Expansion of the engineering industry for home consumption is so limited in possible scope that hope of its absorbing a large proportion of the persons needing removal from textile and coal industries is not great. Whether necessity will be the mother of invention in sufficient degree to put Great Britain abreast or ahead of the United States and Germany in foreign markets for machinery and other engineering goods, only time can tell. It is possible that expansion of exports in this direction will tend to offset Great Britain's loss of position in foreign markets for consumers' goods. Demand for engineering goods in industrially backward countries, that are encouraging manufacturing by placing import tariffs on manufactures, tends to expand long after home manufacture has begun to crowd out foreign consumers' goods. Here is one avenue of at least some expansion for British industry.

Shipbuilding.—Among the strongest of Great Britain's old industries is shipbuilding. Possibly the cause for continued supremacy in this field is to be found in the fact that Great Brit-

ain is a country with a diversified industrial life, capable of producing the multitude of components that are required in a ship. Free trade that gives access to raw materials at low cost is another of Britain's advantages in shipbuilding. Even more important, possibly, is the technical skill and knowledge of seafaring needs that the British have acquired over the centuries. In 1892–1894, Great Britain built no less than four-fifths of the total gross tonnage of merchant vessels launched by all countries of the world. For the period 1910–1914, Britain's proportion of all merchant ships constructed was about three-fifths; in the nineteen twenties, the proportion was around one-half. During all these years, a substantial proportion of the merchant ships constructed by the British were sold to foreign companies. In spite of its persistent strength, however, the British shipbuilding industry cannot be expected to absorb large numbers of workers ejected from employment as a result of decline in textile manufacturing, reduction in the manpower required in mining or shrinkage in demand for labor in other British industries. Among the reasons for this conclusion is the fact that new types of vessels are being introduced by Great Britain's competitors—types of vessels that the British have not as yet produced. Furthermore, merchant-vessel construction is being increasingly subsidized by foreign governments as a war measure, not to mention the fact that shipbuilding is not a new industry that would be expected to expand at a phenomenally rapid rate.

The Motor Trade.—Great Britain has not neglected to build a motor-vehicle industry but for various reasons she is not the leader in this field. In the nineteen twenties, the United States produced about four-fifths of the world's output of motor vehicles; her exports were greater than the entire output of any other country. Mass production of standardized machines was fostered by the United States large home market. Americans implemented their large-home-market advantage with technical ingenuity in automotive construction and by their quickness in sensing the advantages of catering to the every convenience of a motoring public. There is little reason to believe that Great Britain's automobile industry can successfully compete on a large scale with the American industry in foreign markets in the near future, even though British wages are lower than wages in the United States. Enlargement of her automobile industry to

supply foreign markets does not, therefore, appear to be a very promising solution to England's need of a profitable avenue for extensive industrial expansion. Some increase in the British automotive trade is probable.

Textiles.—Little need be added to what has been said in earlier chapters about the British textile industry. It is second only to the metals and engineering group in numbers of workers employed. More than a million workers were engaged in British textile industries in the nineteen twenties. Textiles and metals, plus shipping, were the foundation stones of Great Britain's nineteenth century greatness. Textile manufacture is an industry that can use, to advantage, relatively large amounts of low-wage labor—particularly women workers. Furthermore, the industry is less dependent upon an abundance of fuel than are the metal industries. Slowly but surely Japan, Italy and other countries with lower wages than Great Britain are pushing their way into her foreign textile markets. Britain's textile industries are contracting; new industries are sorely needed in the United Kingdom to absorb available labor and capital for which there is no longer profitable opportunity for employment in Britain's great textile-manufacturing centers.

Areas of Industrial Stability during the Postwar Period.—The proportion of the industrial population employed in production of goods and services for home consumption has definitely increased as the staple export trades have declined. Distributive trades—wholesaling, retailing, selling, advertising, servicing—have absorbed an increased proportion of the working population. During the last decade, numbers engaged in distributive trades in Great Britain have increased at least half a million, or 33⅓ per cent. Reasons for this shift are, possibly, to be sought in greater geographical diffusion of the population, which improved transportation facilities has made possible, and concentrated effort to sell more and more consumers' goods and services to classes of persons whose incomes, in spite of economic stress, have remained large. Extreme styling is a characteristic example of methods devised to force the sale of greater quantities of consumers' goods to wealthy persons. Production and distribution practices that increase the rate of obsolescence of goods contribute to instability of demand, alike for finished goods, fabricating materials and machinery. Instability of demand contributes, in turn, to hand-

to-mouth buying, the stocking of small inventories and the making of frequent small-lot shipments. All these things necessitate more handling and in other ways tend to augment the personnel employed in distribution.

Another direction of increased employment in postwar Great Britain has been in the manufacture of light consumers' goods. Artificial silk, gramophones, house furnishings and foodstuffs are representative of goods turned out by the so-called light industries. Developments of this character are logical results of extreme depression in staple export trades, wage reductions in the unsheltered industries and the laying of import tariffs to protect and foster the growth of manufacturing for home consumption. In addition to the examples already cited, other industries that have expanded to supply the home market with domestic goods are the motor-vehicle industry and those parts of the steel-goods industry that had not been fully supplying home-market demands. Certain parts of agriculture, also, are in this category.

It is reasonable to believe that the trends toward development of distributive trades and light manufacturing industries will persist. The development of distributive trades, if based upon territorial decentralization of residence and unequal income distribution, rests upon a persisting foundation. Development of light manufacturing appears to rest upon a different but equally enduring base. As parts of the old mass-production, export industries tend to drop below the comparative cost line, because of foreign competition, diversified, light industries are a logical group to find themselves in a position of comparative advantage. The reason is that such industries employ relatively large amounts of intelligent, skilled labor. What is true in this respect of light manufacturing industries is probably also true of certain branches of intensive agriculture, although not, necessarily, of British agriculture as a whole.

Agriculture.—Following the Wheat Act of 1932, British wheat acreage rose rapidly. In 1934 the acreage was 46 per cent greater than it had been in 1931. Oats were subject to the general 10 per cent ad valorem tax under the Import Duties Act of 1932; the rate was doubled in 1933 and a specific duty substituted in 1934, but the increase in oats acreage was small. Sugar-beet production, like wheat production, responded to subsidization

with a large acreage increase. The responses of other lines of agriculture to protective measures were mixed. In general, British agriculture has not suffered from reduced production and unemployment to the same extent as the staple export industries, coal mining, for example.[1] However, agriculture has not expanded sufficiently to absorb an appreciable number of the workers no longer demanded in the export industries. In fact, employment in agriculture, in the aggregate, appears to have declined somewhat since the War.[2]

OVERSEAS TRADE TENDENCIES

Basically, the structure of British industry and overseas trade is not strikingly different from that of the prewar years. Changes have been under way during the last two or three decades, but they have not as yet exercised an influence that might be described as revolutionary. A larger proportion of persons available for work have been unemployed since the War than was the case before the War; industrial activity has been slack in many departments since the War, and there have been other evidences of readjustment. In spite of these conditions, foodstuffs and fabricating materials continue to bulk large in Britain's imports, while manufactures continue to bulk large in her exports. A comparison of British imports and exports by classes of merchandise for the years 1913, 1923, 1933 and 1935 is shown in Table 73. The figures indicate that foodstuffs, raw materials and articles mainly unmanufactured constituted 74 per cent of British imports in 1913, 76 per cent in 1923 and 75 per cent in 1935. Of the exports of United Kingdom produce, 80 per cent were articles wholly or mainly manufactured in 1913, 75 per cent in 1923 and 77 per cent in 1935. Regardless of efforts to make Great Britain less dependent upon foreign markets

[1] Coal mines in the United Kingdom employed less than 800,000 persons in 1933 as compared with about 1,200,000 in 1923.

SOURCE: *Statistical Abstract of United Kingdom*, 1933, His Majesty's Stationery Office, London, 1934.

[2] Agriculture employed possibly 10 per cent fewer persons in 1933 than were employed in agriculture in 1923. These agricultural data are based on records of one day in June each year. The decennial census shows that about 1,300,000 persons were employed in agriculture in 1921 as compared with about 1,200,000 in 1931.

SOURCE: *Ibid.*

for textile manufactures and other goods that are becoming more and more difficult for her to sell abroad at profitable prices, the country is still predominantly an importer of raw materials and an exporter of manufactured goods. Furthermore, the country's external trade continues to be a relatively large proportion of her total trade. Exports constituted 20 to 30 per cent of production during the period 1925 to 1930. Although a

TABLE 73.—CLASSIFICATION OF IMPORTS AND EXPORTS OF THE UNITED KINGDOM FOR THE YEARS 1913, 1923, 1933 AND 1935[1]
(Value in millions of pounds sterling)

Year	Imports				Exports (United Kingdom produce)			
	Food, drink and tobacco	Raw materials and articles mainly unmanufactured	Articles wholly or mainly manufactured	Total, including other classes	Food, drink and tobacco	Raw materials and articles mainly unmanufactured	Articles wholly or mainly manufactured	Total, including other classes
1913	290	282	194	769	33	70	411	525
1923	509	325	257	1,096	44	131	580	768
1933	340	180	151	675	28	46	282	368
1935	355	212	185	756	32	53	329	426
	Per cent of total imports				Per cent of total exports (United Kingdom produce)			
1913	74		25	100	20		80	100
1923	76		23	100	24		75	100
1933	77		22	100	21		76	100
1935	75		24	100	20		77	100

[1] SOURCE: *Statistical Abstracts of the United Kingdom*, His Majesty's Stationery Office, London.

decline of possibly 5 to 10 per cent in the proportion which exports bore to production appears to have occurred between the prewar period and the nineteen twenties, and a further decline between the middle nineteen twenties and the middle nineteen thirties, external trade is still a relatively important factor in British economy.[1]

[1] Exports were estimated to have been approximately 30 per cent of production in 1907; 27 per cent in 1924; 20½ to 22⅓ per cent in 1930–1931;

Terms of Trade.—Great Britain's terms of trade were tending to worsen during the period 1900 to 1914. The early postwar years found her terms of trade more favorable than they had been before the War. There was some settling back toward the prewar exchange ratio between prices of British imports and exports during the nineteen twenties with the relative improvement in prices of agricultural products. With the break in agricultural prices in the early thirties, Britain's terms of trade again became increasingly favorable. The data upon which these conclusions are based are given in Table 74.

TABLE 74.—GREAT BRITAIN'S NET TERMS OF TRADE 1913 AND 1921–1935, INCLUSIVE[1]
(Base year, 1913)

Year	Index	Year	Index	Year	Index
1913	100	1925	88	1931	76
		1926	85	1932	75
1921	82	1927	85	1933	72
1922	83	1928	87	1934	73
1923	84	1929	88	1935	76
1924	87	1930	82		

[1] Import prices divided by export prices. See Chap. XXIV of this volume for discussion of the theory of terms of trade.

SOURCE: League of Nations, *Review of World Trade*, 1930, 1933 and 1935. Geneva: 1931, 1934 and 1936. Used by courtesy of the International Documents Service, Columbia University Press.

NOTE: The index (as calculated) declines as the terms of trade improve.

See also London and Cambridge Economic Service, *Economic Position of Great Britain, Special Memorandum* 23, The London School of Economics, London, July, 1927 (by A. G. Pigou), pp. 28, 29.

INTERNATIONAL PAYMENTS

The commerce of the United Kingdom along with that of other great industrial nations of the world was so disrupted by business depression during the three or four years following 1929 that trends evidenced by payments balance data extending over the last decade may not safely be extended into the future. The fact that Britain's estimated net national shipping income

and in 1934 about 17 per cent. The decline between 1924 and 1934 was, in part, a temporary result of world-wide business depression.

SOURCE: London and Cambridge Economic Service, *The Relative Importance of British Export Trade*, Special Memorandum 41, The London School of Economics, London, August, 1935, pp. 13, 17, 18 especially.

declined from 130 million pounds in 1928 to 65 million pounds in 1933 does not, for example, necessarily mean that in the course of a decade or two Great Britain will have no net income to shipping. Other aspects of the balance-of-payments statistics of the United Kingdom have a more enduring significance. They are useful in interpreting the possible drift in British commercial policy. In the first place, Great Britain's merchandise trade balance during the postwar period has been passive, as was the case before the War. In 1928 the excess of imports of merchandise over exports of merchandise amounted to 353 million pounds; the figure for 1932 was 287 million pounds and for 1935, 261 million pounds. In the second place, shipping income and income from overseas investments largely offset the figure for net merchandise imports. In 1928 estimated net income from British shipping and overseas investments aggregated approximately 380 million pounds; in 1932 the figure was 220 million pounds and in 1935, 260 million pounds. A fundamental respect in which Great Britain's economic situation differs from that of Germany, for example, is that Great Britain has a substantial annual income from overseas investments. This income enables Great Britain to secure adequate supplies of overseas foodstuffs and raw materials without the necessity of maintaining a value equivalent in merchandise exports.

GREAT BRITAIN'S COMMERCIAL POLICY OUTLOOK

Tariff Policy.—When such factors as the old and rigid industrial structure of the United Kingdom, the country's population density, age of its coal workings, absence of unquestioned leadership in technical progress and loss of trade in certain markets for manufactured goods are all taken into account, a gradual settling of average per capita income in Great Britain, occurring in conjunction with industrial realignments, appears to be the most probable outcome of the country's economic circumstances.[1] Lower real incomes may encourage an extension

[1] On the one hand, a possible decline in the population of the United Kingdom will tend to offset reduction in per capita national income. On the other hand, reduction of population through control of births will result in a larger percentage of old persons in the population aggregate. This fact may in turn tend to increase resistance to change and thus to augment a

of agricultural pursuits and other trades that dropped below the comparative cost line during the period of rapid external expansion. Protective measures are not necessary to a shift of labor and capital into industries that once were at a comparative disadvantage, but such shifts are likely to give rise to protective sentiment. Compromise policies are conspicuous in periods of retrenchment and readjustment necessary to the conversion of a rapidly expanding economy into an economy that is becoming stationary in size or that is expanding at a regressive rate. The outlook in Great Britain is for accumulation of restrictive measures of one kind or another as opposed to reversion to a free-trade policy. However, extreme measures against all types of merchandise imports are improbable. Great Britain is not in position to become self-contained economically to the extent that the United States or Russia is self-contained. Great Britain secures from overseas about half of her food supply, the greater part of her petroleum, wool, aluminum, sulphur, phosphates, lead and tin, some of her iron ore, and practically all her copper, cotton, rubber, potash and alloy metals. Tariffs high enough to exclude all overseas foodstuffs and fabricating materials from the British market are unthinkable. Workers certainly would realize that trade restrictive measures increased food costs if extreme restrictions against importation of the great staple commodities were imposed. Another condition unfavorable to extreme protection of Great Britain's home market (by either import tariffs or merchandise quotas) is the fact that the British have overseas investments aggregating some 3½ to 4 billion pounds sterling. The annual income from these investments is from 150 to 250 million pounds. British colonial interests and

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possible shrinkage in national income or to retard its growth, as the case may be.

The idea of possible reduction of Great Britain's aggregate national income is not based on a conception that the exports of Japan, Germany, Italy and other competitors will drive British goods out of all foreign markets. Japanese, German, Italian and other exports may, however, necessitate certain shifts from old industries in which Britain once excelled to other industries in which she now enjoys a *comparative advantage.* It is in part the economic instability, economic disorganization, waste of manpower in unemployment and wastage of fixed capital assets incident to change in an old industrial country that suggest possible shrinkage in Britain's national real income (not depreciated money income).

business ventures stretch around the world. Citizens of the United Kingdom who are dependent upon income from these overseas undertakings are, in general, vigorously opposed to protective measures. It is to their economic interest so to be.

Protection is not absolutely essential to reduction of Britain's unemployment. A little lowering of production costs relative to those of competitive foreign producers, achieved by more effective organization and management of business undertakings, by technical improvements, by devaluation of fixed capital and, if necessary, by salary and wage reductions, will put parts of even the most depressed of the country's export industries back into strong competitive positions. Some lines of export are stronger than others. They may be expected to expand as other lines contract. Examples are boots, hardware, pipes and fittings, certain types of machinery and other comparatively light iron and steel goods that require skilled workmanship. It is possible that persistent efforts of British industrialists to introduce greater degrees of standardization of output in order to achieve economies of mass production may bear results in such lines as those mentioned. Exports of tools, hardware, cutlery, pipes and fittings and textile machinery increased from about 3 per cent of total exports (in terms of value) in 1931 to more than 4 per cent in 1934. These are small figures but they may suggest slow-moving tendencies. Even if prices of agricultural produce rise in relation to prices of manufactured goods, until Great Britain's terms of trade are less favorable than they have been in recent years, there will be little reason to anticipate recourse to extreme protection in Great Britain so long as the world is at peace.

Empire Self-sufficiency.—Empire self-sufficiency was a conception particularly entrancing during the depression years when economic nationalism was increasingly conspicuous in all the leading commercial nations of the world. British advocates of Empire self-sufficiency recognized the fact that Great Britain's merchandise imports should continue largely to exceed her merchandise exports. They reasoned to the effect that the country might well afford to purchase increasing proportions of her food and raw-material imports from Empire countries and shift an increasing proportion of her foreign investments to them. Imports of manufactures into the United Kingdom would be

reduced to a minimum. Exports of British manufactures would be expected to decline as imports declined. This conception of policy would divide Britain's external trade into two categories: trade with Empire countries and trade with non-Empire countries. Trade with Empire countries would consist principally of imports of foodstuffs and raw materials. Imports from the imperial realm might be far in excess of exports of manufactures to it. Trade with non-Empire countries would consist principally of an exchange of certain types of manufactures, some exchange of coal for Continental manufactures and some exchange of British manufactures for raw materials and foodstuffs not obtainable within the Empire. The non-Empire trade would be expected to become a declining proportion of the whole and capital investment in non-Empire countries would be expected to become a smaller proportion of the whole.

In this connection the figures for British trade with Empire and non-Empire countries and the location of Britain's foreign investments as between Empire and non-Empire countries are illuminating. In 1934, 47 per cent of Great Britain's exports went to Empire countries and 37 per cent of her imports came from Empire countries. The corresponding figures for 1913, were 37 per cent and 25 per cent respectively. The data are summarized in Table 75. The figures indicate that trade with Empire countries has increased since 1913 in relation to trade with non-Empire countries.

Other data suggest that Great Britain's foreign investments may be tending to shift toward Empire countries. The ratio of

TABLE 75.—GREAT BRITAIN'S TRADE WITH EMPIRE COUNTRIES AND NON-EMPIRE COUNTRIES[1]

(Exports in per cent of total exports; imports in per cent of total imports)

Year	Empire countries		Non-Empire countries	
	Exports to	Imports from	Exports to	Imports from
1913	37	25	63	75
1929	44	29	56	71
1934	47	37	53	63
1935	48	37	52	63

[1] Calculated from export and import data in *The Economist*, February 23, 1935, pp. 407, 408, and February 22, 1936, pp. 398, 399, article entitled "Britain's Markets."

British overseas investments in *dominion, colonial government and municipal securities* in non-Empire countries to the total of such overseas investments has declined steadily since 1928. These data are summarized in Table 76.

TABLE 76.—BRITISH INVESTMENT IN EMPIRE AND FOREIGN LOANS, FOREIGN, DOMINION AND COLONIAL GOVERNMENT SECURITIES ONLY[1]
(Millions of pounds)

End of year	Empire loans	Foreign loans	Total	Ratio of foreign loans to total, per cent
1928	1,036	364	1,400	26.0
1929	1,061	351	1,412	24.9
1930	1,080	357	1,437	24.9
1931	1,104	337	1,441	23.4
1932	1,109	323	1,432	22.6
1933	1,147	333	1,480	22.5
1934	1,163	336	1,499	22.4
1935				
1936				

[1]SOURCE: KINDERSLEY, SIR ROBERT, "British Overseas Investments," *The Economic Journal*, September, 1934, September, 1935, and December, 1936. Used by courtesy of Macmillan & Co., Ltd., London.

The data in Table 76 cover only one category of overseas investments, *viz.*, foreign, dominion and colonial government and municipal securities. This category of securities represented less than half of the total of British overseas investments for the years in question. However, there is no reason to believe that the trends are not similar in the other two categories, *viz.*, *investments in British companies abroad* and in *foreign and colonial companies.*

The overseas trade tendencies (Table 75) and the overseas investment tendencies (Table 76) are in harmony with the idea of a greater degree of Empire self-sufficiency. With the outlook for continuation of political unrest in non-Empire countries, and with domestic circumstances in the United Kingdom favoring continuation of a protective-tariff system, the tendencies in question may continue. However, the proportion of Britain's external economy that now depends upon Empire countries is not so large as to foreshadow a high degree of Empire self-sufficiency within the predictable future. Furthermore, world-

wide recovery of general business conditions may be accompanied by relaxation of non-Empire trade barriers, with the result that the volume of Great Britain's trade with non-Empire countries may increase, for a time, faster than her trade with Empire countries. Finally, there are other unpredictable possibilities. Japan might, for example, succeed in so stabilizing political conditions in the Orient as to make China an attractive country for foreign investments. A development of this character might divert a substantial portion of the outward flow of new British loans away from Empire countries to China. In a competitive economy, businessmen are constantly seeking for opportunities to earn larger profits on their business ventures. Forces more substantial than sentiment, and vague fears of Empire dissolution at some distant date, will be necessary to enforce legislation calculated to divert British trade and investments from more profitable opportunities in non-Empire countries to less profitable opportunities within the Empire.

Monetary Policy.—So many monetary and banking considerations, far beyond the scope of this study, enter into the question of monetary stabilization in its relation to foreign commercial policy that no attempt will be made to deal with the subject at length. However, two observations are pertinent. In the first place, a continuous process of currency depreciation cannot be successful indefinitely, because it approaches a zero value of currency as a limit. In the second place, there is little hope for enduring industrial stability in Great Britain or elsewhere without international stabilization of currencies. These facts suggest the probability of some form of international currency stabilization in the course of time.

CHAPTER XXXII

POSTWAR TENDENCIES IN FRANCE

France is more self-contained than Great Britain; her population is less dense and her industry more diversified.[1] Being less dependent than Great Britain upon export trade in a few lines, France was in a better position than Great Britain, during the depression of the nineteen thirties, to keep her external payments balanced by the application of trade restrictive measures.

INTERNATIONAL PAYMENTS

League of Nations estimates indicate that French imports of goods in 1933, for example, amounted to 9,000 million francs more than her exports. Of this total, 4,300 million francs' worth of merchandise imports were paid for with services—shipping, banking and communication services, entertainment of tourists, etc. Net interest and dividends owed by foreigners to Frenchmen canceled another 1,750 millions of the 9,000 millions of francs owed on net imports. The balance is 2,950 million francs (9,000 million less 4,300 millions less 1,750 millions). A net balance of 2,000 million francs in gold was sent to foreign countries in 1933; this left an unpaid balance of 950 million francs' worth of merchandise imports. Presumably payment was made by the transfer of French-owned securities to foreigners.[2]

[1] Approximately 38 per cent of the gainfully employed population of France was engaged in agricultural pursuits as compared with only about 6 per cent in the United Kingdom as of the year 1936. Only 33 per cent of the gainfully employed population of France was engaged in manufacturing and mining as compared with approximately 46 per cent in the United Kingdom. France had relatively more agriculture and relatively less manufacturing, trade and mining than Great Britain.

[2] SOURCE: League of Nations, *Balances of Payments*, 1933, pp. 82*ff.*, Geneva, 1934, for the 1933 data, and later issues for French balance-of-payments data for more recent years.

When the merchandise imports of a gold-standard country largely exceed its merchandise exports, difficulty may be experienced in preventing gold withdrawals from depleting reserves, unless the country is borrowing heavily abroad for railway construction or installation of other long-lived improvements or unless it has a large invisible income. As already stated, the orthodox solution to such a difficulty is reduction of production costs and prices of domestic goods, thus increasing merchandise exports. But because of rigidities in modern systems of industry, prompt cost reductions sufficient to correct an unfavorable balance of payments are not always possible of achievement. The alternative to cost reducing is some kind of expediency measure. One type of expediency solution to the problem is divorcement of domestic currency from its gold base. This is the policy followed by Great Britain in 1931. Another type of expediency solution to the problem is restriction of merchandise imports or subsidization of merchandise exports. Imports may be restricted by tariffs, by import quotas or by limitation of foreign exchange transfers. Great Britain, as already stated, divorced the pound from gold in 1931. France and other gold-bloc countries[1] attempted to buttress their currencies against the effects of unfavorable payments balances by placing tariff and quota restrictions against merchandise imports.[2]

TRADE RESTRICTIVE MEASURES IN FRANCE

Tariffs and Merchandise Quotas.—From 1927 to 1930 French protection tended toward more liberal policy.[3] After 1930, the trend was reversed. Before the end of 1931, quotas were being adopted which fixed limits to quantities of various goods that

[1] As originally constituted after the failure of the London Economic Conference in 1933, the gold bloc had five members: France, Italy, Holland, Switzerland and Belgium, with a somewhat uncertain adhesion of Poland.

[2] All told some 30 or more countries since 1931 have established quota systems to restrict imports. This device has not been confined to gold-bloc countries.

[3] Prior to the years 1927 and 1928, monetary instability was so acute in France that permanent revision of tariffs and treaties was not attempted. Prior to these years, French duties were in general higher than they had been before the World War, and most favored nation clauses were fewer. In 1927 and 1928, tariff agreements were completed with Germany, Switzerland, Italy, Belgium and a number of other countries. Most favored nation clauses were incorporated in the agreements.

might be imported during specified periods.[1] The quota system was first put into action in France by decree of the Ministry of Agriculture, May 5, 1931. The decree in question required importers to secure licenses for fertilizers. On July 10, 1931, a similar practice was applied to coal imports. In these instances, no announcement was made as to the total volume of goods to be admitted. The first quota regulation fixing a definite quantity of imports appeared July 17, 1931. It limited imports of flax to 50,000 metric tons for a period of one year. By the end of the year 1931, import quotas had been placed on dairy produce, cheese, butter, sugar, meal, wine, fish, cattle, wood and a number of other commodities. The quota system started with agricultural commodities that were not subject to treaty agreements to the same extent as manufactured goods; it soon spread to manufactures. In the ten months following July, 1931, 61 decrees providing for quota restrictions were handed down. They covered more than 1,100 items of the tariff schedule, or about one-seventh of the entire schedule. The list of articles subject to quota continued to increase. In 1936 it comprised more than 3,000 items.

Import quotas may be unilateral (imposed by an importing country without consultation with exporting countries) or they may take the form of bilateral agreements or treaties.[2] Bilateral quotas provide for negotiations with the foreign governments or private foreign interests affected, before the quota system is established. An advantage of this type of quota is that exporters may be induced to take responsibility for not exceeding their allotments.

From the point of view of the origins of goods, import quotas are of various kinds. The globular quota applies to all countries alike. Under the globular system, anyone may import and any country may send any amount of the goods affected until the quota is filled. Another type of quota allots fixed amounts of imports to various exporting countries in accordance with trade statistics of previous years. A third type of quota system involves import licenses. Under this system, imports are pro-

[1] For a discussion of French quotas, see Haight, F. A., *French Import Quotas, A New Instrument of Commercial Policy*, P. S. King & Son, Ltd., London, 1935.

[2] Multilateral agreements or treaties may also have quota provisions.

rated both to exporting countries and to domestic importing firms on a basis of statistics of previous trade. All the foregoing types of quotas were put into use in France during the early nineteen thirties.

Exchange-clearing Agreements.—Contemporaneously with the establishment of merchandise quotas in France during the early nineteen thirties there developed a system of exchange-clearing agreements. Presumably, the exchange-clearing agreement is merely for the purpose of facilitating international payments. Inasmuch, however, as it tends to direct or suspend transfers of foreign exchange, it may act to direct and to restrict merchandise trade. During the early thirties, France negotiated clearing agreements with 11 countries.[1] The agreements became an integral part of the system employed by the French government for controlling the country's export-import trade.

There is no way of measuring the precise effect of merchandise quotas and exchange-clearing agreements upon the foreign trade of France, but close students of the subject unanimously agree that the restrictions contributed to the sharp contraction of both imports and exports that characterized the depression years.

EXPORT-IMPORT TRADE TENDENCIES

Any one of a number of different units may be employed in the measurement of export-import trade tendencies. Aggregates may be taken in terms of national currencies or of some international currency (gold or sterling, for example) or aggregates may be taken in terms of weights (metric tons, for example). A value measure is subject to the vagaries of fluctuating currencies. A weight measure is subject to errors arising from differences in the merchandise composition of exports and imports from time to time. Changes in coal exports, for example, run the weight measure up or down rapidly in proportion to value changes, whereas variations in jewelry exports or imports may largely affect values without exercising much influence over weights. It is well to take into account the limitations of any general measure of export-import trade that may be used for purposes of com-

[1] Bulgaria, Chile, Ecuador, Estonia, Germany, Greece, Hungary, Latvia, Rumania, Turkey and Yugoslavia.

SOURCE: League of Nations, *Enquiry into Clearing Agreements*, Geneva, 1935.

parison. With these warnings in mind, let us examine the export-import trade tendencies in France during recent years.

If 1926 is taken as a base year, the export-import tonnage index of France rose from 100 per cent in 1926 to 127 per cent in 1929, and declined to 94 per cent in 1933. In 1935, the figure was approximately the same as it had been in 1933.[1] The aggregate of French exports and imports declined about 26 per cent between 1929 and 1933; between 1933 and 1935, the aggregate underwent no substantial change. Prior to 1933, exports declined faster than imports. Imports were 40 per cent more than exports in 1926, 49 per cent more in 1929, 92 per cent more in 1933 and approximately 52 per cent more in 1935. Although the aggregate tonnage of French trade did not increase between 1933 and 1935, exports increased and imports declined. In other words, the trade balance of France was less unfavorable in 1935 than it had been in 1933.[2]

In broad outline, the composition of French export-import trade does not appear to have undergone any very revolutionary modifications during the years in question. Raw materials were most conspicuous in the import list and manufactured goods in the export list. In 1926, imports of wool, cotton, coal, petroleum (including kerosene and gasoline) and wheat constituted approximately 26 per cent of all imports for consumption (in terms of value). The corresponding figure for 1933 was 25 per cent. Among the list of exports, chemicals, dyes, machinery and other metal manufactures, heavy iron and steel goods, silk, wool and cotton fabrics and wine were conspicuous. This group of manufactures constituted approximately 32 per cent of exports of French products in 1926 and 34 per cent in 1933.

[1] SOURCE: League of Nations, *Monthly Bulletin of Statistics*, Geneva, January, 1936. Used by courtesy of International Documents Service, Columbia University Press.

[2] Both the import and the export trade of France underwent changes in composition during the period under consideration, but the changes were not of a nature to invalidate the conclusions that have been drawn. Between 1929 and 1933 French imports and exports (in terms of national currency) declined about 57 per cent. Imports in terms of national currency exceeded exports by 16 per cent in 1929, 54 per cent in 1933 and approximately 34 per cent in 1935.

SOURCE: League of Nations, *Monthly Bulletin of Statistics*, Geneva, January, 1936. Used by courtesy of International Documents Service, Columbia University Press.

As already stated, France is in better position than Great Britain to safeguard her internal economic stability by trade restrictive measures because her industry is more diversified than that of Great Britain and her exports constitute a smaller proportion of total production than is the case in Great Britain. However, when one recalls the fact that France imports practically all the petroleum, cotton, rubber, manganese, copper, nickel, chromite, tungsten and tin that she consumes; the greater part of her consumption of wool, sulphur, zinc and lead; substantial proportions of her annual consumption of coal, nitrates, phosphates, antimony and some staple foodstuffs (such as wheat), he will not jump quickly to the conclusion that French policy is aiming at economic self-sufficiency. The more probable course of development in French commercial policy is toward relaxation of existing trade restrictions, if and when international currencies are stabilized and world-wide industrial recovery occurs.[1]

GENERAL CONSIDERATIONS

The international commercial policy of France, as in fact of any great power, cannot be divorced entirely from considerations of national defense. The watchword of French diplomacy is *security*. With a stationary population of approximately 42 millions, France is constantly concerned over the possibility of German invasion. Germany (Saar district excluded),[2] has an expanding population. In 1910, the German population (present boundaries, excluding Saar district) was approximately 58 millions. In 1935 it was 65 millions. The increase in Germany's population during the quarter century 1910 to 1935 was approximately 7 millions as compared with an increase in French population during the same period of about ½ million or 600,000 (allowance being made for territorial annexations provided for in the Treaty of Versailles). With a stationary and not overcrowded population[3] in the homeland, and with a colonial empire

[1] Signs of world-wide business improvement have been in evidence since 1934.

[2] The population of the Saar district was about 825,000 in 1933.

SOURCE: *Foreign Commerce Yearbook*, U. S. Department of Commerce, 1935.

[3] The population density of Continental France is approximately 200 per square mile as compared with population densities of approximately 370

(second only to that of Great Britain) for future exploitation, France has no ambitions for territorial expansion in Europe. Her primary desire is security. Germany, on the other hand, has no colonies; she was forced to cede certain of her Continental territories to other European nations at the end of the World War and, apparently, she is ambitious to extend her territorial possessions, to consolidate her position on the Continent and to acquire a colonial empire.

Causes of the age-old struggle between France and Germany have not been buried. France was the first European country to achieve national solidarity and dominance in European affairs. The rise of Germany was a challenge to the accustomed position of French leadership and authority. Loss of Alsace and Lorraine to Germany in 1871 was never accepted by France as a permanent arrangement. Reacquisition of the Alsace-Lorraine region in 1918 was a challenge to France to insure the permanency of its possession by all means within her power. The Treaty of Versailles gave France ethnic unity and left her with the foundations for economic prosperity, but it did not give her ironclad guaranties of national security.

All the possible effects of the international political situation upon the commercial policy of France during postwar years cannot be traced; they are too involved with considerations of French psychology and the perplexing complications of postwar financial and industrial instability the world over. In general, the international political outlook in France has without doubt contributed to her postwar policy of extreme economic nationalism.

Trade restrictive measures and attempts to acquire and to maintain large gold reserves, thus to strengthen her financial influence in world affairs, are among the evidences of French nationalism. Another indication is the development and persistent maintenance of a large steel industry. Steel is one of the principal ingredients of military armaments. In 1913, French output of steel ingots and castings totaled approximately 4,614,-

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per square mile in Germany, 354 in Italy, 706 in Belgium, 499 in the United Kingdom, 629 in the Netherlands, 261 in Switzerland, 279 in Czechoslovakia, 249 in Hungary and 226 in Poland.

SOURCE: *Foreign Commerce Yearbook*, 1935, U. S. Department of Commerce.

000 long tons; in 1934 it totaled approximately 6,050,000 long tons, an increase of 31 per cent. Between these dates, *viz.*, 1913 and 1934, German output of steel ingots and castings declined about 36 per cent (from 18,632,000 long tons to 11,825,000 long tons); British output increased only about 17 per cent (from 7,664,000 long tons in 1913 to 9,000,000 in 1934). One would anticipate some expansion of the French steel industry as a result of acquisition of the iron mines of Alsace and Lorraine. Inasmuch, however, as France has a deficiency of coal and Germany a deficiency of iron, one would expect French iron to move to German coal in much larger quantities than German coal moved to French iron, if economic movements were unobstructed by political policy. Increase in the size of the steel industry of France and reduction in the size of the German steel industry would have economically and logically followed annexation of Alsace and Lorraine by France and their loss to Germany. The postwar policy of France in the collection of reparations coal and in encouraging coal importations from Germany by other measures appears, however, to have encouraged more of a shift in the steel industry from Germany to France than purely economic circumstances might have warranted.

As already stated, the outlook for commercial policy in France is probably more in the direction of a relaxation of trade restrictions, with the advent of industrial recovery, than in the direction of greater self-sufficiency. However, the future drift in French policy is uncertain. In spite of attempts to stabilize her export-import trade by the imposition of merchandise quotas, thus to prevent loss of monetary gold reserves, France was forced to devalue the franc in 1937. The internal economic and financial structure of the country is unstable, and no political party has a sufficient popular majority to permit the application of vigorous and consistent measures looking to sustained stability.

CHAPTER XXXIII

BARRIERS AGAINST THE EXTERNAL EXPANSION OF GERMANY[1]

Germany, like England, France and other countries, has found herself surrounded by a set of postwar conditions so different from those which went before as to contribute to changes in her international commercial policy.

THE BACKGROUND OF GERMANY'S POSTWAR COMMERCIAL POLICY

About 100 years ago, 1833–1834 to be exact, the German Zollverein (customs union) went into effect. It obliterated tariff barriers to commerce among the several German states. The Zollverein marks the beginning of a policy of German-Empire nationalism even though nearly half a century elapsed before the German states were fused into a unified political empire. The political fusion followed united military action against a common foe (France) at the time of the Franco-Prussian War (1870–1871). After the war, the Bismarck Tariff of 1879, and succeeding measures of tariff protection, helped to bind the German states into a permanent union. Parallel with population growth and in response to ambition for industrial achievements, an increasing proportion of the German people shifted their energies from agricultural pursuits to manufacturing, mining and commerce. In short, between 1833–1834 and 1914 a number of politically independent, agricultural states in the region which is the *Fatherland* of the German Empire were

[1] Among references in English on the subject of Germany's postwar commercial policy, the following are particularly useful:

RÖPKE, WILHELM, *German Commercial Policy*, Longmans, Green & Co., London and New York, 1934.

ANGELL, JAMES W., *The Recovery of Germany*, Yale University Press, New Haven, rev. ed., 1932.

HARRIS, C. R. S., *Germany's Foreign Indebtedness*, Oxford University Press, London, 1935.

politically unified and industrialized. Between 1833 and 1914 the population of the region in question increased more than 100 per cent.[1] In the early years of the nineteenth century, possibly 75 or 80 per cent of the German population was engaged in agricultural pursuits;[2] in 1880, about 40 per cent and in 1933, only about 29 per cent.[3] German agriculture did not decay during the nineteenth century; in fact, production of agricultural goods increased, but mining, manufacturing and commerce expanded more rapidly. Agriculture declined in a relative sense only; not in an absolute sense. Parallel with the rapid expansion of mining, manufacturing and internal commerce went a process of economic internationalization—a process of external economic expansion, in short, an increase in foreign trade and foreign investments. Germany's foreign trade increased at least 100 per cent between the end of the Franco-Prussian War and the beginning of the World War.[4] In 1913, Great Britain was the only country that had a larger share of world trade than Germany. Germany was a capital-lending country in 1913; she was in the fourth stage of the *investment cycle;*[5] her foreign investments aggregated some 25 to 30 billion marks; her trade balance was passive.

Germany came out of the World War a debtor nation. In 1919 she owed annual sums for interest and principal on foreign debts far exceeding any income on capital account which might be expected from such of her foreign investments as had not been

[1] OGG, F. A., and W. R. SHARP, *Economic Development of Modern Europe*, The Macmillan Company, New York, rev. ed., 1930, p. 320.

[2] DAY, CLIVE, *Economic Development in Modern Europe*, The Macmillan Company, New York, 1933, p. 230.

[3] *Foreign Commerce Yearbook*, 1935, U. S. Department of Commerce.

[4] SOURCE: OGG and SHARP, *op. cit.*, p. 298.

[5] The first stage of the investment cycle is a capital-borrowing stage accompanied by a passive (import) balance of trade; the second stage is an interest-paying stage accompanied by an active (export) balance of trade; the third stage is characterized by a large volume of capital exports accompanied by an active trade balance. In the fourth stage income from foreign investments annually exceeds new capital loans and the merchandise trade balance is passive (import balance). German trade switched from an import balance (first stage) to an export balance (second stage) about 1880. The second stage was short in duration. By the middle eighteen nineties Germany's merchandise balance had become passive again. It was passive every year from 1894 to 1913 inclusive.

disposed of during the War. Germany's trade balance after the War should logically have been on the export side, but her industrial system was geared to produce manufactured goods for export and her creditors were unwilling to open their markets to manufactures. The War and the Peace Treaty had not basically altered the pattern of Germany's industrial structure. It is true that the Treaty of Versailles separated Germany from 10 or 12 per cent of her Continental population; 12 or 13 per cent of her European territory, all her colonies, an important part of her coal mines and a substantial portion of her iron mines. It is true also that German economy was in a state of confusion in the early nineteen twenties and that inflation added to the confusion. Nevertheless essential parts of the prewar superstructure of mining and manufacture for export survived.

In 1923 the mark was temporarily stabilized[1] and in 1924 came the Dawes plan. Huge foreign loans were made to Germany during the period 1924–1929. These loans augmented Germany's foreign debt, postponed solution of the transfer problem inherent in the rising volume of debt service payments to which the country was committed and stimulated rationalization[2] of the old mining-manufacturing system. By the time foreign lending to Germany had begun to dry up in the late nineteen twenties, the country's mining-manufacturing system had been reequipped for efficient production of manufactures for foreign markets that did not exist.

United States, Great Britain, France and other wealthy creditor countries were unwilling and politically incapable of bringing about capital devaluations and other forms of income distribution at home, necessary to enlarge their markets sufficiently to accommodate German exports. Capital was available in the wealthy nations for extension of loans to industrially backward regions (Mexico, South American countries and China, for example) but political instability in these countries retarded the process of industrializing them. Spread of the power-machinery economy from the more advanced to the less advanced nations of the world and population increase in sparsely settled

[1] The mark was temporarily stabilized in 1923 by a process of retiring the old currency at a near-zero value and introducing a new Rentenmark currency.

[2] By *rationalization* is meant a retooling and reorganization for more efficient operation.

regions did not go forward rapidly enough to create a market in industrially backward regions for the manufactures that Germany was equipped to produce for export. Available markets for German exports in sufficient quantity to balance her international accounts did not exist. The inevitable result was cancellation of some of Germany's foreign debts and *reorganization* of the country's recently rationalized industrial and commercial superstructure. The change was initiated by a financial panic and introduction of exchange controls in Germany in 1931.

After cessation of American loans to Germany and the United States stock-market collapse (1929), withdrawals of funds from Germany proceeded on a rising scale. The collapse of the Austrian Kreditanstalt (April, 1931) caused the flight from the mark to become precipitate. The Reichsbank's gold and foreign reserves dwindled at an alarming rate.[1] President Hoover's war-debt-reparations moratorium proposal was accepted by the French after some weeks of acrimonious debate but it came too late to steady the German financial structure. In July, 1931, one of the biggest German joint-stock banks, the Darmstädter- und Nationalbank, closed its doors. Complete collapse of the German banking system was averted by the German government's intervention. Exchange control was introduced at this time to avoid a collapse of the German currency. With the introduction of exchange control, foreign credits of various kinds became "frozen" in Germany.

Administration of the system of exchange controls has kept the problem of balancing Germany's international payments in the foreground. What with reparations, service charges on borrowed capital and a net import balance of merchandise, Germany's international payments had been out of balance in 1929 by about 2,820 million marks.[2] Let us eliminate reparations (amounting annually to about 900 million marks under the Young plan) and net service charges on foreign capital (amount-

[1] HARRIS, *op. cit.*, p. 16.

[2] This 2,820 million debit or import balance was canceled in 1929 by net exports of 440 million marks in gold and an increase in the foreign debt amounting to about 2,380 million marks.

SOURCE: League of Nations, *Memorandum on International Trade and Balance of Payments*, 1927–1929, Vol. II, Geneva, 1931. Used by courtesy of International Documents Service, Columbia University Press.

ing in 1929 to approximately 873 million marks). With these items eliminated, the debit balance is still over a billion marks (2,820 million less 900 million, less 873 million). How was the country to balance the account? Was Germany to entertain foreign visitors, build ships and conduct a larger part of her carrying trade, reduce merchandise imports or what?

Germany's problem of balancing her international payments after the crisis of 1931 was even more acute than the somewhat analogous problems in Great Britain and France, cited in earlier chapters. After failing to bring her international accounts into balance by deflation, Germany attempted to balance them by more vigorous regulation of import-export trade. Import tariffs, import quotas, industrial subsidization and exchange restrictive measures—all were employed. Merchandise quotas were used relatively less in Germany after 1931 than in France; foreign exchange restrictions were used more in Germany than in either France or Great Britain. The roles played by trade restrictive devices in Germany during recent years can best be indicated by treating them in historical sequence.

POSTWAR TRADE RESTRICTIVE MEASURES

Import Tariffs.—Before proceeding with a discussion of Germany's system of foreign exchange restrictions let us review briefly the country's postwar customs tariff history. Most of Germany's tariffs were removed during the World War. After 1925 a new system of protection was established. With stabilization of the mark in 1924, and in anticipation of the expiration of limitations on Germany's commercial policy, fixed by the Versailles Treaty,[1] interest in protection was revived. Traditionally, iron and steel and agriculture had been the main strongholds of German protectionism. In 1925 agricultural interests (particularly grain interests) were more vigorously in favor of protection than ever before. The steel industry was on an export basis in 1925, but being highly cartelized, certain monopoly advantages were to be had from protection. The cartelized steel producers were in position to sell at home and abroad at different price levels. Agriculture and steel continued, therefore, in the postwar period, as in the prewar period, to be

[1] Treaty limitations on Germany's commercial policy expired January 10, 1925.

strongholds of protectionist sentiment. These groups were strengthened by chemical interests who talked of chemical processes that were destined to produce synthetic substitutes for imported raw materials (petroleum, rubber, textile fibers, etc.). Industrial groups with a more liberal tariff policy outlook were to be found in the engineering trades and other finished-goods industries that were on an export basis and were not so thoroughly cartelized as steel. Glass, pottery, musical instruments, toys, hardware, paper, certain kinds of chemicals and transportation equipment were typical of the goods produced by low-tariff interests. Fifty per cent or more of the total production of glass, pottery, musical instruments, toys, hardware and paper were exported; 20 to 50 per cent of the output of paper, chemicals, heavy iron and steel goods, machinery, tools, transportation equipment and electrical goods were exported. In general, only a minor portion of the output of the construction-materials industries,[1] the textile industries and manufactured foodstuffs were exported. Here sentiment for protection was divided with the balance on the favorable side.

Moderate agricultural tariffs were established in Germany by an act of August 10, 1925. Between 1925 and 1929 agricultural duties were raised from time to time. By protective devices, valorization schemes and otherwise, the price levels of wheat and rye were raised during the late nineteen twenties 100 to 200 per cent above the world level of prices for these commodities. Domestic prices of other agricultural goods were raised above external prices but not by such large amounts.

Legislation for the protection of manufactures followed that for agriculture. In general, nonagricultural products took lower rates than agricultural goods. Among the highest duties on manufactures were those on bar iron and similar heavy steel goods. They amounted to about 50 per cent of the import price. Many industrial goods, the majority perhaps, took duties of only about 20 per cent ad valorem. The one nonagricultural product that was taxed as high as grains was mineral oil. It took a duty of 220 per cent ad valorem. Certain chemical interests combined with agricultural interests to secure exorbitant duties on mineral oils. Producers of synthetic oil appealed to patriotic emotion for greater national self-sufficiency in a product so

[1] Cement and lumber, for example.

essential to peacetime prosperity and national defense as oil. Agriculture collaborated in supporting petroleum tariffs in order to create a market for alcohol (manufactured from grains and potatoes). Prior to the world-wide industrial depression beginning in 1929, Germany had established a formidable system of protective duties. When world trade was caught in the whirlpool of commercial revulsion during the years immediately following 1929, German tariffs were raised higher and higher and other trade restrictive measures were brought into use. In 1933 the duty on hogs was 160 per cent ad valorem; the duty on butter was 55 per cent ad valorem. Import quotas and foreign exchange controls also came into use.

Quantitative Restriction of Imports.—The large landowners in eastern Germany (owners of estates that produce rye and other grain as a principal source of revenue) were first to secure legislation in the nature of quantitative import restrictions. In 1929, German flour millers were required to use a specified percentage of German wheat. This move was followed by a Reich monopoly of maize in 1930, the aim being to reduce consumption of fodder grain and substitute rye in its place. Rye for livestock feeding was sold at a lower price than rye for human consumption; rye destined for livestock feeding was dyed for purposes of identification. The next quota to come into use applied to butter. Imports of butter from Finland being relatively small, an agreement was drawn in 1930 with Finland for importation of a fixed quota of butter at rates below the minimum duty accorded under most favored nation treaties. "Equal treatment" was accorded to other treaty nations—equal in the sense that the low-duty import quotas assigned to countries that sent Germany large amounts of butter were the same in quantity as the Finland quota. A whole series of commodity controls followed the butter quota.[1] Reich license-system monopolies[2] were established for dairy and poultry products, oils and fats, spirits, sugar, fertilizers, pulpwood, meat, rayon and coffee. Compulsory use of domestic raw materials in the manufacture of soap, woolen yarns and various other goods was required. Controls were established over all imported

[1] SOURCE: Svenska Handelsbanken, *Index* 110, February, 1935, Stockholm, Sweden (periodical).

[2] The term *license-system monopoly* includes monopolies that involve only the regulation of imports.

raw materials. License requirements were applied to scrap-iron exports, and export duties were placed upon used machinery.

Foreign Exchange Restrictions.—After the banking crisis in 1931, Germany's policy followed neither the British pattern nor the French pattern, although some details of policy in all three countries were similar. Divorcement of the pound from gold was the most important plank in British policy. France kept her currency on a gold base and employed import quotas as the principal device for regulating her merchandise trade balance.[1] Germany supplemented her merchandise controls with a comprehensive system of foreign exchange restrictions.[2]

As already stated, Germany has been a debtor nation since the War. Various estimates have been made of her total indebtedness at the time of the financial crisis in 1931. The following figures are probably as accurate as any.[3] Short- and medium-term credits are estimated to have aggregated in 1931 some 11 to 13 billion reichsmarks. They consisted of credits granted by foreign banking and financial houses to German banks, commercial firms and public bodies; loans by foreign commercial houses to German commercial houses; deposits by foreign commercial houses with German banks and a miscellaneous assortment of debts, such as the investments of foreigners—individuals,

[1] In the latter part of 1936 and later France resorted also to foreign exchange restrictions on a wider scale than they had been employed in France in earlier years.

[2] Germany's system of foreign exchange control is changing constantly. The brief description and analysis to follow were secured in July, 1936, through interviews with persons in Germany. Among those interviewed were the following:

1. Vice-consuls William Ware Adams and Hugh Crosby Fox, American Consul General Office, Berlin.
2. Mr. Edwin G. May, United States Treasury Attaché, Berlin.
3. Mr. Douglas Miller, United States Commercial Attaché, Berlin.
4. Mr. L. V. Steere, United States Agricultural Attaché, Berlin.
5. A number of bankers, editors, exporters, importers and college professors in Germany whose names may not be mentioned.

The writer was impressed with the comprehensive body of information which United States Government officials in Berlin had assembled on the subject and their cordiality in assisting him to an understanding of conditions in Germany.

On the part of German bankers, editors, exporters, importers and professors, the writer was treated with cordiality everywhere he went.

[3] HARRIS, *op. cit.*, pp. 17, 18.

banks or commercial firms—in German real property, mortgages and the securities of joint-stock companies. All the foregoing constituted a potential menace to the German exchange inasmuch as foreign creditors, in the face of uncertainty, would be anxious to dispose of their holdings and get the proceeds out of Germany. Long-term capital loans to Germany were less of an immediate menace to German exchange. They are estimated to have aggregated in 1931 some 10 to 11 billion reichsmarks.[1]

When the German banks were reopened after the panic which came with the closing of the Darmstädter- und Nationalbank in July, 1931, withdrawals of foreign deposits were prohibited. A foreign exchange embargo was thus put into effect. As time passed, arrangements were made to permit a limited volume of foreign transactions. Standstill agreements affecting short- and medium-term credits were negotiated; limited amounts of exchange were allotted for imports, and provisions were made concerning recurrent payments arising out of long-term investments. The first standstill agreement was negotiated in 1931 between a committee representing German debtors, the Reichsbank and the Golddiskontbank, on the one hand, and a committee representing bankers in eleven creditor countries, on the other hand.[2] The agreement covered short-term and medium-term credits advanced by foreign banks or groups of creditors. It provided for payment of these short- and medium-term accounts in reichsmarks into a special account at the Reichsbank, the funds to be used for a limited number of specified purposes.[3] New

[1] HARRIS, *op cit.*, pp. 17, 18.

[2] The countries were United States, Great Britain, Netherlands, Belgium, France, Czechoslovakia, Italy, Denmark, Norway, Sweden and Switzerland.

[3] Blocked marks affected by the standstill agreements might be transferred abroad only in limited amounts as indicated by the following list of uses to which they might be put:

a. Investment in domestic German securities.

b. Sale at a discount to the German Golddiskontbank (prior to its discontinuance of purchase in 1934).

c. Long-term investment in Germany, mortgage investments, etc.

d. Payment of taxes on owner's income or property in Germany.

e. Travel in Germany.

f. Payment of not more than 25 per cent of invoice price of new deliveries of goods or services furnished by German firms for the original owner's own account. The remainder of the invoice price had to be paid in foreign exchange, and not more than a specified percentage of the cost of the goods might be represented by foreign raw materials.

standstill agreements were made as the time limits of the first and succeeding agreements expired. Provision was made for the handling of recurrent payments arising out of long-term investments, by a Moratorium Law of June, 1933.[1] Payments by German debtors (covering interest, dividends and similar regularly recurring items arising out of foreign investments made prior to July 15, 1931) were made, under this law, into the Reichsbank Debt Conversion Office. The bank was given authority to determine the time and manner of transfer or disposal of accounts so accumulated.[2] A third category of blocked credits includes credits not specified in one of the two foregoing categories—funds accruing from the sale of property, for example, and short-term credits not covered by standstill agreements. In general, claims to blocked credits of all types might be transferred from person to person outside of Germany or used for the purchase of securities in Germany or for the purchase of German goods to be consumed in the country. The amounts of funds that might be transferred from Germany to some other country, even at great discounts, were rigidly controlled.

The rigor of the exchange-control system is suggested by the fact that German residents (as the term was arbitrarily defined) were required to register with the Reichsbank and offer to sell to it for marks any and all foreign moneys, foreign securities and other claims against nonresidents that they might hold. Nonresidents (as the term was defined) were prohibited from taking or sending out of Germany any money in currency or other form (securities, gold, etc.) or transferring bank balances or other assets out of Germany without special permit.

Having thus indicated something of the extent of Germany's foreign indebtedness, the different categories into which blocked credits were classified and the nature of withdrawal limitations, the next question concerns the manner in which Germany

[1] As modified in February, 1934, this law gave the Federal Minister of Economy authority to change the laws pertaining to exchange control by executive decree. Under the authority a codified foreign-exchange-control law was promulgated in February, 1935.

[2] For a time "scrip" was issued in part payment of interest on Conversion Office credits, the remaining interest being paid in cash. In 1935, plans were made to substitute bonds for the interest previously paid in "scrip" and cash. The creditor thus was to get bonds in payment of interest on credits impounded in the Conversion Office.

managed to carry on foreign trade, with so much foreign credit "frozen" in the country. In the first place, some trade was conducted by permit with "free" marks.[1] The amount was limited for two reasons: (1) the categories of German goods that could be sold abroad for cash were restricted because other countries had devalued their currencies and German goods were relatively dear; (2) cash purchases drained gold from the Reichsbank's meager supply. In the second place, sales might be made by special permit against "blocked" marks that could be purchased abroad at substantial discounts. This type of transaction took goods out of Germany and gave her no buying power in return. Consequently the use of blocked marks in merchandise transactions was limited to payments of not more than 25 per cent of the invoice prices of new deliveries of goods furnished by domestic firms for the original credit owner's own account, provided the remainder of the invoice was paid in foreign exchange and provided not more than a specified percentage of the cost of the merchandise represented foreign raw materials. In the third place, prior to 1934, German firms which could not sell their goods at "free exchange" prices were permitted to reduce the price and recoup the losses by using part of the sales price in the purchase of dollar bonds or "scrip,"[2] at substantial discounts abroad, for resale at advanced prices in Germany.[3] This type of transaction fostered German exports but in so far as the income was applied to foreign-debt reduction it was not available for the purchase of necessary German imports. Consequently such transactions were prohibited in 1934. Finally there remained the possibility of barter transactions, foreign-exchange clearing-agreement transactions and so-called *aski* exchange transactions. Estimates indicate that four-fifths of Germany's exports involved exchange-clearing-agreement transactions, barter transactions or *aski* transactions in 1935.

Before describing, in more detail, exchange-clearing transactions, barter transactions and *aski* transactions, it may be well to

[1] The so-called free-mark exchange rate, July, 1936, was approximately 2½ marks per United States dollar and 12½ marks per pound sterling.

[2] The "scrip" was issued in Germany in partial payment of interest on Conversion Office credits. Dollar bonds and scrip could be purchased abroad at discounts of 70 or 80 per cent from the sales prices in Germany.

[3] This type of transaction was comparable fundamentally to sale of merchandise against blocked marks.

indicate the fundamentals of Dr. Schacht's[1] new 1934 plan. Prior to 1934 exchange was allotted to importers on a basis of a percentage of former imports. The importer was privileged to purchase what he wished with his allotment of exchange. Under the "New Plan" only such exchange as actually came in was allotted. Imports were strictly adjusted to Germany's ability to pay for them. The old allotment system was abolished. The entire structure of Germany's external trade came under control in such fashion as to apply the available exchange to imports deemed most necessary. The plan operated in such a manner as to shift German purchases to countries that bought an equivalent value of German goods. The mechanism of the plan involved the exchange-clearing agreements, barter transactions and *aski* transactions previously referred to.

In all, some 30 to 40 exchange-clearing agreements had come into effect by 1935. They applied to countries that bought more from Germany than they sold to Germany—particularly European countries and certain South American countries. The essence of the clearing agreement is that importers of each country involved in the agreement pay for imports into a domestic pool. Exporters in turn draw their remittances from this pool. The exchange rate is determined by a formula specified in the agreement. All or a part of the unpaid balance is applied to service charges, on German debt, to the foreign country that is party to the agreement. In general, goods originating in a third country were not acceptable as imports by Germany under the terms of clearing agreements.[2] Exchange-clearing agreements were initiated not by Germany, but by foreign countries that bought more goods from Germany than they sold to her. The reason is obvious. As early as 1932 the German monetary authorities had fixed a maximum quota of foreign exchange permitted to importers, of 50 per cent of the amount they had spent on imports in the period June-July, 1931. In March, 1934, this quota was reduced to 45 per cent; in April to 35 per cent; in May to 25 per cent and in June to 10 per cent and then to 5 per cent. As a result of these reductions of exchange allowance,

[1] President of the Reichsbank and "Economic Dictator."

[2] The reason that European countries were able to collect more service charges on debts than the United States could collect is that Germany's trade balance with such European countries was active whereas with the United States Germany's trade balance was passive.

German importers who had purchased on 90-day credits, for example, were unable to obtain exchange with which to pay the accounts as they came due (not to mention the inability of foreigners to collect on old items of indebtedness). Foreign countries therefore impounded payments for incoming German goods in a pool from which payments for goods sent to Germany were to be drawn and other German obligations such as overdue short-term credits and interest on long-term investments were to be paid. This system has not proved to be enduringly successful from the foreign creditors' point of view because it has resulted in a tendency for German's export surpluses to exchange-clearing-agreement countries to disappear. In other words, the merchandise trade between Germany and these countries has tended to be brought into balance. The reasons for this bilateral trade balancing tendency appear to be three in number. In the first place, Germany's internal costs of production have remained relatively high. In the second place, the conduct of trade with Germany under the clearing agreements has become more complicated than trade with other countries. In the third place, Germany appears to have taken less vigorous measures to subsidize her export trade with clearing-agreement countries than she has taken in connection with her barter and *aski* mark trade with other countries. From the creditor's point of view the second British agreement with Germany (Anglo-German agreement of November 1, 1934), providing that British exports to Germany should not exceed 55 per cent of the value of British imports from Germany, has to date (July, 1936) proved more satisfactory than other types of trade agreements concluded with Germany. Under this agreement the proceeds from the 45 per cent of German exports to Great Britain that were not balanced by British exports to Germany were used in part for payment of short-term debts and interest on long-term obligations owed by Germany to Great Britain.

Aski and barter transactions applied to countries with which Germany had a passive trade balance and with which, therefore, she made no clearing agreements. The *aski* transaction represented a generalized form of barter. In the barter transaction the German importer placed a sum of marks in a German bank to the credit of the foreign exporter. The foreign exporter could use these marks in the purchase of German goods for import to

his country. In case of the *aski* account, the foreign exporter could sell the marks in question to a third party in his country, who in turn could purchase German goods for import into the foreign country in question. In either case the values of import and export transactions must balance. Triangular trade involving goods originating in a third country ordinarily was not permitted.

Export Subsidies.—After the 1931 crisis Germany first attempted to balance her economy by a process of internal deflation, but her political system did not stand the strain. The Bruening policy (July, 1931–June, 1932) was one of rigorous deflation. Between June 1, 1931, and August 1, 1931, the Reichsbank discount rate was raised from 5 per cent to 15 per cent. Not until March, 1932, did it get back to 5 per cent. During this period deflation was intensified and unemployment increased. The Papen-Schleicher regime (June, 1932–January, 1933) saw the beginning of a reflationary policy which was to continue in the Hitler regime. The reflationary program was characterized by public works, rearmament and an unbalanced national budget. Reflation, rising wholesale prices, maintenance of production costs and maintenance of a gold standard in Germany in the face of foreign exchange depreciation by Great Britain and certain other competitor countries restricted the amounts of German goods that could be sold abroad at prices equal to or in excess of internal costs of production. In an attempt to forestall the decline in her export trade as a result of this and other causes,[1] Germany resorted to export subventions of one kind or another.

[1] The adverse effects upon German exports of the Jewish boycott of German goods and the general confusion resulting from the Nazi revolution cannot be accurately evaluated. Between 1931 and 1935 Germany's foreign trade declined as follows:

(Millions of reichsmarks)

Year	Exports	Imports	Balance
1931	9,599	6,727	+2,872
1932	5,739	4,666	+1,073
1933	4,871	4,204	+ 667
1934	4,167	4,451	− 284
1935	4,270	4,159	+ 111

Exports in terms of percentage of Germany's total industrial production

Prior to 1934 the export subventions were indirect. Exporters were permitted, for example, to use a part of the exchange arising from sale of goods abroad in the purchase abroad of *scrip*[1] or German bonds at large discounts from par values for resale at par in Germany. This practice was permitted only in connection with so-called "additional" exports, sales that could not be made at cost or above. Exporters were required to give evidence to this effect in the nature of competitive foreign bids and cost compilations. The final decision as to who should benefit by the subsidy, and in how much, was in the hands of German government authorities. Hence the allotment of such subventions was flexible. This ingenuous scheme provided a way of liquidating a portion of Germany's foreign debt at a substantial discount from face value, not, however, without a drain on the Reichsbank's limited reserves. As already stated, export subventions of this character were discontinued in 1934. In their place was substituted a direct cash-subsidy plan for exports of German goods that could not be made at *free mark* prices. Decision as to what exports should benefit by the subsidy was in the hands of government officials as formerly. Funds, from which the direct export subsidy was paid, were raised by so-called voluntary contributions of industrial concerns through their respective trade associations. No official information concerning the direct export-subsidy plan has been released.[2] Unofficial evidence indicates that the turnover tax on industry, or "voluntary" contributions, ranged from 2 to 8 per cent and was conditioned to some extent by net earnings of the industry subject to the tax. Evidence from similar sources indicates that export subsidies as great as 50 per cent of the invoice price of the goods exported were paid. Total subsidy payments are estimated to have amounted to possibly 15 or 20 per cent of the value of Germany's total

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declined from approximately 29 per cent in 1931 to approximately 12 per cent in 1935.

SOURCE: *Foreign Commerce Yearbooks*, 1935 and 1936.

[1] Arising from interest payments on Debt Conversion Office accounts.

[2] The only official evidence of the direct export-subsidy plan is a law dated June 28, 1935, giving the Reich Economic Chamber authority to make arrangements regarding the levying and use of a contribution by groups or associations of industrial enterprises and regarding the calling in and collection of such a contribution by chambers of industry and similar associations.

exports in 1935. The figure for total German exports in 1935 was 4,270 million marks. An unofficial estimate of total direct export-subsidy payments in 1935 placed the figure at 700 million to 800 million marks. Incidentally the estimated figure for the export subsidy is almost as great as unofficial estimates of German industry's net earnings in 1935 before payment of the "voluntary" contributions which made the export subsidy possible. Naturally German concerns that do no export business and, therefore, do not benefit from the export subsidy, are vigorously opposed to the turnover tax, or "voluntary" contribution, as it is called.

EXPORT-IMPORT TRADE TENDENCIES

Export-import Totals.—In 1928 the total of Germany's outgoing and incoming foreign trade was approximately 26,300 million marks as compared with only about 21,000 million marks in 1913.[1] The apparent increase between 1913 and 1928 is deceiving because the general level of prices was 40 per cent higher in 1928 than it had been in 1913. When this fact is taken into account the physical volume of trade appears to have been about 11 per cent less in the latter year than in the former year. In 1934, the total of exports and imports, in value, was down to 8,600 million marks. Since prices in general dropped about 34 per cent between 1928 and 1934 the physical volume of export-import trade must have declined about 38 per cent.[2] These data

[1] Imports for consumption and exports of German products.
SOURCE: *Foreign Commerce Yearbook*, 1935.

[2] Another measure of changes in the physical volume of Germany's foreign trade is afforded by statistics of trade in weight units published in *Foreign Commerce Yearbooks*, and in the League of Nations *Review of World Trade* bulletins. Germany's export-import trade, measured in weight units, is estimated to have declined from 135 million long tons in 1913, to 125 million long tons in 1928, to 88 million long tons in 1934. Trade in weight units and physical volume of trade as measured by adjusting value figures to take account of changes in prices are different because the two methods of measurement do not give the same degrees of importance to the different classes of goods entering into the composite of total trade.

However, the differences in this instance are of minor significance. The weight-units measure shows a decline in Germany's foreign trade between 1913 and 1928 of about 8 per cent. Between 1928 and 1934 the decline in terms of weight units was approximately 30 per cent.

According to Angell's figures in *The Recovery of Germany*, Germany's exports were about 25 per cent of the total national product in 1913 and only about 19 per cent in 1928.

indicate that Germany's foreign trading position has been weaker since the World War than it was before. During the War, nations that had formerly been dependent upon Germany for a wide variety of manufactures were cut off from their customary sources of supply. Consequently, home industries developed. After the War, policies of economic nationalism perpetuated industries which had secured a foothold during the War, thus preventing Germany from regaining all her prewar markets. The extreme decline in the physical volume of German trade between 1928 and 1934 in part was due to policies of economic nationalism and in part was a result of curtailed foreign lending to Germany and industrial depression everywhere. How much of the loss may be attributed to trade restrictive measures introduced by Germany between 1928 and 1934 it is impossible to know. Industrial depression and lack of adequate foreign markets were among the causes for the policy of extreme nationalism in Germany during the early thirties; the nationalistic policy, in turn, contributed in greater or less degree to reduction in her volume of foreign trade.

Distribution of Trade by Product Groups.—When one turns from an examination of the aggregate of Germany's foreign trade to considerations of its distribution by product groups, comparatively little change in prewar tendencies appears to have occurred during the last two decades. Before the War (1910–1913

TABLE 77.—DISTRIBUTION OF GERMAN TRADE BY CHIEF COMMODITY GROUPS[1]

(Per cent of total)

	1910–1913	1928	1934	1935
Imports:				
Foods and animals	29.2	30.3	23.3	24.2
Materials, raw and partly manufactured	57.3	50.8	54.9	59.3
Finished goods	13.5	18.9	15.8	13.1
Exports:				
Foods and animals	9.8	5.4	2.6	1.8
Materials, raw and partly manufactured	26.3	22.4	16.9	17.9
Finished goods	63.9	72.2	69.8	79.1

[1] SOURCE: ANGELL, *The Recovery of Germany* (rev. ed.), Yale University Press, New Haven, 1932, p. 418, and League of Nations, *Statistical Year-book*, 1935–1936, used by courtesy of International Documents Service, Columbia University Press.

average) raw and partly fabricated materials and foodstuffs constituted about 87 per cent of total imports, as compared with 81 per cent in 1928 and approximately 84 per cent in 1935. Finished goods constituted about 64 per cent of total exports for the period 1910–1913, 72 per cent in 1928 and 79 per cent in 1935. These data are summarized in Table 77.

Germany's imports were predominantly raw materials and foodstuffs and her exports predominantly finished goods both before and after the War. The prewar tendency for exports of manufactures to increase in proportion to other exports appears to have continued after the War.

Distribution of Trade by Countries.—Between 1913 and 1934 the geographical distribution of German trade shifted somewhat. The proportion of Germany's total trade going to United States and Great Britain was substantially less in 1934 than it had been in 1913; the proportion going to Netherlands, Argentina, Dutch East Indies and Italy was greater in the latter year. The shift was from highly industrialized countries to less industrialized countries. Most of the change occurred during depression years between 1928 and 1934. It may, however, signify a type of reorientation in Germany's economic outlook that will persist.

Trade Balance.—The trade-balance data are more suggestive of instability in Germany's international trading position during the last two decades than are either the figures for distribution of her trade by commodity groups or those which show the distribution by countries. The trade-balance figures varied from net imports amounting to 3,427 million marks in 1927 to net exports of 2,872 million marks in 1931. These erratic changes reflect flows and ebbs in Germany's capital transactions. The import balances were accompanied by large loans to Germany, the export balances by a withholding of loans. Capital transactions and merchandise balances for the years 1925 to 1933 are shown in Table 78.

The close conformity of changes in trade balance and variations in capital items, indicated in Table 78, serves to reemphasize the fact that Germany could not meet her annual interest and principal obligation to foreign countries without either borrowing abroad or exporting more merchandise than she imported. The export trade balances shown in the table were achieved not by exporting more but by importing less. So long as the principal

countries with which Germany traded resisted acceptance of additional imports, she could not meet her annual obligations on capital account and at the same time maintain her customary volume of imports, without borrowing. What actually happened was that Germany's merchandise imports, her merchandise

TABLE 78.—CAPITAL TRANSACTION AND TRADE BALANCES OF GERMANY, 1925 TO 1933 INCLUSIVE[1]
(Millions of marks)

Year	Trade balances + export balance − import balance	Capital transaction + loans and credits to Germany − reductions in Germany's obligations
1925	−3,072	+3,523
1926	+ 413	+ 739
1927	−3,427	+4,352
1928	−1,725	+4,058
1929	+ 36	+2,023
1930	+1,643	+ 542
1931	+2,872	−2,266
1932	+1,073	− 434
1933	+ 667	− 470

[1] SOURCE: League of Nations, *Balance of Payments*, 1933, Geneva, 1934. The figures represent both *long-term* and *short-term* capital items. See also *Foreign Commerce Yearbook*, 1935, League of Nations data, by courtesy of International Documents Service, Columbia University Press.

exports and her annual payments on capital account were all reduced, when borrowing stopped. A favorable trade balance was achieved after 1928 but it was not sufficiently large and permanent to take care of the service charges on reparations and private debts.[1]

CONCLUSIONS

The position of Germany during recent years has been different from that of Great Britain or France in one fundamental respect, *i.e.*, Germany has been a debtor nation, whereas the other coun-

[1] See Chap. XXVIII for a discussion of the disposal of the reparations problem. Estimates of the standing amounts of Germany's private debts at various times since July, 1931, have been compiled by the League of Nations and published in the League's *Balance of Payments* monographs.

tries named were creditor nations. This fact is sufficient reason for a commercial policy in Germany different from that of Great Britain or France. During the world-wide industrial depression of the early nineteen thirties, Germany elected to retain a gold-standard monetary system, theoretically at least, and to regulate foreign withdrawals of funds. She also regulated her merchandise export and import trade. Her system for controlling external transactions developed stage by stage until, in 1936, there was a strong tendency for merchandise exports and imports to be balanced bilaterally with every country that did business with Germany. Inasmuch as an active trade balance was Germany's principal means of making payments on her foreign debt, a balancing of her merchandise trade with every country individually tended to put her in a strong bargaining position from the point of view of writing down or canceling foreign debts. Such a policy of balancing her trade country by country, if shrewdly administered, might give Germany command over necessary raw materials without necessitating dependence upon foreign creditors for such goods. This policy quite logically was accompanied by a control of imports designed to favor commodities deemed most necessary to the national economy.[1] It was

These data through September 30, 1933, follow:

ESTIMATES OF FOREIGN INVESTMENTS IN GERMANY
(Billions of reichsmarks)

Date	Loans and credits				Other foreign investments
	Long-term	Short-term		Total	
		Total	Standstill credits		
Nov. 30, 1931	10.7	10.6	5.4	21.3	5.3
Sept. 30, 1932	10.2	9.3	4.3	19.5	4.3–5.3
Sept. 30, 1933	7.4	7.4	3.0	14.8	4.2

[1] Lists were issued, designating goods that might not be exported and other goods that might not be imported under a system of *aski* or barter transactions applying to countries that sold Germany more goods than they bought from her.

Exportation of goods deemed most essential to the German national economy was prohibited. Importations of goods deemed most essential to

accompanied also by export-subsidy payments to facilitate maintenance of the necessary minimum of merchandise imports. Here is a situation where debt reduction appears to be among the immediate driving motives of a national commercial policy that turns more on a consideration of *distribution* than on a consideration of production efficiency.

Other influences that have been active in conditioning Germany's postwar national policy are as follow: (1) desire for more influence in the community of European nations, and (2) desire for ethnic unity and recovery of territories lost at the conclusion of the World War.[1] Unfortunate as it may be, military strength and political influence seem to be highly correlated in the community of European nations. Loss of Metz-Thionville and Strasbourg-Molsheim to France and demilitarization of the left bank of the Rhine weakened Germany's prewar system of national defense in the west. Restoration of Poland, loss of the Posen fortifications and the dismantling of Danzig's fortifications weakened her prewar system of national defense in the east. Finally, the Versailles Treaty provisions which forbade German rearmament left no opportunity within legal limits for Germany to offset other strategic disadvantages imposed by the Versailles Treaty. Rearmament in violation of treaty provisions has been one of the positive objectives of German national policy since the War. The rearmament program has tended to fuse political and economic considerations into an inseparable, composite whole. Steps toward recovery of lost territories have already been taken. Military reoccupation of demilitarized Rhine territory has been accomplished.[2] Reacquisition of Danzig, elimination of the

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Germany's national economy were encouraged; importations of other goods were either prohibited or discouraged. Among the devices for discouraging the importation of the less essential types of goods was a requirement that barter transactions involving importation of such goods must be on a 3 to 1 basis, *i.e.*, the foreigner must purchase 3 marks' worth of German goods for each 1 mark's worth of goods which he sold to Germany, the additional 2 marks' worth of German goods to be paid for with foreign exchange which Germany might use in the purchase of necessities.

[1] An excellent treatment of general strategic, ethnic and economic factors affecting German national policy is to be found in Frank H. Simonds and Brooks Emeny, *The Great Powers in World Politics*, American Book Company, New York, 1935.

[2] On Saturday, March 7, 1936, Herr Hitler announced to the Reichstag

Polish Corridor, recovery of German colonies (held by Great Britain, France and other powers under League of Nations mandates), annexation of Austria and, possibly, extension of German influence into Czechoslovakia, Hungary, Yugoslavia and Rumania may follow. The last-named countries are relatively unindustrialized. Here are regions that might provide markets for German manufactures and supply foodstuffs for her population.

On the economic side, the German nation, as now constituted, is not a self-sufficing area. Germany is almost entirely dependent upon foreign sources of supply for cotton, aluminum, rubber, manganese, nickel, chromite, tungsten, antimony, tin, mercury and mica. She is dependent upon foreign sources of supply for the greater part of her annual consumption of iron ore, petroleum, copper, lead, sulphur, wool and phosphates. Finally, substantial portions of her annual consumption of foodstuffs are imported. Some progress is being made in substituting synthetic products, such as rayon, for certain agricultural raw materials—silk, cotton and wool, for example. The possibilities of development in this direction are as yet indeterminate. Germany is also attempting to free herself in so far as possible from dependence upon foreign sources of supply of mineral raw materials. Substitutes for petroleum motor fuel are being made from coal but at greater costs than imported petroleum. Many of the metals necessary to Germany's existing industrial machines do not occur in quantities sufficient for her needs within her existing territorial boundaries. The problem of finding domestic substitutes for these raw materials is even more difficult than that of becoming more self-sufficient in agricultural goods. Rough estimates indicate that Germany is dependent upon foreign supplies of industrial raw materials to the extent of 40 to 45 per cent of her total annual consumption. In a sense, this is an economic weakness.

Germany's economic strength rests primarily in her large, virile and industrially efficient population, her reserves of coal and her equipment and organization for efficient mining, manu-

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that "German troops are taking possession of their future peacetime garrisons in Germany's western provinces," meaning that German troops were occupying the left bank of the Rhine which had been demilitarized by the Treaty of Versailles.—*The Times*, London, Monday, March 9, 1936, p. 9, "Herr Hitler's Speech."

facturing and trade. These facts suggest that Germany's future lies in the direction of external economic expansion. Recourse to a policy of economic autarchy in Germany is a backward step from the purely economic point of view. At the moment, trade barriers and obstacles to territorial expansion block the paths of German economic development. However, in view of the size, the virility and the ingenuity of the German population, pacific removal of at least some of the obstacles to the country's economic expansion or another war appears to be more probable than continuation of the political *status quo*. For these reasons, economic calculations concerning Germany's future, that do not take fully into account the political probabilities, rest upon a very uncertain foundation.

CHAPTER XXXIV

ITALIAN NEEDS[1]

Italy, more than some of the other European countries, is faced with the difficulty of supplying increasing numbers of families with products wrung from a land that is small in area and poor in the basic resources of modern industry. These circumstances have had an important bearing upon the course of Italian commercial policy in international relations since the World War.

THE POPULATION PROBLEM

Italy has a population of approximately 43 million on an area of a little less than 120,000 square miles, only about 49,000 square miles of which is sown or arable land. The population per square mile of arable land in Italy is approximately 880 as compared with about 500 persons per square mile of arable land in France and approximately 720 in Germany. Germany has an abundance of coal and some iron. France has an abundance of iron and some coal. Italy is deficient in both coal and iron, as well as in most of the other minerals needed by a modern industrial nation. Approximately 41 per cent of Italy's gainfully employed population is engaged in agricultural pursuits as compared with 38 per cent in France and 29 per cent in Germany. Great Britain is as densely populated as Italy but she has coal and iron resources far in excess of those of Italy, and she has a large annual income from overseas investments, whereas Italy is a debtor nation. Italy is dependent upon foreign countries for practically all her consumption of coal, petroleum, copper, cotton, rubber, nickel, chromite,

[1] For a discussion of foundational industrial and commercial conditions in Italy prior to the year 1926 see McGuire, Constantine E., *Italy's International Economic Position*, The Macmillan Company, New York, 1926.

For more recent information concerning Italy's economic conditions and commercial policy, see The Royal Institute of International Affairs' Information Department Paper 15, *The Economic and Financial Position of Italy*, London, June, 1935.

See also PORRI, VINCENT, *La Politique commerciale de l'Italie*, Librairie du Recueil Sirey, Paris, 1934.

tungsten, phosphates, mica and tin. She is dependent upon foreign countries for a large part of her consumption of potash, wool, manganese, lead and iron. Furthermore, Italy has practically nothing to offer in exchange for these necessary raw materials except labor. So long as half a million or more Italians were emigrating annually and sending money to their kinsfolk back home, emigrant remittances constituted a large credit item, in the country's international account, which might be applied to the purchase of raw materials. With a stoppage of large annual emigrations,[1] this source of foreign income is likely gradually to disappear. Italy is a country either with too much population or with too little natural resources, depending upon the point of view which one takes.

Italy's population problem was described succinctly by the Commercial Counselor to His Majesty's Embassy in Rome in 1933 as follows:[2]

> In the latter part of the last century, there was an annual average of some 200,000 emigrants [from Italy] every year, which was trebled in the pre-war period. During the war there was naturally a large decrease, but after the armistice the great demand for labour to repair war damage, brought about a sudden rise in the figures, which were again over 600,000 in 1920. After a further period of marked fluctuations, in 1924 a steady fall set in and in 1931 the numbers fell to 166,000 and in 1932 were only about half that number. At the same time the average annual increase of a population now deprived of its former outlet in emigration, is 400,000.[3]

THE POSTWAR LAND-UTILIZATION POLICY

Among the first of the long-run national economic policies of the Fascist government in Italy was a policy directed toward development and improvement of Italian agriculture. The policy involved irrigation projects, drainage schemes, fertiliza-

[1] Since the World War Italian emigration has been restricted by legislative bars to immigration imposed by the United States and other sparsely settled countries to which Italians had been moving in large numbers for many decades prior to the World War.

[2] *Economic Conditions in Italy*, United Kingdom, Department of Overseas Trade, Report 558, His Majesty's Stationery Office, London, July, 1933, p. 153.

[3] The population of Italy (new frontier) is estimated to have increased from 37,900,000 in 1921 to 41,170,000 in 1931 and 43,060,000 in 1934. SOURCE: *The Economic and Financial Position of Italy, op. cit.*

tion, road building, forestry work and organized movement of families to newly recovered agricultural areas. A land-improvement policy was not something entirely new in Italy. Italian rulers had been concerned over depletion of the fertility of the country's agricultural land for centuries before Mussolini arrived on the scene. The Fascist land policy, however, was broader, better organized and more purposeful than those which had gone before. Under the regime of Mussolini, numerous old laws were consolidated and coordinated during the nineteen twenties, and the whole land-improvement program was revitalized. Some conception of the vigorous manner in which Mussolini undertook to improve Italian agriculture may be had from the following comparison of expenditures. Between 1870 and July 1, 1932, the total expenditure in Italy for land-improvement works effected by the state and by state-subsidized private agencies amounted to some 6,213,200,000 lire. Of this total 2,401,600,000 lire were spent during the three-year period 1929 to 1932.[1] The postwar program of agricultural improvement provided for division of large estates, improvement of livestock, fertilization of soil with home-produced potassium and nitrogenous fertilizer, drainage of swamps and irrigation in regions where rainfall is deficient or erratic. Agricultural improvements of this character have been associated with control and exploitation of water-power resources, for both irrigation and power generation, and with intensification of agricultural production. Without depreciating in any way the value and desirableness of the agricultural improvement efforts in Italy, a conclusion may be drawn to the effect that agricultural improvement alone is not a solution to the country's need for avenues of economic growth. Agricultural workers in densely populated areas cannot hope to maintain standards of productivity commensurate with those of equally efficient workers laboring under equally favorable conditions in regions where fertile land is relatively more abundant.

[1] *Economic Conditions in Italy*, United Kingdom, Department of Overseas Trade, Report 558, His Majesty's Stationery Office, London, July, 1933, p. 155.

NOTE: Apparently this comparison does not take into account the depreciated value of the lira in the period 1929–1932. Even when this factor is taken into account, however, the average annual expenditures from 1929 to 1932 were much larger than average annual expenditures during the years which preceded the Fascist regime.

POSTWAR DEVELOPMENT OF MANUFACTURING

Closely associated with irrigation and drainage projects, in Italy, are hydroelectric power development projects formulated to increase manufacturing efficiency. Italy is not without a manufacturing system. In fact, manufacturing has expanded more in Italy than in many other countries during the last decade. Italy's rayon output was six or seven times as great in 1934 as it had been in the early nineteen twenties.[1] Cotton-cloth output was 3 or 4 per cent more in 1934 than it had been in the early nineteen twenties. Production of steel ingots in Italy was at least 50 per cent greater in 1934 than it had been in the early nineteen twenties. These figures are encouraging, but it is doubtful if the rate of increase in Italian manufacturing which they suggest can continue under existing conditions of restricted international commerce. Foreign markets for the profitable sale of Italian manufactures are blocked in many directions, and Italy must increase her exports if she is to purchase the raw materials necessary to continued expansion of her domestic manufacturing system. Furthermore, an enormous expansion of manufacturing in Italy would be necessary to alleviate the country's population problem. A rough idea of the extent to which expansion of Italian manufacturing would be necessary to raise living standards in Italy to a level comparable with those in Netherlands or England, where population densities are also great, is suggested by comparisons of the amounts of manufacturing in these three countries at present. Only about 42 per cent of the gainfully employed persons in Italy are now engaged in mining, manufacturing, trade and transportation. In Great Britain and in the Netherlands 75 per cent and 62 per cent, respectively, of the gainfully employed populations are engaged in mining, manufacturing, trading and transportation activities. These figures suggest that Italy might have to increase her mining, manufacturing, trading and transportation activities about 50 per cent in order to achieve an occupational distribution and a standard of living comparable with those of the Netherlands. In order to achieve an occupational distribution comparable with

[1] Average annual production of rayon for the period 1921–1925 was 15,361,000 pounds as compared with 107,000,000 pounds in 1934. SOURCE: *Foreign Commerce Yearbook*, 1935, U. S. Department of Commerce, and League of Nations, *Statistical Year-book*, 1935–1936, Geneva, 1936.

that of Great Britain, Italy would have to increase her mining, manufacturing and trading activities by about 80 per cent. Even if Italy could build a superstructure of nonagricultural industry equivalent, in proportion to her gainfully employed population, to that of Great Britain, her economic position would remain comparatively weak. Italy would have to import fuels,[1] whereas Great Britain has a surplus of coal for export. Italy would have to import more iron than is imported into the United Kingdom, and she would not have income from overseas investments with which to purchase fuels, iron and other raw materials necessary to the operation of an intensive manufacturing system.

INTERNATIONAL PAYMENTS

The idea of improving Italy's economic circumstances by a process of further industrialization carries the implication of a favorable merchandise trade balance. The idea assumes that the monetary value of merchandise exports would exceed the monetary value of merchandise imports. The excess value of exports must needs provide remuneration for Italian labor embodied therein. At present, however, Italy's merchandise trade balance is unfavorable. This condition prevails in spite of the fact that she is a debtor nation on capital account, *i.e.*, she pays out annually more service charges on borrowed capital than she receives from foreign investments. In the year 1930 Italy's merchandise imports exceeded her merchandise exports by 5,227 million lire.[2] She sent abroad in payment of interest, dividends and commissions 1,000 million lire and imported gold amounting to 99 million lire. These three debit items totaled 6,326 million lire, for which Italy became obligated to foreign countries. The account was balanced with income from services[3] amounting to 5,270 million lire and loans from abroad aggregating 1,056 million lire. As the depression gathered momentum in 1931 and 1932

[1] The potentialities of hydroelectric development in Italy are inadequate to supply even her present power needs. Furthermore, development of hydroelectric plants in Italy is dependent upon the importation of iron, steel, copper and other metals.

[2] The average exchange rate between lire and dollars in 1930 was $0.0524 per lira. Italy's merchandise import balance in terms of dollars amounted to approximately $274,000,000.

[3] Emigrant remittances, maritime transport services, tourist expenditures in Italy and other invisible items.

Italy's balance of merchandise imports declined more rapidly than her income from emigrants, shipping services and other invisible items. As a result, in 1931 and 1932 she was able to repurchase at bargain prices some of the securities she had floated abroad. However, Italy's international financial position remained fundamentally weak. Her merchandise trade balance remained unfavorable. Reduction in the annual number of Italian emigrants foreshadowed future reduction in emigrant remittances, tourist trade was not increasing and there was no evidence to indicate that Italian transportation companies would gain an increasing proportion of the world's shipping. If Italy is to maintain and enlarge her manufacturing activities, great quantities of fabricating materials and fuels must be imported annually. Without invisible income sufficient to purchase these materials Italy must either export more merchandise than she imports or finance her imports by long-term borrowing. She is not in the position of an undeveloped country rich in unexploited natural resources. Such a country can borrow large amounts of capital annually for a long space of years, ultimately retiring the principal and accumulated service charges with proceeds from increased productivity. Productivity in an undeveloped country is increased through a process of unlocking dormant natural resources. In time, large quantities of raw materials and semi-fabricated goods are exported. Italy does not have dormant natural resources to be unlocked; she has nothing but labor to offer in exchange for the fabricating materials and fuels which she cannot produce at home. Labor may be exported in any one or all of a number of forms. In the first place, foreign income may be derived from labor in the form of remittances made by emigrants to kinsfolk back home. In the second place, labor exports may take the form of shipping and financial services rendered to foreigners. In the third place, Italian labor may be sold to foreigners in the form of entertainment provided to foreign tourists or residents in Italy. Finally, Italian labor may be sold abroad if it is embodied in goods produced in Italy. Let us consider one by one each of these possible means whereby Italy might derive additional foreign income in exchange for domestic labor. Emigrant remittances were cited first. As already stated, Italy's income from emigrants is likely to decline with reduction in numbers of Italian emigrants who are permitted to

settle in sparsely populated, wealthy countries. Utilization of labor in the rendering of shipping and financial services to foreigners was next cited. Centrally situated as Italy is from the point of view of ocean trade routes in the Mediterranean Sea, she may be able to enlarge, somewhat, her income from maritime transport. However, international competition in this field of endeavor is keen. Great Britain, Netherlands, France, Germany, United States and Japan are each and all competing vigorously for larger shares of the world's shipping, even to the extent of granting state shipping subsidies. Merchant fleets are being subsidized in countries where they cannot compete without subsidization. A reason for this action is that merchant shipping is an important adjunct of a nation's military and naval equipment. In view of these circumstances, Italy's prospects for increasing her income by providing shipping services for foreigners do not promise to go far toward relieving her economic difficulties. Enlargement of tourist services, a third possible form in which additional Italian labor might be sold to foreigners, is conditioned both by numbers of foreigners who desire and can afford to travel or live abroad, and by the numbers of such persons who may be induced to prefer Italy to other countries. France, Germany, Great Britain, Switzerland, Norway, Sweden and Russia, as well as Italy, are offering inducements to foreign tourists. This source of foreign income, obviously, is limited. Finally, there is the possibility of selling more Italian labor to foreigners in the form of utilities embodied in agricultural products or manufactured goods. Italy is too densely populated to compete successfully in world markets for extensively produced agricultural goods—wheat, for example. Available markets for intensive products of Italian agriculture are limited both by distance from large, foreign, metropolitan cities and by tariff barriers. Possibly, Italy's most promising avenue of improvement in her national economy (by pacific means) is in the direction of more intensive industrialization. At best, intensive industrialization is not a promising means of raising living standards in Italy to a level equivalent to those of France or Great Britain. The reasons for this conclusion, to repeat, are two. In the first place, Italy lacks at home the fuels and fabricating materials necessary for further industrialization and, therefore, must import a very large proportion of the basic elements of industrialization aside from

labor and human ingenuity. The other countries cited must import some fabricating materials and fuels but not so large a proportion of their per capita consumption as Italy. In the second place, Italy has less income per capita from invisible exports (of a character likely to endure) than the other countries cited. Hence a larger proportion of Italy's manufactures must be sent abroad in exchange for the raw materials essential to the operation of a more intensive manufacturing system. In so far as the productivity of labor[1] engaged in mining and farming, in countries which produce fuels and fabricating materials, is greater than that of Italian labor engaged in manufacturing activities, Italy is at a disadvantage in her attempts to raise the average per capita real income of her workers to a level equal to that of countries which produce more raw materials than she does.[2]

MERCHANDISE TRADE TENDENCIES

Trade Balance.—Italy's merchandise trade balance has been consistently passive (on the import side) since before the World War. The data for a number of prewar and postwar years are summarized in Table 79.

The magnitude of Italy's unfavorable trade balance was reduced during the depression years in the early nineteen thirties. The change was brought about not by increased exports but rather by reduction in both imports and exports. In 1934 and 1935 there was a substantial increase in the magnitude of Italy's unfavorable trade balance.

Import-export Trade by Commodities and Commodity Groups.[3] The general composition of Italy's import-export trade underwent comparatively little change between the prewar and postwar periods. Imports consisted principally of raw and partly processed materials, fuels, cereals and meat in both periods. Exports consisted principally of fruits and vegetables, processed

[1] Productivity in terms of monetary value.

[2] In this connection a thorough study of Italy's *barter terms of trade* over a long series of years would throw additional light upon the status of her international competitive position.

[3] SOURCES: McGUIRE, *op. cit.*, pp. 482, 483; *Commerce Yearbook*, 1926, Vol. II, and *Foreign Commerce Yearbook*, 1935. Leage of Nations, *International Trade Statistics*, 1934, Geneva, 1935. Used by courtesy of International Documents Service, Columbia University Press.

foodstuffs and manufactures in both periods. In 1913, six items, constituting 15 per cent of the total value of imports, were foodstuffs. Twenty-four items constituting 55 per cent of the total value of imports were raw and partly processed materials and fuels. Other foodstuff, fabricating material and fuel items brought the total value of these groups of imports to 80 or 90 per cent of the value of all imports. Among the foodstuffs imported, fish, meat, wheat and corn were the most conspicuous items.

TABLE 79.—IMPORT-EXPORT TRADE, ITALY[1]
(Millions of lire)

Year	Imports	Exports	Import balance
1910	3,246	2,080	1,166
1911	3,380	2,204	1,176
1912	3,702	2,397	1,305
1913	3,646	2,512	1,134
1928	22,313	14,999	7,314
1929	21,665	15,236	6,429
1930	17,347	12,119	5,228
1931	11,643	10,210	1,433
1932	8,257	6,811	1,446
1933	7,432	5,991	1,441
1934	7,667	5,225	2,442
1935	7,761	5,163	2,598

[1] SOURCE: *Foreign Commerce Yearbook*, 1936. The change in magnitude of the import-export items as between 1913 and 1928 is largely accounted for by devaluation of the lira after the War (see Chap. XXIX of this volume).

Among the fabricating materials and fuel imports, hides and skins, raw cotton, raw wool, silk, wood, coal, iron and steel and rubber were conspicuous items. Comparison of these facts with import data for the nineteen twenties and early nineteen thirties discloses no striking changes. In 1934 approximately 85 per cent of Italy's imports (in terms of value) were foodstuffs, fabricating materials (raw and semiprocessed) and fuels. Among the import items conspicuous in 1934 in terms of value, were raw cotton, raw wool, coal and coke, timber, raw hides, wheat and other cereals, fish, meat, iron, steel and various other metals. The general composition of Italy's imports underwent little change between the prewar and postwar periods.

On the export side of Italy's foreign-trade balance sheet for 1934, 20 items, constituting 40 per cent of the total value of exports, were manufactures. Fifteen items, constituting 29 per cent of the total value of exports, were vegetables, fruits, and processed foodstuffs. A substantial portion of the remaining items also were manufactures, vegetables, fruits and processed foodstuffs. These groups, therefore, represent the principal kinds of merchandise Italy had to offer for her imports in 1934. Of the manufactures, artificial-silk goods, cotton goods, real-silk goods and wool manufactures topped the list. Basically, the character of Italian exports has not changed very much since the prewar period. In 1913, as in 1934, manufactures, fruits, vegetables and processed foodstuffs predominated. In 1913 textile manufactures alone constituted about one-third of the total value of all exports and in 1934, about the same proportion.

TRADE RESTRICTIVE MEASURES[1]

From a purely economic point of view, the maintenance of relatively free international access to world markets and sources of supply of raw materials might well have been the focal point of Italy's postwar commercial policy. However, amidst a world-wide atmosphere of extreme economic nationalism, and with a long-enduring protective tradition, Italy's postwar commercial policy course took the opposite direction. In postwar Italy, as elsewhere, influential political groups have sponsored conceptions of national self-sufficiency. Theories involving ideas of internationalization of raw materials and lowering of trade barriers by multilateral agreements have not been lacking. By and large, however, the self-sufficiency point of view has exercised the greater influence. Italy's commercial policy was protective before the War and it has remained so since the War.

Economic unity was realized in Italy in 1861, when a general customs tariff replaced a miscellany of state tariffs. The tariff of 1861 was imposed to raise revenue, to foster permanent national

[1] See PORRI, *op. cit.*
McGUIRE, *op. cit.*
The Economic and Financial Position of Italy, op. cit.
Manchester Guardian Commercial, "Italy: Foreign Exchange Restrictions in Force," November 29, 1935, p. 430.
Royal Economic Society, *Economic Sanctions and Italian Trade*, Memorandum 56: 6–7, December, 1935.

unity and to encourage development of the relatively new power-machinery techniques. In 1878, rates on textiles, metallurgical goods and various other goods were substantially increased. During the eighteen seventies and early eighteen eighties a substantial increase in imports of low-cost agricultural goods paralleled improvements in Western transportation. This gave rise to greater pressure for protection on the part of agricultural interests in Italy. In 1888 a new general tariff went into effect. It was definitely more protective than any of the acts that had gone before. The 1888 act remained the basis of Italy's protective tariff system until 1921. In general, the period 1861–1914 was characterized by a transition from moderate protection at the beginning of the period to more extreme protection at the end.

Postwar Tariffs.—A commission which had been appointed to study Italy's tariff needs submitted its report to the national legislature in 1920. The Tariff Act of 1921 followed. In Italy, as elsewhere, business interests were divided on the tariff issue. In general, manufacturers of machinery and other import goods clamored for higher duties. Textile manufacturers and large sections of agriculture favored a liberal tariff. The 1921 act was a compromise through which the protectionists gained more than the liberals. Had the 1921 tariff act confined itself to specific rates, as was the case in earlier acts, inflation in Italy in the middle twenties would have destroyed most of its effect. However, ad valorem rates prevailed in the 1921 act, causing the specific amounts of tax to increase as prices rose. More significant than the rates imposed by the 1921 tariff law is the fact that it served as an understructure for a long series of commercial treaties. The Italo-German treaty of 1925 is suggestive of the nature of Italy's commercial treaty strategy during the nineteen twenties. The treaty in question made provision for an exchange of intensively produced Italian foodstuffs and quality manufactures for German raw materials and heavy manufactures. In general Italy's commercial treaty policy attempted to use her necessary imports as a bargaining counter with which to obtain a maximum demand for the types of goods which Italian industry was circumstanced to export. At the same time attempts were made by Italy to reduce the quantity of her necessary imports to a minimum. Railway electrification, research for the development of petroleum substitutes, the battle to make Italy self-sufficient in grain produc-

tion,[1] experimentation in the use of hemp fibers as a substitute for cotton and similar measures are suggestive of the type of effort made to reduce the amount of *necessary* imports.

With the advent of the world-wide commercial and financial crisis in 1929 Italy's commercial policy became even more vigorously protective than it had been before. The system of protective tariffs was maintained and the rates were increased. Between May, 1929, and August, 1931, the wheat tariff was raised from 14 gold lire per 100 kilograms to 75 paper lire, an increase of 45 to 50 per cent in terms of gold. Duties on unprepared meats were increased about 400 per cent. So, also, rates of duty were increased on butter, oils and fats and other agricultural goods and on manufactures. Furthermore, after the 1929 crisis, Italy, like many other countries, resorted to import quota-license measures, export premiums and foreign exchange restrictions.

Quantitative Merchandise Controls.—After 1929 Italy introduced measures for the quantitative regulation of imports of motorcars, toys, coffee, oil and wood, copper, fertilizers, dyestuffs, butter, vegetable oils, certain kinds of fish, woolen yarns, newsprint, bacon, ball bearings, silk cocoons and various other goods. Compulsory milling of a specified proportion of home-grown wheat in the manufacture of flour and compulsory admixture of alcohol with petrol were required. The sale of margarine in Italy was prohibited, and exports of a number of goods such as scrap iron, copper, aluminum and cotton were forbidden.

Foreign Exchange Controls.—Italy did not confine herself to merchandise controls. She resorted during the depression years to foreign exchange controls similar in some respects to those of Germany. Italian exchange for such genuine industrial and commercial needs as commodity imports and necessary foreign travel remained unrestricted. However, special permits were required for exchange to be used for other purposes—payments on old accounts, for example, or purchase of foreign securities. In Italy, as in Germany, exchange restrictions gave rise to clearing

[1] The so-called "Battle of the Grains."

"I know," said Mussolini in an address to the Wheat Committee, July 4, 1925, "that each one of you is profoundly convinced of the sanctity of the Campaign and of the possibility of Victory. You feel that we are here struggling for true freedom, the emancipation of Italy from foreign economic dependence." Quoted from *The Economic and Financial Position of Italy*, *op. cit.*, p. 10.

agreements. Such agreements were negotiated within Austria, Argentina, Bulgaria, Germany, Great Britain, Hungary, Yugoslavia, Turkey and various other countries.

The foregoing sketches suggest the fact that Italian tariff policy drifted toward greater degrees of protection during the nineteen twenties and that a very complicated system of special restrictive measures had come into effect in Italy before the application of sanctions by the League of Nations in 1935.

League of Nations Sanctions.—The application of *economic sanctions* against Italy added another tier to the restrictive barrier that had been rising against her foreign commerce since the early nineteen twenties. Economic sanctions against Italy, as approved by the committee of the League of Nations prior to January, 1936, were four in number. First, credit facilities were refused to the Italian government. Second, a ban was placed on all imports from Italy. Third, exports of arms and munitions to Italy were prohibited. Fourth, an embargo was placed upon exports to Italy of certain key materials and supplies.[1] During the period when sanctions were in force, Italy's total foreign trade declined. Her trade with league countries declined more than her trade with non-League countries. Given the fact that for several years before economic sanctions were applied against Italy world trade had been in a severe state of collapse and the further fact that a complicated network of trade restrictive measures had recently come into existence, it is difficult, if not impossible, accurately to evaluate the effect of the sanctions upon Italian trade. Italy's trade balance increased from a net import figure

[1] Some of Italy's most important imports were not banned by League action because, apparently, member nations controlled too small a proportion of world supplies. Coal, cotton, copper and petroleum are conspicuous among the items that were not banned. In 1934, four of the principal non-members of the League, *viz.*, Germany, United States, Japan and Brazil, produced 50 per cent of the world's output of coal, 60 per cent of the petroleum, 54 per cent of the cotton and 21 per cent of the copper content of mined ores.

The list of key materials and supplies that were banned by League edict follows: horses and other transport animals, rubber, scrap iron and iron ore, tin, nickel, chromium, manganese, aluminum, titanium, molybdenum and tungsten with their ores and ferroalloys.

SOURCES: Royal Economic Society, Memorandum 56, *Report on Current Economic Conditions*, London, December, 1935, and The Royal Institute of International Affairs, *Raw Materials and Colonies*, London, 1936.

of 125 million dollars in 1934 to 126 million dollars in 1935. The gap between exports and imports was filled before 1934 by emigrant remittances, tourist expenditures and foreign borrowings. For the year 1935 the magnitude of Italy's international payments was not divulged. During the period in 1935 and 1936 when the idea of vigorous application of economic sanctions was being pressed in the League of Nations committee, reports were extant to the effect that Italian residents abroad were making exceptional sacrifices in an effort to increase remittances to the homeland in its time of dire need.

WILL ACQUISITION OF COLONIES SOLVE ITALY'S ECONOMIC PROBLEM?

Given the size of the Italian population, its growth tendencies and the limited resources of arable land and mineral deposits within the boundaries of the Italian state, avenues of economic growth sufficient to permit a substantial increase in individual living standards of an increasing Italian population are limited in number. Italy along with Germany and Japan is demanding colonies as a basis of future economic security and prosperity. The colonial question extends far beyond the scope of what is a part of the subject matter of international trade, but it has important economic aspects. Among them are the following:

1. Will acquisition of colonies supply Italy with the raw materials necessary for continued industrial growth?
2. Will acquisition of colonies provide a profitable market for Italian manufactures?

Colonies as a Source of Raw-material Supplies.—An industrial nation needs coal, iron, cotton, petroleum and a great many other raw materials, most of which (aside from foodstuffs) Italy must purchase from foreign countries. If she possessed abundant supplies of all the essential raw materials within her own political domain, most of the existing obstacles to her economic growth would be nonexistent. Is, then, acquisition of colonies from which to secure raw materials the solution to her economic difficulties? The thought is inspiring, but statistical appraisal of the suggestion is disillusioning. The aggregate production of raw materials in all the colonial possessions of Great Britain, France, Belgium, Netherlands, Japan, Italy, Portugal and Spain (mandates included) is not sufficient to supply all the raw-material

needs of a modern industrial nation. The colonies in question produce less than 1 per cent of the world's annual output of coal, only 3½ per cent of the iron ore, 2½ per cent of the cotton, less than 4 per cent of the petroleum, only 2½ per cent of the wool and about 6 or 7 per cent of the gold.[1] Colonies produce more than half the world's annual output of rubber and tin, but rubber and tin alone are not sufficient to support an expanding factory system. In short, if Italy had her fair share of the world's colonial possessions, she would still have to purchase the bulk of her industrial raw materials and fuels unless colonial production could be largely increased.

Colonies as Markets for Manufactured Goods.—Circumstanced as Italy is, her principal need from a purely economic point of view is a profitable market in which to sell light manufactures. Such markets are not to be found in the sparsely settled, relatively poor, colonial areas of the world. These areas are potentially large markets for manufactures only to the extent that, at some future time, capital equipment and large, efficient populations are planted in them. Italy has the population but she will be faced with a number of colonizing problems even if she acquires political control of additional colonial territories. First, there is the problem of inducing her people to migrate to undeveloped regions. Second, there is the problem of financing extensive colonization projects. Italy has, apparently, acquired control of Abyssinia, but unless she can secure large loans from Great Britain, France, United States or some other country with capital funds for speculative foreign investment, it is doubtful if Abyssinia will be a net economic asset during the present generation. The financial history of colonial ventures does not afford support for the economic wisdom of Italy's Abyssinian venture. Certainly, there is no large and profitable market in Abyssinia for Italian manufactures at the present time.

A very important distinction between the economics of British colonial development during the last century and Italy's colonial ambitions at the present time is that Great Britain was a capital-lending nation at the time when her colonies underwent their greatest measure of economic development, whereas Italy is a debtor nation, a capital-borrowing nation. Italy has labor and finished consumers' goods (for which she must get immediate

[1] SOURCE: *Raw Materials and Colonies.*

payment) to put into her colonies; Great Britain had capital equipment and credit to put into hers.

CONCLUSIONS

Limitation of births and gradual reduction in the size of the Italian population would enable Italy, in time, to raise the living standards of her people. However, limitation of numbers is not in accord with religious precepts in Italy. Furthermore, limitation of numbers would not, in all probability, be the means of increasing the power and influence of the Italian nation amidst the community of European nations. World free trade and a relaxation of emigration restrictions in sparsely populated, wealthy nations would enable Italy to grow in numbers and at the same time to raise the living standards of her people. But these are circumstances over which Italy has little control. Unwilling to accept the status of a lesser power and restricted by a limitation of natural resources in her efforts to expand economically, Italy is a nation whose statesmen are bound by the nature of circumstances to a policy of exploiting European discord in the hope of achieving a vaguely defined and uncertain gain.

CHAPTER XXXV

JAPANESE IMPERIALISM[1]

Although the Japanese empire is reputed to be more than two thousand years old, development of a power-machinery economy in Japan and a complementary system of world trade did not get under way until after the middle of the nineteenth century. For 200 years or more prior to the signing of a commercial treaty with the United States in 1854, all foreigners, save the Dutch and Chinese, were excluded from the Japanese empire, and Japanese citizens were forbidden to leave the country.

Prior to the middle of the nineteenth century agriculture was the principal industry of a feudal Japan. Such manufacturing as was necessary to the life of the people was accomplished with simple tools. Much of the manufacturing was carried on in the homes of farming families. Luxury goods and staple articles for families that were not self-sufficing were produced in small shops by a class of artisans who gained a livelihood from specialization in various handicraft trades.

During the last three-quarters of a century, Japanese industry has been revolutionized. The extent and magnitude of the changes are suggested by statistical evidences of expansion in Japan's industrial and commercial activities and changes in the character of her capital equipment. Between 1868 and 1929 Japan's[2] foreign trade (exports and imports) increased from 26,246,000 yen to 4,364,858,000 yen. Part of this increase may represent depreciation in the value of Japanese money. When

[1] For a comprehensive discussion of industrial and commercial developments in Japan during the last three-quarters of a century see:

ORCHARD, JOHN E., *Japan's Economic Position, The Progress of Industrialization*, McGraw-Hill Book Company, Inc., New York, 1930.

MOULTON, HAROLD G., and JUNICHI KO, *Japan, An Economic and Financial Appraisal*, The Brookings Institution, Washington, 1931.

[2] Japan Proper: The four large islands—Honshu, Shikoku, Kyushu and Hokkaido—as distinct from other parts of the Japanese empire, the Kuril Islands, for example, and possessions on the mainland of Asia.

allowance has been made for possible depreciation of the yen, the data indicate that the physical volume of Japan's foreign trade increased enormously between 1868 and 1929. Enlargement of the country's merchant fleet, extension of her vehicular roads and railroads and the mechanization of her manufacturing are other evidences of Japan's industrial and commercial expansion during the last three-quarters of a century. The Japanese merchant marine of 1850 consisted of a few small coastwise craft. At the beginning of the nineteen thirties, Japan had more than 2,000 merchant vessels of 100 tons and over. Japan's inland transportation facilities three-quarters of a century ago consisted of a few primitive highways and a system of waterways limited in extent by the mountainous topography of the islands. In 1935 the country had approximately 595,000 miles of vehicular roads and approximately 16,000 miles of railways. As contrasted with the handicraft system of manufacturing of the middle nineteenth century, the Japan of the nineteen thirties has electric-motivated and steam-motivated textile factories, paper mills, metalworking establishments and lumber mills, not to mention a diversity of other kind of factories equipped with electric- or steam-motivated machinery. In 1935, 2 million or more workers were employed in Japanese factories that were equipped with modern machinery. The Japan of today is a modern industrial, commercial nation in the full sense in which that term is used in the Western world.

POPULATION PRESSURE

During a long period of 200 years or more prior to the middle of the nineteenth century (when the nation's economy was practically closed from an international point of view) the population of Japan increased little, if at all. Population estimates prior to the first Japanese census (taken in 1721) are not trustworthy, but such as they are, the estimates suggest no substantial increase in the population of Japan during the century prior to 1721. In 1721 the census figure for registered population (uncorrected for probable omissions) was approximately 26,000,000. A century and a quarter later (1846) the corresponding census figure was 26,900,000. Inasmuch as the census figures for population dropped as low as 25,000,000 between 1721 and 1846 and never reached 27,000,000 prior to 1846, no marked upward trend is evident for at least a century before the eighteen forties. For the

period covering the last half of the nineteenth century and the first third of the twentieth century (roughly 1850–1935) quite another story is to be told.

The industrialization and commercialization of Japan, after about 1850, increased aggregate productivity and permitted rapid increase in a population which, apparently, had been held in check by scarcity of economic goods. Between 1846 and 1893 the population of Japan Proper increased 50 per cent (from 26,908,000 to 40,508,000); between 1846 and 1916 it approximately doubled; between 1846 and 1934 it increased 150 per cent (from 26,908,000 in 1846 to 68,000,000 in 1934). The population of Japan Proper continues to increase. The exchange value of the country's aggregate output of goods and services must also increase if the existing standard of living is to be improved or even maintained. Here is the crux of the country's economic difficulties in a long-run economic sense. How is aggregate production to be increased at a more rapid rate than the population increases?[1]

DIRECTIONS OF ECONOMIC EXPANSION[2]

Removal of the stultifying restraints of a feudal system has been cited as one of the causes of Japan's increased productivity. With the passing of the feudal system a large class of nonproductive persons[3] living under the shelter of vested interests was forced into industry. With greater freedom came a revitalization of incentive and effort on the part of peasant farmers. Development of internal commerce gave rise to advantages of territorial division of labor. A factory system, equipped with power machinery, increased the productivity of manufacturing classes. The value of that part of the nation's output of goods which

[1] This question does not assume that the population of Japan Proper will continue indefinitely to expand. Only two assumptions are involved in the question. One assumption is that the population of Japan Proper is increasing at the present time. The other assumption is that the population increase cannot be curbed immediately.

See GREGORY, T. E., "Japanese Competition in World Markets," *International Affairs*, The Royal Institute of International Affairs, London, May, 1934, pp. 325–342.

[2] See HUBBARD, G. E., and DENZIL BARING, *Eastern Industralization and Its Effects on the West: with Special Reference to Great Britain and Japan*, Humphrey Milford, London, 1935.

[3] The Samurai, whose ancestors had been fighting men.

found its way into international commerce was enhanced by a process of exchange for raw materials and foodstuffs more abundant elsewhere and less costly in terms of human effort. These and other economies incident to industrialization, technical innovation and growth of external trade stimulated an increase in productivity. The increase was sufficient to support larger numbers of Japanese families at a slowly rising standard of individual living. What, if any, are the limitations to continuation of this process of economic growth in Japan?

In very general terms an answer to the question may be given in two parts. First, Japan's available agricultural and mineral resources are meager. In an area with limited natural resources, operation of the principle of diminishing returns tends to set an upper limit to the size of population which can be maintained at a given standard of individual living.[1] Technical and administrative improvements were responsible for increased productivity during the last half century or more. Further gains in these directions are possible, but their magnitudes are problematical. Revolutionary improvement in Japanese technique necessary to postpone diminishing returns by tapping natural resources now unavailable[2] are not as yet apparent on the horizon. Second, less densely populated countries of the world are reluctant to receive rapidly increasing quantities of Japanese manufactures in exchange for raw materials. In other words, foreign markets for Japanese labor are restricted by trade barriers. If one looks at the Japanese problem from a positive rather than a negative point of view, the case may be summarized as follows: There are three avenues of possible economic expansion in Japan, sufficient to permit an increase in living standards of greater numbers. In the first place, revolutionary technical developments might free the Japanese people from dependence upon scarce agricultural lands and inadequate mineral resources. Discovery of new sources of natural energy and new synthetic products, compounded from abundant natural elements, are suggestive of types of technical developments which, conceivably, might be achieved. In the second place, some or all of the wealthier countries of the world might lower their trade restrictive barriers, thus permitting more remunerative exportation of greater amounts of Japanese

[1] See GREGORY, *op. cit.*

[2] Such resources as atomic energy.

labor embodied in manufactured goods.[1] Third, control of additional land and natural resources may be acquired by Japan, pacifically or otherwise.[2] If all other avenues of economic growth are found to be impassable, the Japanese may intensify their efforts to gain control of additional land and natural resources through military conquest.[3] Before considering the implications of military imperialism, let us examine the question of trade expansion.

INTERNATIONAL PAYMENTS

Enlargement of the national income of Japan Proper by a process of expanding her manufacturing activities, enlarging her exports of manufactured goods and increasing her imports of raw materials would involve, in all probability, reduction or elimination of her net balance of merchandise imports. For 18 of the 32 years 1868–1899 inclusive the aggregate value of Japan's merchandise imports exceeded that of her merchandise exports. In other words, Japan's trade balance was unfavorable for 18 of the 32 years in question. During the 36 years 1900–1935 inclusive the value of Japanese imports exceeded that of exports every year except 1906, 1909 and the World War years 1915–1918

[1] The idea of economic expansion in Japan Proper, by a process of enlarging her existing manufacturing system and increasing her exports of manufactured goods, carries an assumption that the country's trade balance will become less unfavorable. This topic is developed in the next section.

[2] Population pressure in Japan Proper might be relieved by pacific emigration of Japanese citizens to other national domains. Emigration would enlarge the economy of the Japanese nation to the extent that emigrants sent a portion of their earnings abroad to kinsfolk at home, thus providing the purchasing power for increased imports. Some Japanese are emigrating, but the tendency in many countries is to limit peaceful penetration of the Japanese into non-Japanese territories by increasingly rigorous immigration restrictions.

[3] The question of the extent to which Japanese military policy is a result of internal population pressure and the extent to which it is motivated by ambition, on the part of Japanese leaders, to build a great empire and dominate other peoples, is complicated. On the one hand, failure of the Japanese to restrict their numbers is no necessary justification for their demands upon more favored nations. On the other hand, the existence of large numbers of persons whose desires for economic goods are less fully supplied than those of certain Western peoples is a reality which more favored nations cannot ignore. When the material wants of one race are used as an excuse for annihilation or military domination of some other race, economic and philosophical issues become almost inextricably involved.

inclusive. For the period 1900–1935 as a whole the value of imports exceeded that of exports by about 3 billion yen.[1] How did Japan finance an excess of merchandise imports for so long a period and to so large an amount? An answer to this question can best be approached through an examination of the country's international payment balances.

TABLE 80.—NET BALANCES OF VARIOUS GROUPS OF ITEMS IN JAPAN'S INTERNATIONAL ACCOUNT, 1927–1933[1]
(Millions of yen)

Year	Merchandise	Interest and dividends	Services	Gold	Totals[2]
1927	−283.0	− 3.2	+145.0	+ 36.0	−105.2
1928	−323.4	−24.0	+174.8	− 0.4	−173.0
1929	−163.7	−19.8	+202.5	− 0.6	+ 18.4
1930	−154.7	−25.2	+152.6	+286.7	+259.4
1931	−142.1	−23.6	+108.2	+388.2	+330.7
1932	− 56.8	−37.8	+151.0	+112.0	+168.4
1933	− 79.9	−51.0	+140.3	+ 34.7	+ 44.1
1934	− 91.7	−26.4	+180.9	.....	+ 62.9

[1] SOURCE: League of Nations, *Balance of Payments*, 1934 and 1935, Geneva, 1935 and 1936. Used by courtesy of International Documents Service, Columbia University Press.
[2] The figures in the *totals* column represent errors and capital items.

Net balances of various groups of items in Japan's international account are given in Table 80 for the years 1927–1934 inclusive. During this period the value of merchandise imports exceeded that of merchandise exports by approximately 1,295,300 000 yen. Net payments[2] of interest and dividends to foreigners, who had invested capital in Japan, aggregated 211,000,000 yen for the 8-year period in question. The net imports and interest and dividend items together aggregated 1,506,300,000 yen (1,295,300,000 plus 211,000,000). Payment of this sum by the Japanese to foreigners was offset by collections for services rendered by the Japanese for foreigners[3] and gold exports. For the period in

[1] SOURCE: MOULTON and KO, *op. cit.*
League of Nations, *Balance of Payments*, 1934, Geneva, 1935.
Foreign Commerce Yearbook, 1936, U. S. Department of Commerce.

[2] The adjective *net* in this case implies the difference between foreign interest and dividend receipts by the Japanese and payments of interest and dividends by them to foreigners.

[3] The services rendered by Japanese for foreigners consisted of ocean freight carriage, insurance, entertainment of foreign tourists in Japan, etc.

question service items totaled 1,255,300,000 yen; gold exports totaled 856,600,000 yen. For the period 1927–1934 as a whole, net income from service items was insufficient to pay for net imports of merchandise and to cover net service charges on borrowed capital. Gold exports were sufficient to cover the deficit for imports and service charges on capital borrowings and to permit Japanese purchase of a substantial volume of foreign securities at bargain prices during the depression years. Inasmuch, however, as Japan's exports of gold, during the period in question, far exceeded her production of gold, she was exporting her gold reserves. These are not inexhaustible. From the long-run point of view, the most significant fact which Table 80 portrays is that for the period 1927–1933 as a whole income from merchandise exports and services was not sufficient to pay for merchandise imports and to cover service charges on borrowed capital. By and large, this is the situation which prevailed during the periods of Japanese history between 1900 and 1914 and between the early nineteen twenties and 1929.

Between 1900 and 1914 Japan borrowed abroad. Between these dates the Japanese foreign debt increased from less than 150 million yen in 1900 to approximately 2 billion yen in 1914. During this period, Japan sold long- and short-term securities abroad in amounts sufficient to pay service charges on old loans and to expand her capital equipment at home at a rapid rate. Japan's income from merchandise exports, shipping services and other services was sufficient during the World War years to enable her to make large loans to the Allies and to China. In the nineteen twenties, however, conditions were less favorable and she again became a foreign borrower. Her net foreign indebtedness in 1929 was about 800 million yen.[1]

Prior to the annexation of Manchuria, Japan was at a stage in her economic development which logically would have been

[1] In the middle eighteen nineties Japan was neither a debtor nor a creditor nation to any appreciable extent. From 1897 to 1913 she borrowed heavily abroad with the result that in 1913 her net foreign debt amounted to approximately 1,224 million yen. During the War and early postwar years Japan became a creditor nation. Her foreign credits (long-term investments and bank balances) exceeded her foreign debts in 1919 by approximately 1,400 million yen. By the end of 1929, as already stated, her net foreign indebtedness was about 800 million yen. MOULTON and Ko, *op. cit.*, Chap. XVI.

followed by adjustments in her merchandise trade in such a manner that income from exports and services could pay for imports and cover annual service charges on borrowed capital. But foreign markets for Japanese manufactures were restricted by trade barriers. Hence the Japanese experienced extreme difficulty in finding outlets for goods which the country was tooled to produce. If Japan succeeds in maintaining her political and economic control of Manchuria and in gaining greater control of areas in China Proper that are rich in undeveloped coal resources and other minerals, she may thus, by a process of territorial expansion, enter another long era of capital borrowing for the installation of capital equipment in a relatively undeveloped area. On the one hand, Japan Proper[1] has apparently reached a stage of industrial development where the logical next step is utilization of installed equipment for retirement of accumulated borrowings by production and exports of manufactures. On the other hand, the territorially expanding Japanese empire may be in the capital-borrowing stage of the investment cycle for a long time to come.

INTERNATIONAL TRADE TENDENCIES

As stated in an earlier section, growth of Japan's foreign trade is one of the significant indices of growth in the country's economic system after it was opened to intercourse with the outside world about the middle of the last century. Between 1868 and 1935 the money value of Japan's foreign trade (exports plus imports) increased one hundred and ninety-two times, from about 26 million yen in 1868 to approximately 5 billion yen in 1935. Inasmuch as the price level may have been higher in the latter year, the physical volume of Japanese trade may have increased less than the money value. However, the fact is quite obvious that the physical volume of Japanese trade increased enormously during the period in question.[2]

Trade by Commodity Groups.—The composition of Japan's export-import trade reflects the character of the country's material resources. In 1929 cotton, wool, lumber, sulphate of ammo-

[1] Japan Proper as distinct from the Japanese empire.

[2] There is no readily available index of Japanese prices extending back to 1868. The conclusion is based upon price tendencies in other countries during the earlier years.

nia, coal, mineral oil, beans and bean cake, wheat, sugar and rice, together constituted 57 per cent of imports (in terms of value). Iron and steel and machinery constituted another 13 per cent of imports (in terms of value). In short, raw materials, foodstuffs and capital equipment represented the bulk of the imports in 1929. In general, the same situation prevailed in 1934. The value of raw materials, foodstuffs, goods for further fabrication and capital equipment constituted more than 80 per cent of the total value of imports in 1934. On the export side of the country's merchandise trade transactions, raw-silk and textile manufactures were the most important items both in 1929 and in 1934. In 1934 raw silk constituted 13 per cent of total exports and textile manufactures 48 to 50 per cent. Among the other items of export were such light manufactures as pottery, toys, glass and glassware, paper, etc. In short, Japan's principal exports are light manufactures and raw silk, which embody relatively large amounts of low-wage labor. One of the principal obstacles to a continuation of Japan's commercial expansion at a rapid rate is unwillingness on the part of wealthier countries freely to accept her light manufactures. Textile-manufacturing industries in the United States, Great Britain, France and other countries are entrenched by fixed investments in textile-manufacturing plants, interests of large numbers of employees habituated to work in textile factories and community interests in churches, schools, roads, homes and other types of fixed social and personal capital that tend to accumulate in thickly populated centers. Furthermore, countries like Canada, Australia and Argentina, where vested interests in manufacturing are not so deeply rooted, are constructing manufacturing industries behind the shelter of protective tariff walls.

Trade by Geographical Regions.—Japanese goods find their way into practically every market in the world, and the raw materials and fuels needed for Japan's factories are assembled from a great many countries. In spite of this geographic dispersion of Japanese trade, the bulk of it in quantitative terms is confined to a few countries. In 1934 three countries, *viz.*, United States, British India and China, sent Japan 59 per cent of her imports (in terms of value) and took 41 per cent of total Japanese exports (in terms of value). In 1934 nine countries sent Japan approximately 82 per cent of her imports and took approximately

74 per cent of her export. These data are summarized in Table 81.

Japan gets cotton, scrap iron, lead, copper, capital equipment, automobiles and various other mass-production goods from the United States. Her leading export to the United States is raw silk. Raw-cotton imports and exports of textile manufactures bulk large in Japan's trade with India. From China, Japan gets raw cotton, silk cocoons, foodstuffs and coal and other minerals. She sends China a great variety of manufactures, particularly cotton goods. From Germany and the United Kingdom, Japan gets scrap iron, machinery and various other metal manufactures. From Dutch East Indies she gets sugar and raw rubber, from Australia she gets wool and wheat and from Egypt she gets raw cotton. To these countries, Japan sends various light manufactures, raw silk, tea and a miscellaneous list of minor goods. The opening of the American and Australian markets to freer importation of Japanese manufactures would be of great assistance to Japan. She imports from both of these countries substantially more goods (in terms of value) than she exports to them.

TABLE 81.—EXPORT-IMPORT TRADE OF JAPAN BY COUNTRIES OF DESTINATION AND ORIGIN, 1934[1]

Country	Imports, per cent of total value	Exports, per cent of total value
United States	33.7	18.4
British India	12.8	11.9
China	12.4	10.3
Germany	4.8	0.9
Kwantung	1.2	13.6
Dutch East Indies	2.8	7.3
Australia	8.7	2.9
United Kingdom	3.1	5.0
Egypt	2.0	3.4
Totals for nine countries	81.5	73.7

[1] SOURCE: League of Nations, *International Trade Statistics*, 1934, Geneva, 1935. Used by courtesy of International Documents Service, Columbia University Press.

Terms of Trade.—Japan, like Great Britain and other raw-material-importing countries, has profited during recent years

by relatively low prices of agricultural products. There has been an improvement in Japan's net terms of trade in spite of the fact that prices of one of her principal exports, raw silk, have declined more than prices of many other commodities (see Fig. 19, p. 222). The index of Japan's net terms of trade for the years 1930 to 1935 as compared with the year 1928 are given in Table 82.

TABLE 82.—NET TERMS OF TRADE, JAPAN, 1930–1935, AS COMPARED WITH 1928[1]

Year	Index	Year	Index
1928	100	1932	89
		1933	82
1930	93	1934	72
1931	100	1935	71

[1] The index of net terms of trade is the ratio obtained by dividing the index of prices of Japanese import goods by the index of prices of Japanese export goods and multiplying by 100.

SOURCE: League of Nations, *Review of World Trade*, 1935, Geneva, 1936, p. 75. Used by courtesy of International Documents Service, Columbia University Press.

CONTROL OF EXPORT-IMPORT TRADE

Customs Tariffs.—In view of Japan's economic status among the nations with which she trades, one might expect to find in her an outstanding advocate of twentieth century free trade. Wages in Japan are lower than wages in the Western countries with which she trades, while in the Orient, Japan has the advantage of an early start in the employment of improved manufacturing techniques. In this respect Japan's position in the Orient is somewhat similar to that of Great Britain in Europe 100 years ago. Japan is not, however, a free-trade country; she is not even a *near-free-trade* country. Customhouses were established for the first time and customs duties levied at Japanese ports in 1859. This first customs tariff was determined entirely by treaty provisions with Western powers. It was revised by treaty in 1866. The duties of the revised treaty tariff remained in force until 1899, when a series of new treaties of commerce and navigation was negotiated. The 1899 treaties permitted Japan to levy a statutory tariff in addition to the newly revised conventional tariff. From 1899 to 1914 the general tendency of Japanese tariff legislation was toward an increase in rates. Since

the World War the Japanese tariff has been revised or modified a number of times. In 1924 a law was promulgated which imposed a 100 per cent ad valorem duty on some 120 kinds of goods designated as luxuries. The purposes of the measure were to check luxurious consumption, encourage habits of economy and contribute to a diminution of Japan's adverse trade balance. In 1926 a general revision of Japan's tariff system was undertaken. Although amendments had been made from time to time, such, for example, as imposition of the luxury taxes in 1924, the basic structure of the tariff system had not been changed since the tariff act of 1910. The new tariff measure passed by the Diet in 1926 embodied five basic objectives, as follows:[1]

1. Raw materials not easily produced at home were to be duty free.
2. Protection was to be given to staple industries with prospects of vigorous development (an infant-industry conception).
3. Duties on luxury goods were to be raised.
4. Tariffs on foreign goods with which home produce was able to compete were to be reduced or left as they stood.
5. Duties on necessaries of life were to be reduced.

In spite of the meritorious purposes of the 1926 measure its practical effect as administered was to strengthen Japan's traditional protective-tariff system. Amendments which have come into effect since 1926 have augmented the protective features of the original law. In 1932, for example, duties in general were increased approximately 35 per cent.

Four influences appear to have operated in behalf of the earlier protective measures in Japan. First was a need of raising government revenue by the levying of customs duties. Second was a desire to stimulate the introduction of improved techniques by the placing of infant-industry tariffs. Third was an effort to foster industries necessary to national defense with the aid of protective-tariff measures. Finally there was internal political pressure on the part of business interests who stood to gain from the imposition of measures of protection for their particular trades.

Japan has never had a laissez-faire system of economics. State subsidization of industry has been an important element of

[1] SOURCE: *The Japan Times Year Book*, Arthur Probsthain, Oriental Bookseller and Publisher, London, 1933, p. 223.

the country's expansionist policy during the last half century. Development of a sugar industry in Formosa, colonial expansion in Korea and development of iron and coal mines in Manchuria are examples of expansionist projects which were subsidized with Japanese state funds.[1]

Other Trade Restrictive Measures.—During the world-wide business depression which reached its most acute stage in the early thirties, Japan, like many other countries, resorted to special trade restrictive measures to control her merchandise trade balance and guard her gold reserves. In addition to raising her customs tariff rates, Japan created a license-quota system for her trade in dyestuffs and rice. She extended her governmental subsidies for the dyestuffs industry, the iron industry and a number of lesser trades and placed restrictions on foreign exchange in order to counteract a flight of capital. Foreign exchange for use in the purchase of merchandise imports, the making of interest payments, insurance premium payments and payment of old accounts remained unrestricted; special permits were required for exchange to be used for a great many other purposes—deposits abroad, purchase of foreign securities, etc.[2]

Postwar Trade Restrictive Motives.—As one views in retrospect the recent trade restrictive measures of Japan, against a background of import tariffs and other trade restrictive develop-

[1] See references, note 1, p. 524.

[2] The exchange control bill which was passed by the Diet in May and went into effect July 1, 1932, contained the following provisions:

"Article 1. The Minister of Finance, when it is deemed necessary, may prohibit or restrict by order, transactions in foreign exchange, foreign currency, and securities in foreign currency and letters of credit for the purpose of exporting capital.

"Article 2. The Minister of Finance may order any person who owns foreign exchange, securities in foreign currency, and bank deposits in foreign countries to submit a report of such investments to the Government.

"Article 3. The Minister of Finance is authorized to examine any person who owns foreign securities or currencies."

The measure was passed primarily to prevent a flight of capital from Japan. Among the objects for which capital exports were prohibited were investment in foreign real estate, investment in foreign securities, deposit of funds in overseas banks, establishment of trust funds overseas, withdrawals from Japan, by foreigners, of existing capital investments there, etc.

In selling exchange, either spot or forward, bankers were required to enquire of the customer whether the operation was for the purpose of capital transfer.

SOURCE: *U. S. Commerce Reports, No.* 32, p. 256, August 8, 1932.

ments in Western nations since the War, he is brought face to face with a number of restriction-making forces that have operated in similar directions since the Armistice both in the West and in the East. Some of these forces may be temporary in character. Take for example extreme measures for protection of monetary gold reserves. Wartime inflation of currency systems was followed in the postwar period by internal deflation of national currencies in some countries and extreme instability of national currency systems in other countries. Investors with liquid funds were ever on the alert to shift their holdings to the country which appeared to be most stable politically and to be succeeding best with its internal deflationary program. In consequence, huge flights of capital from one country to another have been a characteristic feature of world economy during the postwar years—particularly since the financial collapse which began in 1929. Some of the trade restrictive measures in Japan and other countries have been designed to counteract flights of capital and depletion of monetary gold reserves. As the more rigid structural elements of the internal economies of the various nations are gradually forced to give way, greater degrees of political and economic stability may be achieved the world over and the dangers of sudden flights of capital minimized. This kind of development may tend to eliminate one group of forces that, temporarily, has contributed to the growth of trade restrictive systems.

Another group of forces which has been acting in a similar direction in some countries is more permanent in character. National incomes—in the aggregate and per capita—and opportunities for national economic expansion are very unequal in the leading commercial nations. In consequence, some nations have been tempted to resort to military pressure in their efforts to open avenues of economic growth. Military strength is dependent not alone upon numbers and discipline. Munitions, ordnance, fuels, food and other supplies are necessary to the conduct of modern warfare. Consequently, nations that would resort to military force or threats of military force, in order to open avenues of expansion, are employing trade restrictive measures as a means of fostering key industries peculiarly necessary to a strengthening of their military position. So long as natural resources, populations and opportunities for national economic growth are as unequally distributed as they are at the present

time, and so long as no international organization exists which is strong enough to curb the actions of individual nations, this second reason for trade restrictive measures is not likely to disappear.

Finally, widespread economic maladjustments incident to postwar deflationary tendencies have resulted in labor displacement and unemployment in many countries. No urge for measures calculated to protect domestic markets from foreign competition is more potent than that of unemployment. Even though protective measures may have aggravated unemployment, when entire national economies are taken into account, the immediate benefits to small groups of employees and employers has been sufficient to generate political pressures strong enough to induce legislators to vote in favor of protective measures.

Military considerations may have been a more influential force in the creation of Japan's protective system, whereas unemployment may have been the more important cause for the growth of postwar trade restrictive systems in certain Western countries. However, both in countries of the West and in Japan, considerations of national military strength, whether for the purpose of safeguarding national existence or for the purpose of opening avenues of national expansion, have had no inconsiderable influence in the molding of trade restrictive systems during the postwar period.

RECOURSE TO MILITARY IMPERIALISM

Japan's policy of territorial expansion started soon after the country was opened to world trade in the middle of the last century. It is not necessary here to recount step by step the building of the Japanese empire.[1] Our interest is more in the nature of economic gains which Japan may derive from political and economic control of Manchuria and parts of China Proper. Both Manchuria and China Proper are densely populated, but both areas have unexploited natural resources—China Proper more than Manchuria. The second largest aggregate of coal reserves in the world is reputed to be within the boundaries of

[1] See PORTER, ROBERT PERCIVAL, *Japan, the New World Power*, Humphrey Milford (Oxford University Press), New York, 1915.

NITOBE, INAZE, *Japan: Some Phases of Her Problems and Developments*, Charles Scribner's Sons, New York, 1931.

ALLEN, G. C., "The Last Decade in Japan," *Economic History*, January, 1933, pp. 629–648.

HUBBARD and BARING, *op. cit.*, and other historical studies.

China Proper. At the present time this coal—and other undeveloped natural resources in China—are not subject to exploitation in a large way because of political instability and political disorganization. In general terms, Japan's policy is aimed at a forced stabilization of political conditions in China under Japanese military tutelage. With political stability will come investment of Western capital for the building of railroads, the opening of mines, the construction of factories, establishment of a banking system and industrialization generally. Industrialization of China will increase the country's aggregate productivity.[1] With greater productivity in China will come an enlargement of the Chinese market. If Japan exercises political control over China, she will be in position to prevent the Chinese from placing restrictions against the importation of Japanese goods. Furthermore, with such control Japan will be in position to act as middleman in the placing of Western capital in China and in the sale of Western goods, and as director of gigantic industrial undertakings which may be expected to grow and thrive when political stability is achieved. Thus with political control of China, the Japanese would be in position to hasten the country's industrialization, to profit from an expanding trade with a neighboring state and to derive income from services rendered in the direction and control of foreign investment in China and merchandise movements to China.

The early effects of Chinese industrialization will be to stimulate trade in every manufacturing nation, particularly in those nations which are exporters of capital equipment—railway equipment, mining and manufacturing machinery, road-building machinery, automobile trucks, etc. What the effect upon industrial stability in Western nations may be decades hence when China's capital equipment has been built up to the point where exports of manufactures begin to flow out in increasing quantities in payment of interest and principal on capital borrowings, is another question. Theoretically, if Western countries can obtain cheap manufactures from Japan or China it is to their economic interest to accept the goods in an appreciative spirit. Practically, reorganization of a highly industrialized nation's capital structure, in such a manner as to permit its domestic market to absorb a large and rapidly increasing quantity of manufactured imports,

[1] Increase in per capita productivity will depend in part upon the rate of increase in the Chinese population.

necessitates devaluation of fixed capital investments in import industries, shifts in large numbers of workers from one industry to another, more or less shifting of population centers and other changes which tend to destroy the delicate balance of a highly complex economic machine. If such adjustments are made gradually, they cause no serious political upheavals; if they must be made in a relatively short space of time at the end of a long period of unwarranted speculative expansion, they may be the cause of economic and social upheavals that approach the gravity of political revolutions.

Given the potentialities for economic gain, for Japan and for Western nations, that are inherent in Chinese industrialization, the process will, no doubt, be encouraged. In all probability the ethical aspects of Japanese tutelage in China will not be seriously questioned by Western nations when the fact becomes apparent that the West as well as the East stands to profit largely by the effectiveness of such tutelage. If, however, one can look beyond the more immediate economic gains and can visualize long-run consequences, he is likely to be opposed to a too-rapid industrialization of China on a number of grounds. In the first place, rapid industrialization of China is likely to be accompanied by an all-too-rapid increase in the size of the Chinese population. A possible result is that sometime in the future an industrialized China may be faced with a population problem not altogether different from that of present-day Japan. In the second place, a too-rapid industrialization of China, fostered by the tutelage of a forced political stability, is likely, sometime in the future, to germinate seeds of internal revolution. China is an old country; the Chinese people are "up to their ears" in history, tradition and philosophies not altogether attuned to Western materialism. If the deep-rooted inclinations of a great and numerous Chinese people are repressed by the forces of Japanese militarism and the power of Western finance, the economic system of China may change faster than her social and philosophic institutions. Strains and stresses incident to maladjustment between a rapidly expanding economic materialism, on the one hand, and a slowly changing social organization, on the other hand, might, someday, cause revolutionary explosions in an industrialized China which would shake the foundations of economic organization the world over.

CHAPTER XXXVI

INDUSTRIALIZATION OF RUSSIA[1]

Two fundamentally different national commercial policies or policy tendencies in respect to international economic relations have been in evidence from time to time during the long period extending from Egyptian and Phoenician civilizations that flourished 30 centuries ago to the 1937 Russian model of industrial civilization. One of these national policy tendencies has moved in the direction of unimpeded international commerce. Phoenicia, 30 centuries ago, and Great Britain, in the last half of the nineteenth century, are examples of nations that resorted to free-trade policies to encourage parallel expansion of their external and internal economies. Each nation, at the time of reference, was thickly populated and possessed manufacturing techniques superior to the techniques of neighboring countries. Extension of territorial division of labor was the most promising avenue of economic growth. In the cases of Phoenicia and Great Britain a point of diminishing returns in the application of labor, capital and improved techniques of the time, to domestic natural resources had been reached or was near at hand. Extension of the market areas to make possible a greater degree of territorial division of labor—importation of raw materials and foodstuffs and exportation of manufactures—was the most promising avenue of economic growth. Trade made possible an association of labor and capital of densely populated, industrially progressive countries with raw materials of sparsely populated and industrially backward countries.

The other commercial policy which has been in evidence at one time or another for thousands of years is a policy of trade restriction. It has been a characteristic of two quite different types of national economic circumstance. On the one hand is the

[1] In addition to sources cited throughout this chapter a large amount of miscellaneous information about the U.S.S.R. is to be had from the *U.S.S.R. Handbook*, Victor Gollancz, Ltd., London, 1936.

decadent nation. Having come to the end of an era of economic expansion which could not be continued without far-reaching structural change, the decadent nation, either blindly or for non-economic reasons, has resorted to trade restrictions for the purpose of impeding pending change. On the other hand is the country with natural resources ample for economic growth without extensive recourse to the natural resources of foreign countries. Trade restrictions in such countries have been employed either to exclude the influence of outside cultures or to hasten the introduction of improved technical methods. Nineteenth century United States and postwar Russia are examples of countries that resorted to trade restrictions for the latter purpose. The attention of the United States during the nineteenth century was focused primarily upon internal economic development. So also the attention of Russians, since the World War, has been focused primarily upon internal economic development. Large land area, sparse population, abundant natural resources and rapid expansion of the equipment of a power-machinery economy are characteristics common to each country at the time cited. In each case application of labor, capital and improved methods to domestic resources appear to have yielded increasing returns.[1] Neither of these nations (during the periods referred to) was seriously concerned with the question of extending the principle of territorial division of labor to areas wider than those within its political boundaries. There was ample opportunity for exploitation of improved methods and more efficient combination of production factors without recourse to extensive foreign trade.[2]

INDUSTRIAL EXPANSION IN RUSSIA

Without more complete data than are available, the complicated concept of the manner in which the Soviet Union is

[1] Ordinarily the concepts of increasing and diminishing returns apply to a situation where the land factor is constant in amount and composite doses of labor and capital are added, technique remaining unchanged. There is no reason why a somewhat similar although less precise concept may not be conceived for a situation where the land factor is constant in area or approximately so and composite doses of labor, capital and an improved technique are added. If the technique is not only improved but also improving and if capital and labor are increasing at different rates, the mathematics of the concept becomes quite involved.

[2] Extensive in the sense of an increasing proportion of the country's total economy.

increasing her productive efficiency is not subject to precise statistical verification. In general, increased productive efficiency in the U.S.S.R appears to be a result of more effective combination of productive factors within the political boundaries of the Union, employment of more capital per worker (some of which is borrowed from abroad), better organization and direction of industrial undertakings and utilization of natural forces previously unemployed (coal, petroleum and water-power resources, for example). The natural resources of Russia have been sufficiently abundant to give scope to a program involving more effective combination of production factors.

The magnitudes of the country's economic expansion in various directions during recent years are suggested by a number of indices that are available for the period 1925 to 1935. Indices of agricultural production and industrial activity for the U.S.S.R. as compared with those for the world as a whole are given in

TABLE 83.—INDICES OF AGRICULTURAL PRODUCTION AND INDUSTRIAL ACTIVITY[1] FOR THE U.S.S.R. AND FOR THE WORLD AS A WHOLE, 1925 TO 1935[2]

(1925 = 100 per cent)

Year	World		U.S.S.R.	
	Agricultural production	Industrial activity	Agricultural production	Industrial activity
1925	100	100	100	100
1926	100	103	109	141
1927	102	108	109	162
1928	106	114	111	203
1929	106	123	111	255
1930	107	110	119	331
1931	106	98	99	414
1932	107	86	89[3]	472
1933	107	97	97	513
1934	104	106	99	610
1935	104	117	104	743

[1] The term "industrial" includes mining and manufacturing.

[2] SOURCE: League of Nations, *World Production and Prices*, 1925–1934, and 1935/36, Geneva, 1935 and 1936. Used by courtesy of International Documents Service, Columbia University Press.

NOTE: The bases have been shifted from 1925–1929 averages or 1929 averages as the case may be to the year 1925 to facilitate comparisons.

[3] Data for years 1932 and after are provisional.

Table 83. During the period 1925–1935 agricultural production increased as rapidly in the U.S.S.R. as in other countries (taken in the aggregate); industrial activity in the U.S.S.R. increased very much more rapidly than industrial activity in other countries. In interpreting the Russian figures, it must be remembered that all activity, particularly manufacturing and mining as distinct from agriculture, was at a low ebb in 1925. Russian industry in 1925 had not recovered from the adverse effects of the revolution. There was probably less industrial production in Russia in 1925 than there had been in the prewar period. Nevertheless, it is true that between 1925 and 1935 industry in the U.S.S.R. did undergo tremendous expansion. The fact that the increase in industrial activity in Russia was not confined to primary production is indicated by such data as those in Table 84.

TABLE 84.—INDICES OF ACTIVITY IN A NUMBER OF MANUFACTURING INDUSTRIES IN THE U.S.S.R., 1925–1935[1]
(Average 1925 – 1929 = 100)

Year	Textiles	Boots and shoes	Paper	Machine production
1925	61	44	71	48
1926	83	58	87	69
1927	101	91	101	90
1928	119	118	114	120
1929	140	190	126	173
1930	139	295	161	259
1931	145	327	158	448
1932	162	395	150	562
1933	173	364	158	657
1934	192	334	180	819
1935	...	409	203	

[1] SOURCE: League of Nations, *World Production and Prices*, 1925–1934, and 1935/36, Geneva, 1935 and 1936. Used by courtesy of International Documents Service, Columbia University Press.

Activity in the textile-manufacturing industry, the boot-and-shoe industry, the paper industry and the machine-production industry in the U.S.S.R. increased more during the decade 1925–1934 than U.S.S.R. output of agricultural goods.

INTERNATIONAL TRADE TENDENCIES

U.S.S.R. industrialization has been accompanied by important developments in the country's external trade. Between 1926 and

1935,[1] U.S.S.R. exports by weight increased 125 per cent; imports by weight declined approximately 23 per cent. In terms of value (gold rubles) both exports and imports declined. The value of exports declined approximately 42 per cent between 1926 and 1935; the value of imports declined during the same period approximately 61 per cent. The U.S.S.R. appears to have been selling increasing quantities of a miscellaneous list of raw materials in foreign markets, regardless of declining prices, in order to maintain imports of machinery and other goods necessary for continuation of the process of rapid industrialization. In 1934 machinery, tools, scientific instruments and other metal manufactures constituted about 50 per cent of the total value of U.S.S.R. imports;[2] raw and partly processed materials and foodstuffs constituted about 85 per cent of the total value of exports. Information from many sources[3] indicates that the U.S.S.R. is building up her capital equipment. No precise measure of the rate at which capital equipment is accumulating is available, nor is it possible to segregate the proportion which is financed with foreign borrowings from that which is financed from domestic savings. International payments statements for the Soviet Union covering the period 1925 to 1935 are not available. However, merchandise trade statistics are reasonably complete. The value of the country's merchandise imports exceeded the value of her mer-

[1] A ten-year period for which comparable data are readily available.

SOURCE: League of Nations, *Monthly Bulletin of Statistics* 5, May, 1935. Used by courtesy of International Documents Service, Columbia University Press.

[2] Other important items of import were crude rubber, raw cotton, chemicals, hides, live animals and a miscellaneous list of foodstuffs and small manufactures.

[3] See, for example:

HOOVER, CALVIN B., *The Economic Life of Soviet Russia*, The Macmillan Company, New York, 1931, pp. 64, 66.

YUGOFF, A., *Economic Trends in Soviet Russia*, George Allen & Unwin, Ltd., London, 1930.

MIKHAYLOV, N., *Soviet Geography*, Methuen & Co., Ltd., London, 1935.

Economic Handbook of the Soviet Union, American-Russian Chamber of Commerce, New York, 1931.

BRUTZKUS, BORIS, *Economic Planning in Soviet Russia*, George Routledge and Sons, Ltd., London, 1935.

LORWIN, LEWIS L., and A. ABRAMSON, "The Present Phase of Economic and Social Development in Russia," *International Labour Review*, Geneva, January, 1936.

chandise exports for seven of the years in question. The aggregate value of imports exceeded that of exports for the entire period 1925–1935, by only about 418 million rubles. This fact suggests that the contributions of long-term foreign loans to U.S.S.R. industrialization were comparatively small prior to 1935.

FOREIGN TRADE POLICY

The foreign trade policy of the U.S.S.R. is not directly comparable with that of the other nations selected for special treatment, because Soviet foreign trade is controlled by the state. Nevertheless some aspects of Soviet policy are significant in the light of what has been said in preceding chapters.

Foreign Exchange Control.—Systems of foreign exchange control have been important parts of the foreign trade policies of capitalist countries during recent years. Foreign exchange control has also been an important element in the foreign trade policy of the U.S.S.R.[1] In the U.S.S.R., foreign trade is a state monopoly. The state monopoly is not limited to merchandise transactions; it applies to all pecuniary transactions between the U.S.S.R. and citizens of other countries. State officials arbitrarily determine what the external purchasing power of the ruble shall be by defining a ruble for external transactions as equivalent to so much gold. This action does not affect internal prices because gold is not a free market good in the U.S.S.R., and paper rubles for internal use are not freely convertible into gold. When U.S.S.R. officials decide that certain goods should be exported, gold prices of the goods are adjusted until they move into export trade. The internal economy of the U.S.S.R. is not paralyzed in consequence of extremely low prices for export goods because its operation is not governed by profit margins as is the case of capitalist economies. In short, the value of the ruble for external transactions is fixed by giving it an arbitrary gold value for external uses. The amounts and kinds of goods to be exported are determined by a planning board on a statistical basis. These goods, in predetermined amounts, are moved into export channels by arbitrarily adjusting their prices in such manner as to make them attractive to foreign buyers. The aggregate gold value of

[1] See HUBBARD, L. E., *Soviet Money and Finance*, Macmillan & Co., Ltd., London, 1936.

imports is limited by the aggregate gold value of exports unless the country borrows abroad. The classes of goods imported are determined by state officials as are the classes of goods to be exported.

Motives Affecting the Character of Foreign Trade.—All the available information on the subject points to the conclusion that a primary goal of the governing authorities of the Soviet Union has been rapid industrialization. Brutzkus,[1] a critic of Soviet planned economy, writes as follows:

> In Russia we see the grafting on to the economic system of a large scale heavy industry. . . . Russia is a great continental country. It was an agricultural country. . . .

Mikhaylov,[2] an enthusiastic advocate of the Soviet system, writes as follows:

> Industrial centers of world-wide importance have sprung up in the deserts of yesterday. . . . The mighty processes of harnessing the natural forces have begun. . . . As a result of the active pursuance of the policy of industrialization under Stalin's leadership, the U.S.S.R. from being an agricultural country, has become an industrial and economically independent country. In order to reach this goal the Communist Party had to overcome great difficulties not the least of which was the introduction into the country of technique which had never been known before.

Hoover,[3] an American observer, writes as follows:

> The Soviet Union is importing large-scale machinery from abroad and at the same time is importing technical aid in the form of foreign engineers who are skilled in the installation and utilization of this machinery. The Soviet Union, which has lagged behind the Western world in industrial development, is therefore able to obtain a very large percentage increase (in production) due to the opportunity of profiting by machinery and technique developed in capitalist countries.

Haensel,[4] formerly professor in the University of Moscow, writes as follows:

[1] Brutzkus, *op. cit.*, p. 313.

[2] Mikhaylov, *op. cit.*, p. 49, by permission of the Publisher.

[3] HOOVER, *op. cit.*, p. 45, by permission of the Publisher.

[4] HAENSEL, PAUL, *The Economic Policy of Soviet Russia*, P. S. King and Son, Ltd., London, 1930, p. 83.

The watchword of the Soviet Government is *maximum industrialization* of the country.

This theme, *industrialization*, runs through all the economic literature of and about the U.S.S.R.[1] The details of foreign-trading-policy measures instituted by Soviet governing authority for the purpose of accelerating the process of industrialization have not been analyzed and explained. However, the few generalizations that are readily available from current sources of information suggest that trade restrictive measures are being employed in the U.S.S.R., much as trade restrictive measures of one kind or another were employed at earlier dates to accelerate the process of industrialization in the United States of America, Germany and Japan.

The monopoly of foreign trade, introduced in 1918, is said to be the only economic institution in the Soviet Union that has remained intact from the socialistic organization of early Bolshevist rule to the present time. The term "foreign trade monopoly" in the U.S.S.R. means more than the right of the state to establish quotas and other trade restrictions. It means that Soviet Union officials are empowered to plan, organize, direct, regulate and carry out all the operations essential to foreign trade. Foreign trade monopoly is a sovereign right granted to the Union by its

[1] Lorwin and Abramson, *op. cit.*, write as follows:

"Anyone who has visited the U.S.S.R. at intervals during the last decade or so cannot but be struck by the great strides forward made during recent years. . . . As one drives through the Soviet cities one cannot miss the fact that a new urban civilization is arising which is in profound contrast to the old. Not only in the large cities, . . . but even in the smaller industrial towns one sees, sometimes, side by side with the old one and two story wooden buildings or tenement houses, the modern structures which have been put up within the last four or five years. A number of these buildings are in the centre of the cities, but most of the newer housing developments are on the outskirts of cities where they form compact industrial towns.

"As one looks further one finds more substantial evidences of industrial progress. If one visits the large department stores in Moscow, one will find there all sorts of articles, from pens and needles to electrical apparatus, gramophones, and wireless sets made in Soviet factories.

"The changes in transportation are equally significant. Along the road one may see oil tanks, refrigerator cars in which various commodities are being shipped from one end of the country to another. To one who remembers the U.S.S.R. a few years ago, when passing trains and full freight cars were few and far between, this is indeed a revelation of the advance made." Quoted by permission of the publisher.

several republics. The Union is represented by the Peoples' Commissariat for Foreign Trade, which is empowered to take special measures against countries that hinder Soviet commerce. Commissariat officials may go so far as to order that no purchases be made in a particular country. Individuals and organizations may participate in foreign trade only if authorized to do so by the Commissariat.[1] Much of the detail of exporting and importing is carried on by chartered companies. These companies have the right to negotiate transactions directly with foreign firms, and to incur obligations for which they are responsible to the full extent of their allotted properties. However, the state has no additional responsibility for the obligations of chartered companies unless these obligations have been endorsed by an authorized member of a trade delegation. Trade delegations of the U.S.S.R. are parts of the Soviet Union Embassies. The members of the staff of a trade delegation are officials of the Soviet state. They have the right to conclude agreements on behalf of their government.

In addition to the chartered companies and the foreign trade delegations a number of other organizations also participate in the foreign trade of the U.S.S.R., among them companies financed with a mixture of foreign and Soviet capital. Organizations of this character formed in foreign countries (Arcos, Ltd., England, and Derop, Germany, for example) are legal entities whose responsibilities for obligations are defined by the company legislation under which they are formed and permitted to function. Another type of organization that participates in U.S.S.R. foreign trade is the Russian agency office or branch of a foreign concern that trades with the Soviet Union. Such agencies, offices and branches may not be established without special permission from the Commissariat for Foreign Trade.[2]

In spite of the centralized control of her foreign trade, the U.S.S.R. is not free from protective tariffs and other trade restrictive devices common to capitalist countries. One might ask why tariffs are necessary if the state controls all foreign trade. It has been suggested that high tariffs are necessary to control

[1] This statement does not include limited numbers of small parcels that may be sent by Russians to their friends outside the Union.

[2] A brief but very good discussion of types of organizations engaged in Russian foreign trade is to be found in Yanson, J. D., *Foreign Trade in the U.S.S.R.*, Victor Gollancz, Ltd., London, 1934.

goods being brought to the country in private luggage and coming as gifts, and for the purpose of making purchases of foreign goods less attractive to persons charged with the responsibility of operating state enterprises. The interests of an operator of an individual enterprise and those of the central authorities, who are thinking in terms of the whole national economy, are not, apparently, always the same. In short, import tariffs, prohibitions on the export of U.S.S.R. currency, allotments of exchange quotas to socialized enterprises, allotments of purchase licenses and other trade restrictive devices found in capitalistic nations are employed in the U.S.S.R. for the purpose of facilitating the administration of the state-controlled foreign trade monopoly.

Officials charged with administration of the Soviet Union's foreign trade monopoly estimate the value of prospective exports, and the amount of imports is regulated accordingly. Import preference appears to have been given to machinery and equipment, particularly for state industry. On the export side, the policy appears to have been to maximize sales abroad as much as was consistent with centralized control of individual transactions. In general, the trade restrictive system of the Soviet has been used to facilitate the process of industrialization of a country rich in natural resources, sparsely populated and backward industrially.[1]

[1] "In the autumn of 1927, . . . Stalin pointed out, that for the workers, the abolition of the monopoly of foreign trade would mean a refusal to industrialize the country, to build new factories and plants and to enlarge the old ones. That would mean an inundation of the U.S.S.R. with goods from capitalist countries, a decrease in industry because of its relative weakness, an increase of unemployment, a decline in the standard of living of the masses, a weakening of the economic and political position. . . .

"The Soviet Union has adopted the policy of strictly limiting the import of consumers' goods and increasing the import of machines and raw materials. In the course of the building up of the first Five Year Plan, imports to the U.S.S.R. were entirely subjected to the requirements of the construction going on in the country; the main article of import was equipment for the newly built factories."—YANSON, *op. cit.*, pp. 24, 26. Quoted by permission of Victor Gollancz.

PART VIII

THE UNITED STATES IN WORLD ECONOMY

INTRODUCTORY

The international commercial policy issue in the United States is being waged around the slogans, *nationalism* and *internationalism.* Nationalism has been defined as "devotion to or advocacy of national interest or national unity and independence." The term "internationalism" suggests free and wholehearted participation in world economic affairs. These terms are not mutually exclusive. Examination of the international trading policies of other nations indicates that nationalism, as here defined, has been fostered in some instances by trade restrictions, in other instances by freedom of trade. German economic circumstances during the nineteenth century were of a character to encourage imposition of trade restrictions for the promotion of national unity. Great Britain, on the other hand, having already achieved national solidarity, resorted to a free-trade system in the nineteenth century in the interest of greater national wealth and power. A policy of internationalism may have as its motivating purpose achievement of national advantage. In this sense it is nationalistic. The significant differences between policies of nationalism and internationalism, as these terms are employed in current literature, turn more upon a question of the best means of achieving national ends than upon anyone's willingness to sacrifice national interests for the purpose of promoting well-being abroad.

Twentieth century United States of America appears to have arrived at a stage of industrial maturity similar in important respects to that of Great Britain when she shifted from a protective policy to a free-trade policy about the middle of the nineteenth century. The United States is a creditor nation; she possesses certain manufacturing industries that are capable of underselling competitors in the free markets of the world; she needs certain types of raw-material imports, and she is in a position to extend capital loans for developmental uses in industrially backward regions. Possibly the United States has reached a stage in her economic development when we may expect to see her traditional trade restrictive policy reversed in favor of a policy of freer trade with foreign countries.

CHAPTER XXXVII

TARIFFS AND THE TRADE BALANCE

For more than a century the United States has had a system of protective tariffs. Democratic administrations have lowered the rates from time to time, but, in general, the trend has been toward higher and ever higher levels of protection.

TARIFF HISTORY

Before the American Revolution, England exercised a controlling influence over colonial tariff policy. After the Revolution the Constitution gave Congress power to regulate commerce with foreign nations and among the several states. When the separate states ratified the Constitution they renounced their separate rights to levy customs duties either against sister states or against foreign countries. The first congressional tariff act was passed in 1789. Like the colonial measures which had come into existence by separate acts of the several states during the period of confederation, this first national act was principally for the purpose of raising revenue. The protective motive did not assume primary importance until the tariff act of 1816. During the decade prior to 1816 there had been an almost complete cessation of foreign competition as a result of blockades incident to the Napoleonic Wars and the War of 1812. During this period new industries got a foothold in America and were prosperous. With the reopening of the channels of international trade in 1815 came an influx of foreign manufactures—particularly textiles and iron goods—and a rising tide of protective sentiment. The emergency was so great that opposition to enforcement of the protective principle was overridden in 1816. Protective sentiment continued to grow until after 1828, the year when the so-called "Tariff of Abominations" was passed. This act imposed the highest duties in force at any time prior to the Civil War.

During the period from 1828 to 1861 northern manufacturers favored protection. They were opposed by southern planters. These opposing interests seesawed back and forth in the legisla-

tive halls of Congress, sometimes one group having the upper hand, sometimes the other. The tariff act of 1832 imposed lower duties than those of the 1828 act and, the next year, 1833, provision was made for still further reductions. A reversion to higher protection occurred in 1842 only to be followed by a swing back to lower duties in 1846 and a further reduction in 1857. The rates of the 1857 act were lower than any which had been in force since 1816, but these relatively low rates were destined to be short-lived. A new bill was voted in 1860, after the South had seceded, and the rates were put back to the 1846 level or above. Then came the Civil War and with it need of additional federal revenue. The acts of 1862 and 1864 brought United States tariffs back to about the level of 1828. Tariffs remained generally high after the Civil War in spite of persistent agitation and minor reductions in 1870, 1872 and 1883. Duties were raised in the McKinley Tariff of 1890 and lowered somewhat by the Wilson Tariff of 1894. The seesawing, up and down, continued until 1913. The Underwood Tariff Act of 1913—passed after the election of Woodrow Wilson, a Democratic president—slashed rates more than they had been slashed since the eighteen forties and eighteen fifties. However, the measurable effects of the low 1913 rates were obscured by developments incident to the World War. After the War the Republicans came into power again. They legislated an emergency tariff act for protection in 1921 and consistently maintained distinctly protective duties in the acts of 1922 and 1930.[1] When again a Democrat, Roosevelt, came into the presidency (1933) recourse was had to legislation providing for the negotiation of reciprocal trade agreements in place of a general lowering of rates similar to actions that had been taken in earlier Democratic administrations. Reciprocal trade agreements negotiated under the "New Deal"[2] appear to have resulted in some relaxation of the trade restrictions which were in force when the Democrats came into power.

[1] The 1930 act was the last general tariff act of the Hoover administration. However, certain commodities that had previously been on the free list were made taxable by a provision in the Revenue Act of 1932. The principal commodities affected were petroleum, copper, lumber and coal.

[2] June, 1934. An Act to Amend the Tariff Act of 1930. This amendment authorized the President to enter into reciprocal foreign trade agreements with foreign countries and to modify existing duties necessary to the carrying out of such agreements.

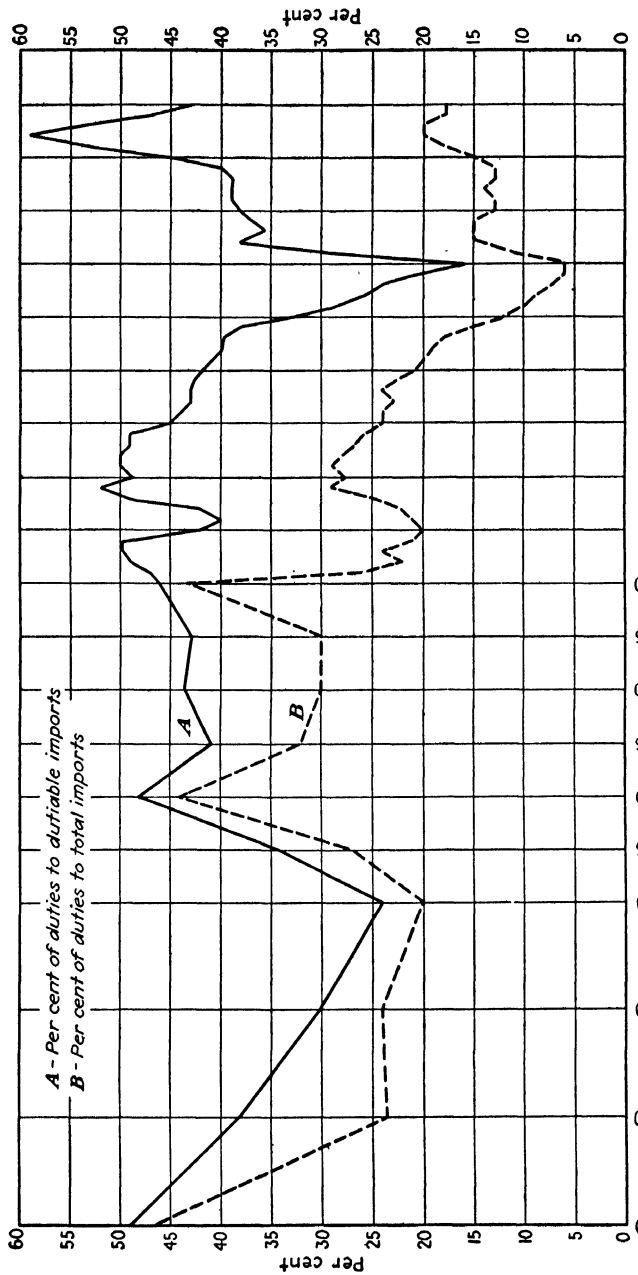


FIG. 34.—RATIOS OF REVENUE FROM DUTIES TO VALUE OF IMPORTS INTO THE UNITED STATES, 1821 TO 1935

SOURCES OF DATA: *Statistical Abstract of the United States*, 1933, p. 405 and 1936, p. 436.

In general the trend of tariff protection in the United States appears to have been on the upgrade for more than 100 years. Reactions and downward movements have persisted for some years—as during the periods 1828–1842 and 1842–1857—but at no time has the protective doctrine been discarded. There is no accurate way of measuring the height and effectiveness of a protective tariff wall, but such evidences as are available suggest that 1932 may have been the all-time high level of United States protection for classes of goods subject to duties.[1] In Fig. 34 are shown ratios of (*A*) duty collected to value of dutiable imports and (*B*) duty collected to value of total imports. The ratio of duty collected to value of dutiable imports (curve *A*) was higher in the early nineteen thirties than it had been at any earlier period. This fact is due partly to the increase in tariff rates in 1930 and partly to the stability of specific duties during the general price decline of the depression years. The ratio of tariff revenue to the value of total imports (curve *B*) was lower in the early nineteen thirties than before the World War but higher than it was during and after the War. The rise in this ratio after 1920 was due in large part to rate increases. The decline from 1900 to 1920 was due in part to a lowering of tariff rates, in part to the fact that prices rose during the period in question faster than specific duties and in part to the fact that goods on the free list constituted an increasing proportion of United States imports. The difficulty of measuring the exact amounts of protection in effect at any time rests on the fact that it is not possible to ascertain how many imports are excluded by extremely high duties. If a duty is high enough to exclude the goods taxed it yields no revenue.

TRADE AND PAYMENTS BALANCES

Prior to the World War the United States was a debtor nation; her trade balance was favorable. The United States is now a

[1] Both the removal of certain goods from the free list provided for in the 1932 Revenue Act and the general decline in prices raised the 1932 tariff wall above that of 1930. Declining prices tend to raise the ad valorem equivalents of specific duties.

See LOVEDAY, A., "The Measurement of Tariff Levels," *Journal of the Royal Statistical Society*, Part IV, 1929, pp. 487–516, discussion of statistical measurement of tariff levels.

creditor nation. The shift from debtor to creditor position has an important bearing upon the country's trade balance status and upon her commercial policy outlook.

Trade Balance.—Between 1850 and 1873 United States imports of merchandise exceeded merchandise exports regularly, year after year. In so far as data are available they indicate that merchandise imports exceeded exports during earlier years also, but for the purposes at hand we need not go into a detailed analysis of conditions that prevailed during the first half of the nineteenth century. The persistent excess of imports over exports between 1850 and 1873 appears to have been largely a result of gold and silver exports from the United States and capital imports (purchase of United States securities by foreign investors).[1] Net imports of merchandise for the 24 years in question (1850–1873) aggregated about 1,500 million dollars. Net exports of gold and silver for the same period aggregated approximately 1,100 million dollars. American securities held abroad are estimated to have increased from about 200 million dollars in 1850 to possibly 900 million dollars in 1873. Other invisible items which brought the account into balance for the period as a whole include service charges on loans, tourist expenditures, immigrant remittances and shipping services.[1]

The year 1873 marked a world-wide crisis. European lending to the United States temporarily ceased; railroad construction was halted and in the following year, 1874, the trade balance shifted. Between 1874 and 1914 the trade balance of the United States was favorable every year except *three, i.e.*, 1875, 1888 and 1893, when there were small import balances. The exports consisted of both raw materials and manufactures. In the eighteen seventies crude materials and foodstuffs constituted more than half the value of the country's total exports. Between 1910 and 1915 the value of manufactured exports exceeded that of other classes of exports. Notwithstanding the growth of manufacturing in the United States during the 40 years prior to the World War (1874–1914) the country's trade balance was persistently favorable. Exports were drawn out of the country in excess of

[1] SOURCE: BULLOCK, WILLIAMS and TUCKER, "The Balance of Trade of the United States," *Harvard University Review of Economic Statistics*, July, 1919, pp. 215–238.

imports in payment of a rising tide of service charges on accumulated and accumulating foreign borrowings.

At the outbreak of the World War the United States was a debtor nation on balance to the extent of some 3 billion dollars.[1] With the War came a substantial increase in Europe's demand for goods. The United States being the only highly industrialized, large nation that was not drawn into the War at an early date, this country was called upon to supply an increased demand for manufactured goods. Also American agriculture was favorably situated for profitable expansion to supply an increasing wartime demand for foodstuffs. Belligerent countries sold their holdings of United States securities to American investors in order to raise funds for the purchase of equipment and supplies. At the same time they were borrowing in this country. Between the middle of 1914 and the end of 1916 the United States is estimated to have exported capital aggregating in net amount approximately 10,800 million dollars. Net exports of merchandise during this period are estimated to have aggregated about 11,800 million dollars.[2] After the United States declared war in 1917, the floating of private foreign loans for European nations subsided[3] and intergovernment lending on a large scale began. By the end of 1918 United States Government credits amounting to more than 7 billion dollars had been advanced to the Allies.[4] After the War private lending revived and government lending continued for several years. Foreign lending contributed to the building up of huge export balances of merchandise on the part of the United States during the War. After the War foreign lending by the United States continued in one form or another and the trade balance remained favorable.

Postwar Payments Balances.—In contrast with its position as debtor nation to the extent of about 3 billion dollars at the

[1] YOUNG, R. A., *The International Financial Position of the United States.* University of Pennsylvania, Philadelphia, 1929, p. 3; *A New Estimate of American (United States) Investments Abroad, Trade Information Bulletin* 767, U. S. Department of Commerce, 1931, p. 7; and BULLOCK, WILLIAMS and TUCKER, *op. cit.*, p. 192.

[2] BULLOCK, WILLIAMS and TUCKER, *op. cit.*, p. 246. The account was balanced by invisible items, among them, gold imports.

[3] During the time the United States was at war repayment of private foreign loans exceeded new advances. *Ibid.*, p. 247.

[4] *Ibid.*, p. 248. See also Chap. XXVIII of this volume.

beginning of the War, the United States emerged from the depression of 1920–1921 a creditor nation to the extent of nearly 6 billion dollars[1] on private account and about 10 billion dollars on war-debts account.[2] The creditor position of the United States in the early nineteen twenties suggests that the country's trade balance, which had been favorable for half a century, might have changed; but it did not change. The items which entered into United States payment balances during the nineteen twenties and early nineteen thirties are shown in Table 85. In Table 85 data as

TABLE 85.—UNITED STATES BALANCE OF PAYMENTS 1922–1928, 1929–1933 AND 1934, 1935[1]
(Millions of dollars)

Items	Yearly averages		Yearly figures	
	1922–1928	1929–1933	1934	1935
Merchandise	+657	+407	+ 481	+ 255
Services	−792	−719	− 351	− 367
Interest and dividends	+535	+589	+ 331	+ 320
Gold	− 41	− 12	−1,217	−1,739
Long-term capital	−477	+ 51	+ 202	+1,075
Short-term capital	+228	−413	+ 184	+ 462
Residual items (net)	−110	+ 97	+ 370	− 6

[1] + indicates exports or credits. − indicates imports or debits. The data are from *Trade Information Bulletins*, 819 and 833. The data from these sources were combined as in the foregoing table. Minor adjustments were necessary. For example, miscellaneous commodity and service items were allocated under these respective heads: net receipts from brokerage, stock transfer taxes, etc., were removed from interest and dividend accounts and placed under services; net payments or receipts of interest on short-term investments were separated from the long-term interest and dividend accounts. The groupings for the periods 1922–1928 and 1929–1933 were compiled by Mr. E. J. Stone, sometime assistant in the Department of Economics, Brown University. The groupings for the years 1934, 1935 and 1936 were made by the author.

originally published by the United States Department of Commerce have been arranged in a manner to emphasize major changes that occurred in payment balance items during the post-war years. Between the periods 1922–1928 and 1929–1933 long-term capital exports gave way to short-term credit extensions.

[1] MILLS, F. C., *Economic Tendencies in the United States*, The National Bureau of Economic Research, Inc., New York, in cooperation with the Committee on Recent Economic Changes, 1932, p. 475.

[2] Secretary of the United States Treasury, *Annual Report*, 1921, p. 56, Washington, 1922. See also Chap. XXVIII of this volume.

The merchandise trade balance remained favorable. In 1934 and 1935 extension of foreign credits by the United States had shrunk to a point where the net movement of both short-term and long-term capital was toward this country. Nevertheless the merchandise trade balance did not change. The favorable trade balances in 1934 and 1935 were made possible by net imports of large amounts of gold.

CHAPTER XXXVIII

INDUSTRIAL ADVANTAGES AND DISADVANTAGES IN THE UNITED STATES IN RELATION TO TARIFFS

If the trade balance of the United States is to conform with the country's creditor position by becoming passive, imports may be expected to increase. The domestic industries directly affected in an adverse manner by increased imports will be the high-cost industries, those which operate at a comparative disadvantage in this country. Costs per unit to produce in the protected, import industries are not so low as costs of foreign competitors. Few if any of the protected industries in the United States would disappear entirely if the country's tariffs were reduced sufficiently to permit an unfavorable or passive trade balance. However, some United States industries would, no doubt, be forced to contract.

In contrast with the so-called high-cost industries are those with costs that are relatively low. These so-called low-cost industries enjoy comparative advantages. The low-cost industries pay relatively high wages, earn relatively high rates of return on their capital, undersell foreign competitors in the domestic market and invade foreign markets. An industry may enjoy a comparative advantage in a particular country as a result of some one favorable circumstance or a combination of favorable circumstances. Among the circumstances favorable to industries in the United States that enjoy comparative advantages are (1) abundant and easily accessible natural resources, (2) a large and homogeneous domestic market that fosters economies of mass production, (3) superior technical skills that have not as yet been acquired by foreign competitors, (4) forms of business organization and business methods superior to those of foreign competitors, (5) geographical propinquity to markets and (6) superior reputation for quality of merchandise or services.

The line of division between low-cost industries and high-cost industries in the international sense or between industries that

enjoy comparative advantages and those which do not is seldom subject to sharp delineation. Nevertheless, one's ideas concerning the probable effect of customs tariff changes may be clarified somewhat by classifying industries into high-cost and low-cost groups in so far as classification is possible. Statistics of exports and imports provide one available basis of classification. The fact that a country exports more of the products of a particular industry than it imports is not conclusive evidence that the industry in question enjoys a comparative advantage. In a world of imperfect competition, goods are sometimes dumped into foreign markets at prices substantially below those which prevail at home. Conversely, the products of a low-cost industry may be excluded from foreign markets by trade restrictions with the result that an industry's comparative strength is not registered by volume of exports. In spite of these and other difficulties, a division of industries into export and import groups, as indicated by exports and imports of leading commodities, is a useful initial step in the estimation of probable effects of a general raising or lowering of protective tariff walls.

EXPORT INDUSTRIES

The leading export industries of the United States are listed in Table 86.

The data in Table 86 indicate that the United States exports both agricultural products and manufactured goods. The principal export sections of the country's agriculture are represented by raw cotton, wheat and flour, tobacco, pork products and certain kinds of fruits and vegetables. Raw-cotton exports rest in part upon soil and climatic advantages and in part upon low-paid Negro labor in the old slave states. The proportion of this country's cotton crop which is exported has declined somewhat in recent years. In the absence of improvements in production method that do not quickly find their way to competitors abroad, it is reasonable to expect that cotton grown in Russia, India, Brazil and elsewhere may supply increasing proportions of the foreign market as time passes. Raw-cotton production in the United States is not an industry of relatively high wages and high efficiency. It is not an industry with comparative advantages that enable it to pay relatively high wages and still produce at costs per unit of product equal to or less than those of foreign

TABLE 86.—LEADING EXPORT GOODS IN TERMS OF PROPORTIONS OF PRODUCTION EXPORTED[1]

Type of goods	Per cent of production exported		
	1914	1923	1934
Agricultural raw materials and foodstuffs:			
Raw cotton	63	49	58
Leaf tobacco	47	36	34
Meat products (including lard)	6	7	4
Pork	6	10	2
Lard	28	39	23
Wheat and flour	20	27	5
Barley and preparations	4	14	4
Fish, canned:			
Salmon	28	19	12
Sardines	..[2]	40	26
Oil cake and oil meal:			
Cottonseed	17	15	4
Linseed	..[2]	41	50
Dried fruit	20	24	40
Canned fruit	22	19	21
Fresh fruit:			
Pears	..[2]	14	19
Apples	6	5	12
Oranges and grapefruit	..[2]	4	7
Canned vegetables	2	2	2
Nonagricultural raw materials:			
Coal	4	4	3
Phosphate rock	71	50	50
Sulphur	29	29	31
Manufactures:			
Agricultural machinery	..[2]	17	30
Industrial machinery	..[2]	13	10
Electrical machinery	.[2]	6	6
Automobiles (trucks, etc.)	37	17	21
Iron and steel manufactures:			
Rolled products	7	6	6
Plates and sheets	7	5	6
Tubular products	7	4	6
Hardware	7	5	3
Printing and bookbinding machinery	18	12	39
Office appliances	24	15	27
Aircraft engines and parts	5	4	11
Rubber manufactures	4	7	4
Naval stores (gums, turpentine, etc.)	60	50	55
Cigarettes	14	18	3
Cotton yarn	10	23	6
Lumber and timber	6	6	9
Carbon electrodes	..[2]	16	22
Copper, refined	55	42	66
Mineral oils, refined (gasoline, etc.)	38	19	12
Leather	9	9	6
Leather boots and shoes	..[2]	22	47
Chemicals:			
Coal-tar products	..[2]	12	12
Industrial chemicals	..[2]	8	6
Dental supplies	..[2]	11	11
Pencils and pens	..[2]	8	7

[1] SOURCE: *Foreign Trade of the United States*, U. S. Bureau of Foreign and Domestic Commerce, *Trade Promotion Bulletin* 12, 1935, pp. 15–17.

[2] Comparable figures not readily available.

competitors. Low-cost cotton production in the United States is dependent upon a comparatively low level of wages in southern states—a condition which is an aftermath of slavery and a product of the inability of Negro workers to find employment in the country's high-wage industries. The other agricultural products that are exported from the United States, *viz.*, wheat, tobacco, pork and certain fruits and vegetables, are less dependent than cotton upon cheap Negro labor for their export status. There is little reason to believe, however, that any of these export sections of United States agriculture would largely grow and prosper as a result of general tariff reductions in the United States. The agricultural enterprises in question are not on so high a wage basis as some of the country's manufacturing industries—automobile manufacture, for example. Furthermore all the export branches of American agriculture are faced by competition abroad that is capable of expanding output without substantial increases in production costs per unit.

Among the nonagricultural raw-materials exports, cited in Table 86, coal, phosphate rock and sulphur are conspicuous. United States coal and rock-phosphate industries enjoy advantages arising from an abundance of natural reserves of the products in question. Output per worker in coal and rock-phosphate production in the United States is substantially greater than that of foreign workers. In the case of coal, however, the great foreign markets are overseas and the product is so bulky as seriously to penalize sources of supply far removed from points of consumption. For this reason and because rock-phosphate reserves are less widely dispersed than reserves of coal, substantial increase in foreign sales of rock phosphate or its first derivatives is more likely than a large increase in coal exports. The third nonagricultural raw material that is on an export basis is sulphur. The United States produces more than three-fourths of the world's annual output of sulphur and exports annually one-fourth to one-third of her production. This country's comparative advantage in sulphur production rests upon an unusual combination of circumstances. Great quantities of superheated water are employed in the process of extraction and natural gas for heating purposes chances to occur near the sulphur deposits.

Judged from points of view of diversity of products, volume of exports and wage levels, the United States finds her greatest

comparative advantages in the manufacture of finished goods and in the processing of raw materials. Manufacture of machinery and appliances, semifabrication of iron and steel goods, refining of petroleum and copper and manufacture in certain highly mechanized light industries appear to be the zones of greatest productive efficiency in this country. Production advantages in the industries cited rest not so much upon single factors that contribute in each case to efficiency, as upon a combination of circumstances that favor the whole group of low-cost industries. At least four types of favorable circumstances contribute to the efficiency of each and all of the low-cost manufacturing industries. First is the country's abundant and easily accessible coal and iron reserves. These resources provide cheap power and cheap steel for further fabrications. In the second place, the domestic market of the United States is the largest market under single political rule in the world. A single language and standardization of consumption goods, of machines and of methods, which mass advertising has encouraged, lead to a maximization of the economies of large-scale production. In the third place, institutions in the United States have been sufficiently flexible to permit rapid growth of the corporate form of business organization and other organizational changes necessary to mass production and distribution. Finally, scientists in the United States have contributed largely to the discovery of improved techniques, and industrialists have been quick to adopt cost-reducing improvements. In consequence of these four sets of circumstances, various types of manufactures including machinery, tools, heavy iron and steel goods, office appliances, automobiles and electrical apparatus are among the country's leading exports. The same group of favorable circumstances contributes to advantage in the production of rubber goods, leather boots and shoes, dental supplies, pens and pencils, industrial chemicals, coal-tar products and refined products of copper and petroleum.

IMPORT INDUSTRIES

Branches of manufacture that employ relatively large amounts of hand labor, that are not subject to extreme mass-production methods and that have not recently been subjected to basic changes in production technique are among America's import industries. The import industries include, also, intensive forms

of agriculture and certain other extractive industries that depend upon mineral deposits or extremes of climate that do not occur in the United States. Statistics of merchandise imports are an inadequate guide to high-cost industries because of the retarding effects of high customs tariffs upon imports. Nevertheless the import statistics are not entirely devoid of value as a guide to industries that operate at a relative disadvantage.

Raw Materials.—In 1936 raw materials comprised about one-half of the value of all United States imports. The leading raw-materials imports are listed in Table 87.

TABLE 87.—LEADING RAW-MATERIALS IMPORTS, UNITED STATES, 1936[1]

Commodity	Per cent of total imports
Cane sugar	8.7
Coffee	6 3
Crude rubber	5.9
Undressed and dressed furs	3.7
Tin, bars, blocks, pigs, etc.	3.4
Wood pulp	3.2
Raw hides and skins, except furs	2.5
Unmanufactured wool	2.2
Cacao and cacao beans	1.3
Bananas	1.2
Copper-ore concentrates and regulus	1.1
Diamonds (including industrial)	1.1
Nickel and alloys	1.1
Fertilizer (except nitrate of soda)	1.0
Crude petroleum	7.7
Tung oil	
Tea	
Lumber	
Nitrate of soda	
Sisal and henequen fiber	
Flaxseed	
Coconut oil, palm oil and perilla oil	
Spices	
Jute and jute butts	
Manganese ore	
Total	50.4

[1] SOURCE: Chamber of Commerce of the United States, *Our World Trade*, 1936.

Reasons which account for the United States comparative disadvantage in the production of commodities listed in Table 87 are not difficult to find. Raw sugar can be produced cheaply in Cuba

because of low wages and favorable climatic and soil conditions. Brazil has similar advantages in coffee production and the Malay States in rubber production. The advantages of Japan and China in silk production rest upon an abundance of extremely low-wage labor. Extremely cold climate and sparse population are characteristics of low-cost fur-producing regions. Raw hides and skins, whether or not they are by-products of great meat-packing industries, originate where land is relatively abundant. Low-cost wool production is also dependent upon cheap land. Low-cost wood production depends upon the occurrence of unexploited virgin timber. Copper, tin and metal alloys originate in regions where the ores from which these metals come occur in abundance. Sources of supply of crude petroleum likewise depend upon geological factors. Comparative advantages in the production of jute, tea, cacao beans, henequen fiber, vegetable oils, spices, etc., depend either upon soil and climatic conditions, or upon labor cost or upon a combination of these factors. Comparative advantage in all these import industries is with foreign countries. Some of the commodities listed in Table 87 find their way into the United States market over tariff barriers. This is particularly true of sugar, hides and skins, wool, unrefined copper, crude petroleum and lumber. Others come in duty free. Coffee, crude rubber, raw silk, unmanufactured furs, tin, wood pulp, cacao beans, bananas, sisal and henequen fiber, jute and jute butts are on the free list.

Volume of Imports in Relation to Comparative Disadvantage.—The fact that raw materials top the list of United States imports is not proof that they represent the industries which find their greatest comparative advantage abroad. Other goods may be imported in smaller amounts because tariff obstacles to their entry are greater. It is possible that some of the industries which are represented by a relatively small volume of imports are less well suited to production conditions in the United States than some of those listed in Table 87. There is no way of knowing precisely what the volume of imports of protected-industry goods might be if tariffs were removed. The mere fact that a number of the largest industries in the United States, even though protected, are on an import basis, in the sense that imports of the class of goods produced exceed exports, is evidence of greater or less amounts of high-cost production that would have to give way if

tariffs were removed. Among the industries in this category are dairying, textile manufacturing, production of clay and glass goods, paper and paper-goods manufacturing, iron and steel production for seaboard markets, manufactures of certain leathers and leather goods, production of chemicals and production of a miscellaneous list of light manufactures not already referred to.

The Dairy Industry.—Agriculture, the Democratic Party and low tariffs are ideas that have been related in the thinking habits of Americans for more than a century. For this reason one may experience difficulty in realizing the fact that large sections of agriculture are among the United States zealously protected industries. Dairying is an example. In the Hawley-Smoot Tariff Act of 1930, the tariff on whole milk was 6½ cents per gallon; on condensed milk, 1⅜10 cents to 2¾ cents per pound; on dried milk and dried cream, 6½ cents to 12½ cents per pound; on malted milk, 35 per cent ad valorem; on butter 14 cents per pound; on cheese, 7 cents per pound or not less than 35 per cent ad valorem. United States imports of dairy products have exceeded exports for more than a decade. Imports have increased in relation to exports since 1930 in spite of the tariffs imposed by the Hawley-Smoot act. Dairy products come to the United States from New Zealand, Italy, Netherlands, Denmark, Canada and various other countries.

Textile Manufactures.—The value of imports of textile manufactures[1] in 1930 was approximately 251 million dollars; in 1933, 127 million dollars and in 1936, 165 million dollars. Imports of textile manufactures represent a very small proportion of the value of textile manufactures consumed in the United States—possibly 1 per cent to 3 per cent.[2] In the Hawley-Smoot Tariff Act of 1930, textile manufactures took rates ranging, in terms of an ad valorem figure, as high as 100 per cent. Typical rates were 25 per cent to 60 per cent ad valorem with additional specific

[1] Manufactures and semimanufactures of cotton, wool, silk, rayon, jute, flax, hemp and other vegetable fibers and hair.

SOURCE: *Statistical Abstracts of the United States*, 1934 and 1936.

[2] Production of textile manufacturing for the census year 1931 amounted to 5,849 million dollars; imports amounted to 90 million to 100 million dollars. For the year 1933 production of textiles in the United States amounted to 4,811 million dollars, imports to between 50 million and 60 million dollars.

SOURCES: *Statistical Abstracts of the United States*, 1934 and 1936.

duties in many cases. In view of the fact that some textile manufactures are imported in spite of the high duties imposed upon them, it is reasonable to conclude that parts of the textile-manufacturing industry in the United States could not survive the withering effects of unrestricted foreign competition. There is no reason to believe, however, that the entire industry would be destroyed by foreign competition even if all existing tariff protection were removed.

Clay and Glass Goods.—The clay- and glass-goods industry includes table articles and kitchen utensils made of earthenware or glass: plate glass; glass biological and surgical utensils; illuminating articles wholly or in chief value of glass; bottles and jars; sheet glass; lenses; incandescent electric-light bulbs; earthenware; crockery, etc. Duties on these goods in the Hawley-Smoot Tariff Act ranged from 30 per cent ad valorem to 80 per cent ad valorem. Imports of clay and glass goods exceed exports in spite of the tariff. Some part of the United States clay- and glass-goods industry would, no doubt, be forced to liquidate if the domestic market for these goods were not protected.

Paper and Paper Manufactures.—Wrapping paper, wallpaper, book paper, tissue paper, surface-coated paper, filter stock, wallboards and various other items appear in schedule 14 of the 1930 tariff act. Typical rates are 10 per cent to 40 per cent ad valorem with additional specific duties in many instances. Even though net imports of paper and paper manufactures have amounted to less than 10 per cent of domestic consumption during recent years, some part of the industry might have to give way to foreign competition if the protective duties were removed.

Semimanufactured Iron and Steel for Seaboard Markets.—In general, iron and steel production is a division of American industry that enjoys comparative advantages in the international sense. In analyzing the 1922 tariff act, Taussig[1] stated that "the whole iron and steel schedule had ceased to be of much consequence in the protective controversy, at least so far as concerns the heavier and half manufactured forms of iron and steel." Nevertheless rates were raised in the metals and metals-manufactures schedule of the 1930 tariff act. During recent years the value of exports of iron and steel manufactures and semimanufac-

[1] TAUSSIG, F. W., *The Tariff History of the United States.* G. P. Putnam's Sons, New York, 1923, p. 468.

tures has been five or six times as great as the value of imports. The more important import items have been pig iron, steel ingots, blooms, etc., structural shapes and building forms, pipes and tubes, wire and manufactures, steel bars and other items that one would expect to find on the export list, as in fact they are. One reason for this seeming contradiction is to be found in transportation costs. Inasmuch as bulky freight, such as cotton and wheat, moves in large amounts from the United States to Europe it is sometimes possible to transport heavy steel goods from Europe to coast cities in the United States at lower costs than similar goods can be moved from Pittsburgh or the Chicago area to such port cities as New York and Boston. High United States tariffs on steel represent in part an attempt to exclude coastal city imports. Furthermore, in so complex a business as the iron and steel industry all items will not be produced at a minimum cost in any one country.

Leather and Leather Goods.—Leather manufacturing in the United States, like iron and steel production, is an industry of which large parts are on an export basis. During recent years United States manufacturers have exported from one-fourth to one-half of the leather boots and shoes and from 5 to 10 per cent of the leather produced in this country. Nevertheless there are tariffs on leather and leather-goods imports. Typical rates are from 10 to 50 per cent ad valorem. Sole leather, calfskin upper and lining leathers, goat and kid leather, reptilian and sharkskin leather, fancy boots and shoes, gloves, bags, belts, cases and other specialties are the leading articles imported. Leather-goods exports are standardized, mass-production manufactures.

Chemicals.—Among the leading chemicals imported by the United States are dyeing and tanning extracts, coal-tar products, medicinal and pharmaceutical preparations and such industrial chemicals as acetic acid, glycerin, crude iodine, potassium compounds, sodium compounds, radium salts and nitrogenous and potassium fertilizers. Practically all are subject to substantial duties. The weakness of American firms in the production of imported chemicals is due in part to the fact that some of the basic elements do not occur in abundance in this country, in part to a more vigorous development of chemical technique abroad and in part to the fact that many chemicals are not subject to mass production with power machinery. High wages affect industries

that employ relatively large amounts of skilled labor more than industries that can substitute power-operated machines for high-wage workers.

Other Import Industries That Are Protected.—A detailed accounting of the many other imported goods that are subject to tariffs in the United States would add little to the generalizations that have already been developed. This country's principal advantages lie in the direction of goods that are produced with machinery *en masse*. In addition to many of the imports already cited, scientific instruments, surgical instruments, hand-woven rugs and toys that require hand labor for assembling are on the import list; relatively large amounts of hand labor are employed in producing this group of goods. Natural-resource factors account for still other imports not already accounted for. Nuts, certain types of vegetable oils, spices, tropical fruits and a number of the metal alloys are in this category. With few exceptions imports are subject to tariffs in the United States more or less regardless of reasons for comparative advantage in their production elsewhere.

ECONOMIC RELATIONS BETWEEN THE UNITED STATES AND OTHER REGIONS

Exports of the United States consist of minerals, products of extensive agriculture and manufactures. The country's imports, likewise, are diversified. The foreign trade of the United States is not primarily an exchange of raw materials and foodstuffs for manufactures or vice versa; it is mixed in kind and scattered in direction.

Trade with Western Europe.—For many years the United States trade balance with Europe has been active; the value of goods moving from the United States to Europe has exceeded the value of goods moving in the opposite direction. In 1935 and 1936, Europe took between 40 and 50 per cent of United States exports (in terms of value) and provided 25 to 30 per cent of United States imports.[1] Comparative advantage in the United States is such that this country is in position to send to Europe cotton fiber, lard, tobacco, wheat, certain nonmetallic minerals and certain mass-production manufactures such as machinery and

[1] SOURCE: Chamber of Commerce of the United States, *Our World Trade*, 1936.

motor vehicles. Europe's principal advantage in trade with the United States is in the production and export of light manufactures and intensive agricultural products that embody relatively large amounts of labor. Examples are textile and glass manufactures, surgical instruments, leather-goods specialties, toys and dairy products.

Canada.—In 1936 Canada was the United States second-best customer. Great Britain ranked first; she took 16.3 per cent of total United States exports in value as compared with 15.8 per cent for Canada.[1] Ordinarily more goods move from the United States to Canada than in the reverse direction. Among the leading articles which Canada obtains in the United States are coal, petroleum, automobiles, iron and steel, machinery and fresh fruits. Among the leading items sent from Canada to the United States are news paper, wood pulp, wood, nickel, furs, copper, asbestos, grains and vegetables.

South America.—In 1935 and 1936 United States imports from South American countries exceeded exports to them. Among the leading import items were coffee, petroleum, copper, nitrates, hides and skins, wool, linseed, manganese, bauxite and cacao beans. The principal items of export from the United States to South American countries were manufactures. Whereas, European exports compete primarily with United States manufactures, South American exports compete primarily with United States minerals and agricultural products.

Trade with Asia.—For many years the values of United States imports from Asia have exceeded the values of her exports to Asia. Rubber, silk, spices, tin, alloy metals, jute and light manufactures are among the leading imports from Asia. Raw cotton and mass-production manufactures are among the principal American exports to Asia. Trade between the United States and Asia rests upon differences in population density, differences in technical development and differences in climate. The United States is sparsely populated and advanced technically, whereas Asia is densely populated and backward technically. Furthermore, parts of Asia are in the tropics whereas no part of continental United States extends as far south as the tropics. Plantation rubber production is an example of a tropical industry that is not adapted to the United States climate.

[1] *Ibid.*

Other Regions.—Cuba, Mexico, Central America, Oceania and Africa remain to be considered. In general, trade between the United States and these regions is an exchange of manufactures for raw materials and foodstuffs. Sugar from Cuba, petroleum from Mexico, bananas from Central America, wool from Australia and copper and diamonds from Africa suggest the nature of imports that come from these countries. Manufactures rank first in the types of goods sent in exchange.

PROBABLE STRUCTURAL CHANGES IN THE UNITED STATES INCIDENT TO REMOVAL OF TRADE RESTRICTIONS

Extensive agriculture in the United States competes with extensive agriculture in sparsely settled lands like Argentina, Canada and Australia. Intensive agriculture and light manufacture in this country compete with similar activities in densely populated regions like Netherlands, England, Italy and Japan. Tariff protection of the domestic market in the United States affords a shelter both for high-cost farmers and for high-cost manufacturers. There is no way of knowing precisely how large a part of any of the protected industries in this country would be destroyed by removal of international trade restrictions. There are ways, however, of roughly measuring the relative sizes of sections of American industry that are protected as compared with those that are less directly affected either because they turn out goods of a type that do not enter the channels of international trade or because they are on an export basis. One such measure is numbers of workers employed.

Distribution of Workers among the Principal Industries.—In the aggregate there are approximately 50 million persons in the United States classified as gainful workers ten years old or over, exclusive of housewives. Of every 1,000 gainfully employed workers, approximately 300 are employed in manufacturing and mechanical industries, 200 in farming, 125 in trade, 80 in transportation and communication, 20 in mining and 5 in lumbering and fishing. The remaining 270 persons are engaged in domestic and personal service, the professions and public service. Farming and manufacturing are the sections that would be most affected by changes in the existing system of trade barriers.

Agriculture.—Roughly, one-fourth of the total population of the United States is classified as farming population and one-fifth

of the workers classified as gainfully employed (exclusive of housewives) are employed on farms. Attempts to segregate the farm population into groups according to kinds of crops grown and types of livestock produced lead to no very definite conclusions for the reason that a number of different crops and several different kinds of livestock may be produced on one farm. However, generalizations such as those to follow are suggestive of the far-reaching effects which tariff changes might have. There are between 6 million and 6½ million farms in the United States. Rough estimates indicate that about 1½ million of these farms produce wheat and about 2 million of them produce cotton. The great majority of farms raise some poultry and livestock for market. Nearly every one of the many other farm enterprises are represented by hundreds of thousands of producing units. Cotton, wheat, hogs, tobacco and certain kinds of fruits ordinarily are on an export basis. Most of the other farm staples produced in this country are on an import basis and are protected in greater or less degrees by import tariffs. For these reasons a general elimination of tariffs and other import restrictions on farm products, if not accompanied by large increase in size of export markets for exportable crops and livestock products, would tend, initially, to reduce the earnings of millions of persons engaged in agricultural pursuits. The value of exports of farm products ordinarily amounts to from 15 per cent to 20 per cent of the estimated cash income from the sale of farm products in the United States. During the period 1926 to 1936 the value of imports of farm products into the United States tended to be in excess of the value of exports of farm products from the United States.

Manufacturing.—Manufacturing and mechanical industries in the United States employ in the aggregate about 14 million persons, male and female. This figure is 40 per cent to 50 per cent greater than that for numbers of persons employed on farms (housewives excluded). Just as some branches of agriculture are protected by customs duties while other branches are not, so also some branches of manufacturing are effectively protected while others are not. The largest sectors of that part of United States industry classified by the Bureau of Census as *manufacturing* and *mechanical trades* are (1) building trades, (2) metals and allied industries and (3) textile industries. Other branches of manufac-

turing in this country are smaller individually but larger in the aggregate than the textile industry or the metals industry.

The building industry in the United States employs about 3 million workers. This industry is not of a character to be directly affected to a great extent by tariff changes.

Metal refining and manufacturing and allied industries in the United States employ about 2 million workers. Large portions of this industry are on an export basis—heavy iron and steel goods, automobiles, office machines, machine tools, agricultural machinery and electrical goods, for example.

Textile, clothing and allied industries employ about 2 million workers. The greater part of this section of American industry is protected by effective customs tariffs.

Lumber and furniture industries employ about ½ million workers. This section of American industry is also protected, in large part, by effective customs tariffs.

Miscellaneous industries that produce leather goods, processed foods, tobacco manufactures, jewelry, brooms, buttons, paper and printed matter, rubber goods, clay, stone and glass ware, etc., employ another 2½ million workers. Substantial portions of these industries are effectively protected.

Finally, there are about 1½ million machinists, millwrights and mechanics separately classified and enough electricians, cobblers, bakers and others not already enumerated to account for the remaining 2½ million persons classified as manufacturing and mechanical workers.

Some portion of the farmers, the greater part of the 2 million textile workers, and a large proportion of the 2½ million workers attached to leather, food, chemical, jewelry and other miscellaneous manufacturing industries enjoy effective protection. In general, persons engaged in trade, transportation, the professions and various kinds of service work and a majority of those employed in mining, building trades and metal industries do not benefit directly by protection to so large an extent as do persons engaged in textile and miscellaneous manufacturing industries and agriculture.

Customs tariffs reduction in the United States would certainly cause more or less reorganization in agriculture, in textile manufacturing and other light manufacturing industries. Possibly as much as 10 or 15 per cent of the country's industrial structure

would be affected directly by removal of trade barriers. No one knows exactly how many workers might be thrown out of employment in import industries if customs tariffs were removed in the United States nor how fast workers might be absorbed in export industries. With the razing of trade barriers, additional quantities of foreign merchandise might flow to the United States in payment of interest and principal on debts. It is conceivable that removal of tariff barriers might, for a time, increase merchandise imports without causing an increase in merchandise exports anywhere nearly equivalent in value. In this case, a small proportion of the labor and movable capital forced out of import industries would quickly be absorbed in export industries. In all probability the imports would cause competitive reduction of prices in the domestic market and initiate a severe business depression. In the course of time, the internal economy of the United States might be balanced through a process of widespread liquidation and readjustments in capital values and wage rates.

CHAPTER XXXIX

ALTERNATIVE POLICY COURSES

Political and commercial history discloses a number of different patterns of national commercial policy in international relations. One such policy is variously referred to as national self-sufficiency, closed economy or autarchy. An extreme illustration is to be found in Japan during the seventeenth and eighteenth centuries. During much of the 250 years prior to about 1850 the central government of Japan prohibited international commerce; Japanese nationals were prohibited under penalty of death from holding intercourse with foreigners. Less extreme illustrations of autarchy are to be found in Egypt about 1200 B.C., in China about 400 B.C. and in western Europe during the Middle Ages. The outstanding example of a modern nation that has attempted to achieve a policy of autarchy is Germany, under the dictatorship of Hitler. A policy of autarchy carried to its logical conclusion would eliminate all economic intercourse with foreign countries. In contrast with autarchy is free trade. A free-trade policy encourages full participation in international economic intercourse. Between these two extremes are various degrees of national protection. Examples are mercantilism and Hamilton-List protectionism. To date, the foreign trade policy of the United States has followed a middle course. Introduced at an early date to protect and to foster young industries, this country's trade restrictive system has remained to protect vested interests.

As already stated, Alexander Hamilton was among the earliest and most eloquent advocates of a protective policy for the United States. In Hamilton's time[1] this nation comprised only an Atlantic seaboard area of 892,135 square miles. The several states were loosely joined in a new political union, and the agricultural and mechanical arts were primitive. At present continental United States[2] comprises an area of approximately 3

[1] Alexander Hamilton (1757–1804) was the first Secretary of the Treasury of the United States.

[2] Alaska not included.

million square miles stretching from Canada to Mexico, north and south, and from the Atlantic Ocean to the Pacific, east and west. In addition this country's noncontiguous territories and possessions comprise an area of approximately 700,000 square miles. They include Alaska (586,400 square miles), American Samoa (76 square miles), Guam (206 square miles), Hawaii (6,407 square miles), Panama Canal Zone (549 square miles), Puerto Rico (3,435 square miles), Philippine Islands (114,400 square miles),[1] and Virgin Islands of the United States (135 square miles). The aggregate area of continental United States and her possessions is approximately 3,738,395 square miles.

Between 1790 and 1853 the United States acquired Louisiana, Florida and a part of New Mexico and Arizona by purchase, Texas by voluntary annexation and the remainder of her contiguous continental territory by conquest. Alaska was purchased from Russia in 1876; Hawaii was acquired in 1898 by voluntary annexation. The Philippines were acquired by the Treaty of Peace with Spain in 1899. They were ceded by Spain partly as war indemnity and partly in return for a cash consideration paid by the United States. Puerto Rico and Guam were ceded to the United States by Spain as indemnity at the same time. American Samoa was acquired by treaty with England and Germany in 1900. The Panama Canal Zone was purchased in 1904 and the Virgin Islands of the United States were purchased in 1917. During this period of territorial expansion the national government of the United States was strengthened and the country's manufacturing and transportation underwent developments surpassed by no nation in the world. In view of these facts many informed observers believe that the time has arrived when the United States should adopt a commercial policy course better suited than the old Hamiltonian system to her present economic and political status.

If America must choose a new policy, what are the alternatives? Some persons would have the United States choose a policy of economic self-sufficiency, autarchy. Other interested parties would have Congress reduce the protection for some lines of industry while maintaining or increasing it for other lines of industry; such a policy might be referred to as a planned middle course. Still other informed persons are convinced that the time

[1] The Philippine Islands may soon become independent.

has come for the United States of America definitely to point her commercial policy course toward the ultimate goal of full participation in world commerce on a free-trade basis. Many arguments are advanced for each of these several commercial policy preferences. No absolute criterion exists for judging these arguments because motives vary and assumptions are not uniform. Nevertheless, critical examination of the pros and cons of alternative policy courses, against a background of findings in earlier chapters of this volume, will illuminate aspects of the United States position in world economy that some of us may have overlooked.

SELF-SUFFICIENCY

Motives prompting the advocacy of a policy of autarchy for the United States are mixed. One motive is a desire for greater profits and more employment in particular industries that would benefit by protection. If importation of plantation rubber into the United States were prohibited, domestic producers of synthetic rubber would, no doubt, profit thereby. Exclusion of real silk might result in greater sales of domestic rayon and fine cotton fabrics in the domestic market. Similar reasoning applies to many other import goods, manufactures as well as raw materials. A second motive that prompts the advocacy of a policy of autarchy rests upon an assumption that the United States would be stronger in self-defense if she were economically self-sufficient. A third motive rests upon an assumption that the fewer the international transactions a country engages in the less probability there is of its being drawn into international conflict. This point of view harks back to Washington and other founders of the so-called American System, who advocated policies to avoid entanglement in European political affairs. A fourth motive rests upon an assumption that domestic industry would be less subject to unstabilizing influences if all economic connections with the outside world were severed.

The Special-interests Argument.—Those who advocate a policy of autarchy merely because their special interests would be served by it are guilty of no worse a crime against society than carriage of the most common motive for trade restrictions to its logical conclusion. Special interests have been attempting, successfully or otherwise, to gain favors at the hands of govern-

ments ever since governments came into being. Some of the reasons advanced for exclusion of foreign goods are so transparent and so obviously biased in favor of particular industrial groups as to warrant little serious consideration. Certain chemical interests, for example, have been advocating self-sufficiency for the United States. They would exclude rubber and other goods that can be replaced by synthetic products. A synthetic substitute for natural rubber is being produced in the United States, but at present it does not compete in a large way with plantation rubber because it is more costly. Tire manufacturers are among the principal industrial consumers of raw rubber. Tire costs are a small proportion of the costs of an automobile with full equipment; rubber costs are but a part of tire costs. For these reasons an increase of several hundred per cent in rubber prices would not stop people from buying automobiles. In short, the demand for rubber is inelastic in the sense that purchases do not decline in proportion to increases in price. Inasmuch as the process for making synthetic rubber is closely held, monopoly profits of synthetic rubber producers might be enormous if foreign supplies of plantation rubber were excluded. The argument for exclusion of foreign rubber and other imported goods, that chemists might replace with substitutes, is sometimes based upon considerations of national security. When profit motives are thus conspicuously associated with schemes for subsidization of key industries necessary to national defense, the voter cannot be sure whether he is dealing with the essence of benign patriotism or with cleverly concealed plans for the exploitation of consumers.

The National Defense Argument.—Economic self-sufficiency as a national defense measure has been accorded serious consideration since the World War. When subjected to close evaluation the argument loses much of its initial appeal. At the outbreak of the World War (1914) the United States was dependent upon Netherlands for quinine, upon Chile for nitrates and iodine, upon Japan for camphor, upon Germany for potash and dyes, upon foreign sources of supply for substantial portions of her annual consumption of sugar, wool and wood pulp, all her rubber and silk and a number of essential metal alloys. During the War domestic sources of potash supplies were developed. Since the War potash imports have been resumed because imported potash is less costly than home-produced potash. Similarly domestic

production of nitrogen was developed during the War years, although as in the case of potash some nitrogen is now being imported because of the cost factor. The bulk of this country's sugar imports come from Cuba; the haul is not long and it is not likely to be dangerous, even in time of war. Silk is no longer so essential as it was in the last war because substitutes have been developed for use in parachutes and powder bags. Wool production in this country is readily capable of expansion if prices warrant. Sources of supply of most of the essential metal alloys are diversified geographically. Tungsten is obtainable from China, Japan, Burma, Australia and Bolivia and small quantities are produced in the United States. Manganese comes from Russia, India, Brazil and the Gold Coast of Africa. Vanadium may be had in either Peru or South Africa. Cobalt may be obtained from either Canada or the Belgium Congo. Chromium occurs in South Africa, Canada, India, Asia Minor and the United States. It is unlikely that all sources of supply of the essential metal alloys would be closed to the United States at the same time. Rubber is subject to reclamation if demand warrants, and synthetic substitutes for most of the important uses for rubber can be produced in this country. In short, the need of developing a self-sufficient economic system because goods essential to the conduct of a war are not within reach does not loom large when the question is reduced to specific cases. Shortages of some goods are likely to develop when quick transition is made from a peacetime economy to a wartime economy, whether or not a nation is completely self-sufficient in peacetime, because demands of war economy and peace economy are differently apportioned. For these reasons, one may conclude that development of a program of peacetime self-sufficiency is not necessarily the best means of providing most adequately for a nation's possible wartime needs.

The Neutrality Argument.—Closely associated with the national defense argument for a policy looking to complete self-sufficiency in the United States are supporting reasons advanced by pacifists who would go to almost any lengths to avoid dangers of the United States becoming involved in international conflict. When foreign nations are at war, the neutral country which has ships moving in and out of foreign ports and citizens engaged in foreign enterprises may become involved in embarrassing inci-

dents that tend to draw it into the conflict. A policy of economic isolation might minimize dangers of this character.

With the diversity of natural resources which occur in continental United States, this country might become economically independent of other areas at a less permanent sacrifice in terms of reduced productive efficiency than any other industrialized nation in the world unless it be Russia. The principal raw materials imported for domestic consumption in the United States are as follows:

Rubber	Sugar	Wood pulp
Wool	Exotic foodstuffs	Metal alloys
Silk	Condiments	Potassium
Jute	Vegetable oils	Miscellaneous chemicals
Sisal and hemp	Linseed	Asbestos
Hides and skins	Dyestuffs	Precious stones
Furs	Miscellaneous drugs	Other rare substances

With few exceptions the necessary raw materials in this list, or substitutes for them, could be produced in the United States if prices warranted the cost. If a policy of economic self-sufficiency were politically possible, and if it could give reasonable assurance of preventing this country's becoming involved in future wars, it might be worth at least a trial. These are large *ifs*. So long as United States lawmakers and chief executives are elected there is little likelihood that a consistent policy of autarchy could be enforced. During the whole of the last three or four thousand years of recorded history people have been traveling, trading and extending their interests—economic and noneconomic—beyond their political boundaries. The urge toward foreign intercourse is strong and the facilities for foreign trading, foreign investing and foreign travel have been vastly improved during the last few decades. To the steamboat and the telegraph of the nineteenth century have been added the airplane and the radio of the twentieth century. During an emergency period a policy prohibiting foreign trade, foreign travel and the granting of external loans might be enforced, but during long periods of world peace it is doubtful if such a policy would attract sufficient political support to make possible its enforcement. An intermittent policy of participation and withdrawal from world economic affairs is fraught with dangers of armed conflict as great, possibly, as those of a consistent policy of participation in world economy. The

dangers of an intermittent policy of autarchy center about difficulties of readjustment that major policy changes are likely to cause. A great national economy may not be meshed or unmeshed with world economy without ensuing adjustments in every country involved in world trade and finance. The results are not conducive to an atmosphere of international good will.

Another consideration that has a bearing upon an autarchy-for-peace policy is its possible long-time effect upon the ability of the people of the United States to live harmoniously with their contiguous foreign neighbors. The United States is separated from the European and Asiatic powers by the broad expanse of the Atlantic Ocean on her east and the Pacific Ocean on her west, and at present countries to the north and to the south are not strong enough to be a seriously disturbing influence. Even the Panama Canal Zone is reasonably safe from invasion at the present time. But a half century of autarchy in the United States or even a shorter period might change the whole aspect of geographical isolation that the United States now enjoys. Should one or more of the continental European or Asiatic nations gain control of Mexico, Canada, Central America or even certain South American countries, the United States might find her position of comfortable seclusion gradually becoming less and less comfortable at a time when she was least prepared by training and experience to live amicably with powerful, contiguous neighbors. Some advocates of autarchy may contend that one essential element of such a policy is the forcible prevention of European or Asiatic nations from gaining strategic positions in the Americas. But here is an inconsistency. If the United States is to maintain her leadership in the enforcement of a Monroe Doctrine applying to the whole of North and South America, one of the first essentials is economic cooperation with the other nations of these two continents. Unilateral attempts on the part of the United States to enforce the Monroe Doctrine in the interests of the United States and without the consent and cooperation of the nations involved, might, and in time very probably would prove to be the reverse of a pacific policy.

The Industrial-stability Argument.—From an economic point of view, the central theory in support of full participation in world trade is a belief that trade fosters territorial division of labor, little emphasis being placed upon the economic wastes of

transition. During the last few decades wastes incident to idleness of labor, capital equipment and natural resources during periods of cyclical depression and structural change have attracted increasing attention. Two unanswered questions have arisen to plague the advocates of a policy of full and free participation in world commerce. First, does participation in world trade aggravate economic instability in the trading countries? Second, if participation in world trade does aggravate economic instability, are the consequent losses equal to, greater than, or less than the gains arising from international division of labor?

It is a generally recognized fact that all the national economic systems which participate in international trade and finance are more or less sensitive to economic shocks occurring in any one of the trading countries. Mitchell's findings,[1] for example, suggest that commercial countries are associated in a world economy in the sense that all countries participating in world trade and finance prosper or suffer together. If the United States trades with Europe, this country is not free from the effects of political and economic conditions that disturb European economy. The autarchist would prohibit citizens of the United States from participating in world commerce and finance, thus to prevent this country from suffering as a result of the economic ills of Europe, Asia and other contents. The autarchist cites in support of his case historical and statistical findings[2] which seem to indicate an increase in severity of business cycles as industrial specialization increases. He calls attention to the theory that international trade fosters territorial specialization and proceeds to argue for less trade and less territorial specialization. The autarchist may be correct in his reasoning, but there is no proof of the point. The United States, with a smaller ratio of external trade to total trade than prevailed in Great Britain, France and Germany, has suffered business depressions during the last three-quarters of a century no less severe than those of the European countries in question. This fact does not lend support to the autarchist's case; nor does it refute his case. Some advocates of closed national economies argue to the effect that national planning is essential to greater degrees of national economic

[1] MITCHELL, WESLEY C., *Business Cycles*, National Bureau of Economic Research, New York, 1930, p. 439.

[2] *Ibid.*, p. 438.

stability, and that national self-sufficiency is essential to successful national planning. In so far as Russian experience is a guide, a national monopoly of foreign trade and finance as distinct from complete self-sufficiency is what the national planner needs to make his system work.

Conclusions Concerning a Self-sufficiency Policy.—In a world torn by economic strife, armed for military combat and constantly threatened with a suicidal general war, a policy of autarchy for the United States has much that appeals to fertile imaginations. Other great nations that have acquired wealth and power in excess of that possessed by neighboring states have been launched upon policies of imperialistic empire building. Phoenicia, Greece, Rome, Great Britain, each in its day of ascendency was the focal point of the world's greatest empire of the time. Germany was aspiring to territorial expansion before the World War. Since the World War the aspirations of Japan, Italy and Germany for additional territory have been an ever-present menace to world peace. May it not be the part of wisdom and foresight for the United States to break with traditional expansionist tendencies and create within her own insulated political boundaries a paradise of political harmony and economic well-being never before approached by any country? May it not be that future wealth will depend more upon man's increasing mastery over his local physical environment than upon his ability to exploit weaker peoples in distant lands? These are questions too profound to be ignored. They suggest, however, not just one but two possible policy courses, either of which might conceivably lead to less conflict and more prosperity for the United States. One course is national self-sufficiency and complete noninterference with the outside world. The other course is friendly participation in world affairs through some such pacific and collective system as a league of nations. The probabilities of peace for the United States through a self-sufficiency policy are reduced by the existence of economic circumstances elsewhere. No other country, with the possible exception of the U.S.S.R., has natural resources comparable in amounts per capita and in variety to those of the United States. The avenues to higher and higher levels of prosperity through national self-sufficiency policies appear to be closed to many other nations. If participation in a system of international economy is necessary to greater prosperity

abroad, a self-sufficient United States would be out of harmony with tides of human existence elsewhere. Such a policy would also be out of harmony with the tides of national development that have been most dominant through the ages. These facts alone would tend to frustrate the success of a closed economic system and an isolationist policy in the United States. People are always influenced by the past and any modern nation possessed of present-day facilities for transportation and communication cannot reasonably expect to be immune from the influence of ideas that are prevalent in neighboring countries. It is possible that ways and means may be found to reduce, somewhat, dangers of the United States being involved in another world conflict. It is very unlikely, however, that any policy can be devised that will avoid for the United States all the responsibilities incident to existence in a community of interrelated nations.

Finally, it is well, in considering the possible advantages of an isolationist policy for the United States, to remember that this country's industrial system has evolved slowly during a period of several hundred years. Ever since the white man came to America, this country has been joined to other parts of the world by commercial and financial ties. These ties could not be severed without far-reaching reorganization of the existing system of domestic industry. A self-sufficiency policy would necessitate the organization of facilities to produce substitutes for the raw materials, foodstuffs and manufactures that are now imported. It would necessitate, also, withdrawal of labor and capital from export industries. Ordinarily, about half of the raw cotton, 40 per cent of the tobacco, a third of the lard, a fifth of the wheat, a fourth of the agricultural machinery, a fifth of the refined motor fuels, and 10 to 15 per cent of the industrial machinery and automobiles produced annually in the United States are exported, not to mention greater or less proportions of a long list of other goods. Reorganization of United States industry for self-containment would involve costly liquidation in some industries, expansion in other industries and wholesale transfers of workers from particular trades and modes of life to which they have become habituated. One may, at least, conclude that economic self-sufficiency for the United States would be costly and that the possible benefits of such a policy are uncertain.

ECONOMIC INTERNATIONALISM

In contrast with conceptions of economic isolation are those of so-called economic internationalism. The country which practices an isolationist policy restricts its external economic and financial relations to a minimum. The country which practices a policy of economic internationalism encourages trade and financial intercourse with other nations. Participation in international economic relations is clearly consistent with economic internationalism. Other connotations of the term are less certain. For example, is a policy of free trade and extensive foreign financing coupled with military protection of foreign ventures to be termed a policy of economic internationalism, or does economic internationalism imply that conflicting interests between nations shall be settled by international parliamentary procedures? Possibly there are several types of economic internationalism, each of which involves a free or liberal trading policy.

Armed Empire Building.—Armed empire building is one form of economic internationalism. British history affords an example. As Great Britain expanded her international trade, a strong army and navy stood ready to protect the interests of British nationals engaged in foreign ventures when circumstances seemed to warrant. During the period of British expansion, as now, varying degrees of dependence existed among the world's political units. Sovereign nations, semisovereign nations and colonies constituted a hierarchy of imperceptible gradations from complete national independence to complete political dependence. Areas that had no status in the recognized political hierarchy were subject to annexation. Existence of a policy of armed empire building in Great Britain in times gone by does not signify that strong, independent nations were invaded by British armies in direct and lawless pursuit of economic advantage; it does signify that negotiators were constantly aware of the fact that Britain's foreign interests were to be respected because of her military and naval strength. In case of the weaker states, armed invasion and forced negotiation were resorted to in not a few instances. At the beginning of the nineteenth century, England had no serious rivals in her policy of external economic expansion. Netherlands, Portugal and Spain had dropped out of the race.

France lay prostrate after a hundred years of fighting ending with Napoleon's defeat at Waterloo. The German states were not yet welded into a nation; German overseas empire building was not destined to begin until near the end of the century. Great Britain's external economic expansion was faced with no immovable obstacles abroad and her industries were ready to expand under the influence of a new technique at home. British arms and British industry worked side by side in acquiring political control of Canada, Australia, New Zealand, parts of Africa, the Coast of China, the Malay Peninsula and certain Pacific Islands, and in gaining economic primacy in these regions. Not infrequently traders and adventurers preceded organized military expeditions into the less civilized areas. The conquest of Sarawak, for example, was achieved by an English adventurer single-handed. "Rajah" Brooke had established a kingdom all his own in Sarawak before it was made a protectorate of the British Crown. In her trade with backward regions Great Britain assumed responsibility for establishing order and enforcing respect for the property rights of her citizens. Even in trade with the more important independent states like France, Germany, Russia, Italy and the United States the British navy participated by keeping transport lanes open and safe for British merchantmen. The external economic expansion of nineteenth century England was British initiated, British financed, British protected and in so far as disputes arose they were settled by British diplomats with the moral and, if necessary, the physical support of the British navy. As the nineteenth century came to a close and the twentieth century unfolded, other nations, particularly Germany, challenged British leadership in foreign trade and foreign finance. In time every nation that had become highly industrialized wished to profit by participating in the spread of industrialism and the sale of industrial goods. It is not until many strong nations wish to travel the same road that an international traffic policeman is needed. After the World War the idea of parliamentary internationalism to be administered through a league of nations received serious and world-wide consideration. The idea behind the League of Nations as first established, was not an entirely new conception of human idealism. It was but one of a long train of efforts to provide conference machinery for pacific settlement of international

disputes. Nevertheless, it involved a greater number of nations and, possibly, was more nearly in harmony with conceptions of international democracy than earlier efforts at diplomacy by conference.

Parliamentary Internationalism.—As yet parliamentary internationalism, as distinct from power diplomacy, is little more than an ideal. For long ages the human brain has groped for concepts of a just social order. These intellectual efforts have found expression in conceptions of national democracies in which individuals are assumed to participate equally in the control of human relations. Someday an international democracy in which nations participate peacefully, even if not equally, may take the place of armed conflict for the settlement of all international disputes. In the meantime the reality of inequalities among nations—economic inequalities, military inequalities, population inequalities, wealth inequalities and other inequalities —together with an unwillingness of nations to yield rights of ultimate decision to a superstate, will preserve possibilities of armed international conflict. In short, opportunity for participation in a world-wide system of parliamentary internationalism is assured to no country.

AMERICAN INTERNATIONALISM—A COMPROMISE POLICY

In harmony with the philosophical background from which the people of the United States came and with trading habits that have prevailed in this country for more than a century, the American public has refused, on the one hand, to sanction a policy of complete economic isolation from other parts of the world. On the other hand, American opposition to unnecessary entanglement in European diplomacy is strong, widespread and long standing. Someday the people of the United States may become interested in crusading for a perfected system of world-wide democracy; or they may become wedded to a vigorous policy of external expansion looking to the building of a vast empire through diplomatic maneuvers supported with armed force. In so far, however, as sentiments either for leadership in the enforcement of League of Nations principles or for empire building exist in the United States at present, they are confined to minority groups and are overshadowed by mass desire for avoidance of armed conflict.

CHAPTER XL

CONCLUSIONS CONCERNING THE ECONOMICS OF A FREER TRADE POLICY FOR THE UNITED STATES

As economic prosperity ebbs and flows in a democratic society, different voting groups find themselves in position to exercise varying amounts of influence over the course of legislation and its administration. In the United States, sustained periods of widespread unemployment are likely to be accompanied by legislation designed to favor wage-earning classes. In periods of full employment and rising wage rates big business tends to become relatively more influential politically. A long period of depression in agriculture finds farming groups pressing for some kind of legislated relief, and so with other voting groups. Economic circumstances and motives are by no means the only influences which guide the course of human history but at times they appear to set the stage for types of political action which might have taken a different turn had economic conditions been different. A number of economic problems have arisen since the World War which appear to some students of the subject to have set the stage for transition from a policy of tariff protection in the United States to one of freer trade. Among the more important of these problems is that of balancing the country's international payments.

THE PAYMENTS BALANCE PROBLEM

The history of payments balance changes in the United States has been treated in Chaps. XXII and XXXVII of the present volume. The shifting of the United States position in world economy from debtor nation before the World War to creditor nation after the War created new economic and political pressures. During the nineteen twenties American credits abroad could not be transferred to the United States in gold without depletion of foreign bank reserves. Net outgo on invisible items such as tourist expenditures, immigrant remittances, and shipping

services were insufficient to balance the international payments of the United States without reduction in this country's merchandise export balance. Reduction in the balance of merchandise exports would have caused economic instability at home, accompanied by the inconveniences of unemployment and capital losses during a transition period. With abundant gold reserves and an easy-money policy, on the part of the Federal Reserve banks, interest rates were favorable, and capital was exported. The capital exports permitted collection of service charges on the foreign debt without disappearance of the active merchandise trade balance. Exportation of capital during the postwar years resulted in an increase in United States private long-term foreign investments from about $5,700,000,000 at the end of 1919 to about $15,200,000,000 at the end of 1930.[1] Capital exports and merchandise exports during the nineteen twenties were accompanied by domestic credit expansion and a rising level of industrial activity.

After 1930, long-term foreign lendings, export and import trade, commodity prices and business activity, one and all, underwent drastic declines. Capital exports and expansion of domestic credits had failed to bring lasting prosperity. Other countries (particularly Great Britain) had pursued, before the War, a long-continued and successful policy of external economic

TABLE 88.—EXPORTS, IMPORTS AND BALANCE OF TRADE OF THE UNITED STATES, 1929–1936[1]
(Values in millions of dollars)

Year	Exports	Imports	Excess of exports
1929	5,241	4,399	842
1930	3,843	3,061	782
1931	2,424	2,091	334
1932	1,611	1,323	288
1933	1,675	1,450	225
1934	2,133	1,655	478
1935	2,283	2,047	236
1936	2,453	2,419	34

[1] SOURCE: *Trade Promotion Series* 162 and *Our World Trade.*

[1] *A New Estimate of American (United States) Investments Abroad, Trade Information Bulletin* 767, U. S. Department of Commerce, 1931, p. 8.

expansion paralleled and stimulated by capital exports, but these countries had made the transition from debtor to creditor position slowly, and their domestic economics had gradually been adjusted to absorb merchandise imports in excess of merchandise exports.

During the depression years, in the early nineteen thirties, the export-import trade of the United States declined about 70 per cent in terms of value. The data are given in Table 88. The excess of exports over imports also declined but the active balance did not disappear. In 1929 the value of exports exceeded that of imports by $842,000,000. In 1932 the excess of merchandise exports amounted to $288,000,000, in 1935, $236,000,000, and in 1936, $34,000,000.

Paralleling the cessation of long-term foreign lending after 1929, the decline in imports of merchandise and the reduction in foreign travel, collections on outstanding foreign debts tended to lapse. As already stated, private long-term foreign investments of the United States aggregated approximately $15,200,000,000 in 1930.[1] The United States Government study from which the $15,200,000,000 estimate of American foreign investments was secured does not show what proportion of the aggregate of this country's private long-term loans in 1930 consisted of bonds. Other estimates[2] place the aggregate of foreign dollar bonds held in the United States in 1931 at $8,500,000,000. During the four years from 1931 to 1935, the value of foreign dollar bonds outstanding was reduced to approximately $7,500,000,000. This reduction was due largely to regular sinking-fund retirements, scheduled maturities and calls for redemption before maturity. Prior to December 31, 1935, service charges had been paid in full on 61.5 per cent of the foreign bonds outstanding in 1931. The remaining 37.5 per cent of the bonds in question were in default on December 31, 1935. The data are summarized in Table 89.

In addition to losses on foreign dollar bonds, United States investors suffered an indeterminate amount of loss on stocks and other types of direct foreign investments. Furthermore, the greater part of the aggregate of so-called war debts became

[1] *A New Estimate of American (United States) Investments Abroad, Trade Information Bulletin* 767.

[2] MADDEN, J. T., M. NADLER and H. C. SAUVAIN, *America's Experience as a Creditor Nation*, Prentice-Hall, Inc., New York, 1937, p. 131.

TABLE 89.—STATUS OF ALL PUBLICLY OFFERED FOREIGN DOLLAR BONDS AS OF DECEMBER 31, 1935[1]

	Amount	Per cent of total
Debt service paid in full.....	$4,604,330,000	61.47
Interest in default.....	2,809,892,000	37.52
In default on sinking fund only..	74,870,000	1.00
In default on principal only.....	900,000	.01
Total amount outstanding....	$7,489,992,000	100.00

[1] Courtesy of the Institute of International Finance, New York, Bulletin 85.

defaulted.[1] These facts do not necessarily indicate that Americans suffered greater losses on private foreign debts during the business depression of the nineteen thirties than they suffered on private domestic debts. Nevertheless, the losses on foreign securities were sufficient in magnitude to emphasize the difficulties of collecting service charges on a huge volume of foreign investments. The suspension of interest and sinking-fund payments on defaulted foreign dollar bonds is believed to have been due more to inability of debtors to transfer their funds into United States currency than to inability of the foreign debtors to provide funds for debt services in their own currencies. This fact has focused attention on the *transfer problem* and has created a favorable attitude on the part of many American holders of foreign dollar bonds and other foreign securities for increased imports of foreign merchandise into the United States. Has the time arrived when United States tariff policy is likely to follow the course of British tariff policy in the nineteenth century? Should United States trade restrictions be relaxed in order to facilitate collection of service charges on foreign investments? Comparison of economic circumstances in the United States at present with those in Great Britain at the time when her policy shifted from protection to free trade may assist us in finding answers to these questions.

[1] The principal of the war debts outstanding November 15, 1930, was estimated by Dickens (*A New Estimate of American Investments Abroad*, previously cited) to have been $11,640,000,000 figured on a 4 per cent compound discount basis. See also Chap. XXVIII of this volume.

ECONOMIC CIRCUMSTANCES OF THE UNITED STATES COMPARED WITH THOSE OF NINETEENTH CENTURY ENGLAND

In some respects economic circumstances in the United States are similar to those in Great Britain at the middle of the last century, when she lowered her trade restrictive barriers to facilitate external economic expansion. In other respects the position of the United States in world economy, at present, is fundamentally different from that of nineteenth century England.

Similarities between American and British Positions.—The end of the Napoleonic Wars found Great Britain more prosperous and more nearly ready for industrialization in the modern sense than many other nations. When she turned her attention from war to industrial expansion the United Kingdom was a unified nation with an abundance of accessible and workable coal and iron ore, an ingenious population, a thriving overseas trade and an accumulation of capital. Foreign loans and exports of manufactured goods paralleled the growth of domestic manufacturing industries. In time, political pressure, exerted by financial and manufacturing interests, forced a lowering of Great Britain's long-established system of trade restrictive barriers. By the middle of the nineteenth century, Great Britain's national economic policy in international relations had been placed upon a free-trade basis. At the time when the country's policy shifted from protection to free trade, her international economic position was that of a creditor nation. Similarly the United States is a creditor nation, today. At the time when Great Britain's policy shifted from protection to free trade, her exports of manufactures and her imports of raw materials were increasing. Similarly exports of manufactures and imports of raw materials are tending to increase in the United States at present. At the middle of the nineteenth century Great Britain was the strongest military and naval power in the world; the United States probably occupies that position at present. At the middle of the nineteenth century Great Britain was in position to loan capital to less industrialized regions of the world and she was faced with a problem of collecting service charges on capital sent abroad at an earlier date. In these respects Great Britain's position about the middle of the nineteenth century and that of the United States in the nineteen thirties are similar. In certain other respects the policy prob-

lem of the United States is different from that of Great Britain three-quarters of a century to a century ago.

Dissimilarities between American and British Positions.—At the time when Great Britain's long-standing trade restrictions were removed (1840–1860) her agriculture, particularly grain production, was on a high-cost basis in the international sense, whereas most of her manufacturing industries were on a low-cost basis. After the removal of the tariffs, British agriculture withered and shrank. In the course of time hundreds of thousands of acres went from grain to grass. Farms fell into disrepair and disuse; tenantless cottages were left to crumble and decay. At the beginning of the nineteenth century about 80 per cent of the population of Great Britain was employed in agricultural pursuits; at the end, only about 20 per cent. In contrast with the fortunes of British agriculture, British manufacturing prospered under the free-trade system. Cotton factories, woolen and worsted factories, iron and steel works, and lesser manufacturing industries poured an ever-increasing output of fabricated goods into the domestic market and into foreign markets. Free trade, and developments in Western agriculture that followed a few years later, undermined the prosperity of one class in Great Britain, the landlord class. Free trade benefited nearly all lines of British manufacturing. Agricultural workers flocked to the cities to find a livelihood in the factory towns. The workers' lot in the factory was hard, cruel, almost inhuman in some cases, but on the whole better than it had been prior to removal of the corn laws. Great Britain's tariffs were removed at a time when English factory economy was in process of being built around the economies of power machinery. In contrast with these circumstances, American industry today consists of great manufacturing establishments—some of which are on an export basis and some of which have been constructed under the shelter of tariff walls—and an agricultural system, partly on an export basis and partly dependent upon tariff subsidies. In short, tariff reduction in the United States would partially destroy sections of the nation's manufacturing industry as well as parts of its agriculture. The problem of adjusting twentieth century American industry to a free trade basis may be more difficult than was that of adjusting nineteenth century British industry to a free trade basis. The adjustment in England came at an early stage in the development

of her power-machinery manufacturing systems. Industrial structures were less rigid then than they are now. Furthermore, industrial growth rates were greater then than now. The labor displaced in weak industries is more easily absorbed during periods of rapid industrial expansion than during periods when growth trends are less pronounced. At the middle of the last century, Germany, France and the United States were expanding internally. Industrialization had hardly begun in Canada, Australia, South American countries, Africa and Asia. Today Germany,[1] France and Japan, as well as the United States, appear to be pointed toward external expansion. Much of the earth's surface remains to be industrialized but there is no reason to expect the spread of industrialism from the United States as a point of origin to proceed at as rapid a *rate* as did industrial expansion from Great Britain as a point of origin during the last half of the nineteenth century. The half century or more during which British manufacturing, mining, trading and transportation readily absorbed a large part of British agriculture was a period of unparalleled industrial expansion throughout the world. The possibilities of a rate of industrial expansion being realized in the United States during decades immediately ahead, equal to that experienced in Great Britain after 1850, are remote.

TARIFF CHANGES AND ECONOMIC INSTABILITY

The dislocating effects of tariff reductions upon a country's domestic industries are not subject to accurate forecast. Some dislocation obviously would occur if United States policy should shift from protection to freer trade. As already stated, removal of trade restrictions in the United States would result in increased imports of such goods as wool, dairy and poultry products, processed beef, flaxseed and a variety of light manufactures. How rapidly and to what extent sustained increase in exports of wheat, pork products, tobacco, cotton and mass-production manufactures might absorb displaced labor and capital in import industries no one can tell. Exports of agricultural goods might be expected to increase less rapidly than exports of mass-production manufactures. United States wheat growers have experi-

[1] Germany's self-sufficiency policy under Hitler is in last analysis an expansionist policy. The ultimate goal appears to be territorial acquisition by military force as distinct from pacific trade expansion.

enced difficulty in recent years in meeting the competition of wheat produced in Canada, Australia, Argentina and Russia. Argentine pork is challenging the position of United States pork in European markets. United States cotton is in competition with increasing offerings of Indian, Chinese, Brazilian and Russian[1] cottons. United States tobacco growers are faced with keen competition on the part of tobacco growers in Cuba, southeastern Europe, the U.S.S.R. and India. In short, the era of United States dominance in the world's markets for agricultural products appears to be gone. Reduction of living costs on American farms incident to removal of tariffs on manufactures of a kind that the American farmer buys might tend for a time to raise his living standard to a level more nearly equivalent to that of workers employed in mass-production industries. However, a lowering of prices of manufactures that American farmers purchase will not stem the tide of transportation improvements that are bringing new and fertile agricultural areas of the world within easy reach of European markets.

United States industries that now enjoy greatest comparative advantages in the international sense are the mass-production manufacturing and refining industries. These are subject to large-scale management and semimonopolistic price rigidities. Whether the highly organized mass-production industries could be expected to expand rapidly enough to absorb labor and capital replaced by agricultural and light manufactures imports, if tariffs were removed, is an open question. For this reason many careful students of American economic conditions are fearful that internal economic adjustments necessary to a free-trade policy in the United States cannot be made without modification of the existing economic and political system. Unemployment incident to present-day economic changes of a first order of magnitude tends to undermine domestic buying power and seriously to disrupt export industries as well as industries entirely dependent upon the domestic market. This conclusion is particularly applicable to the United States because the comparative advantages of the country's low-cost mass-production industries are primarily dependent upon a large backlog of domestic sales.

[1] Russia's cotton industry is not on an export basis but it has been supplying an increasing proportion of the U.S.S.R.'s domestic requirements during recent years.

Political changes necessary to a maintenance of domestic sales and to prevention of economic paralysis during severe transition periods may be under way in the United States at the present time. If so, a freer trade policy in the United States may someday be politically possible.

POSSIBLE GAINS FROM FREER TRADE

A low-tariff policy in the United States would facilitate transfer to this country of debt payments from foreign countries. A freer trade policy on the part of the United States would remove some of the causes of economic strain abroad by providing dissatisfied powers with additional markets for their goods and additional exchange with which to purchase raw materials. More trade, higher living standards for all and less international friction—after the transition period had passed—are among the ultimate gains visualized by advocates of freer trade for the United States. A low-tariff policy in this country would foster sale abroad of American goods that embody an abundance of natural resources and machine efficiency and the purchase abroad of goods produced with low-wage foreign labor. If all the workers of the United States could be employed in this country's high-wage industries—industries that represent the highest degrees of production efficiency—the result would be an increase in real wages and living standards. A freer trade policy in the United States would cause shifts of labor from the less efficient, low-wage industries to the more efficient, high-wage industries, provided problems of structural change and economic instability could be solved.

More Favorable Terms of Trade.—Among the objective indices of a country's gains from trade are changes in relative prices of export and import goods. Indices of prices of export and import goods and an index of the net barter terms of trade[1] for the United States during recent decades are shown in Fig. 35. United States terms of trade have been improving since 1890. Prices of goods imported have declined in relation to prices of goods exported. During this period the trend has been toward more exports of manufactures and more imports of crude materials. In 1890, about 50 per cent of the exports (in terms of value) were manufactures. In 1930 about 75 per cent of the

[1] See Chap. XXIV for a discussion of the concept "terms of trade."

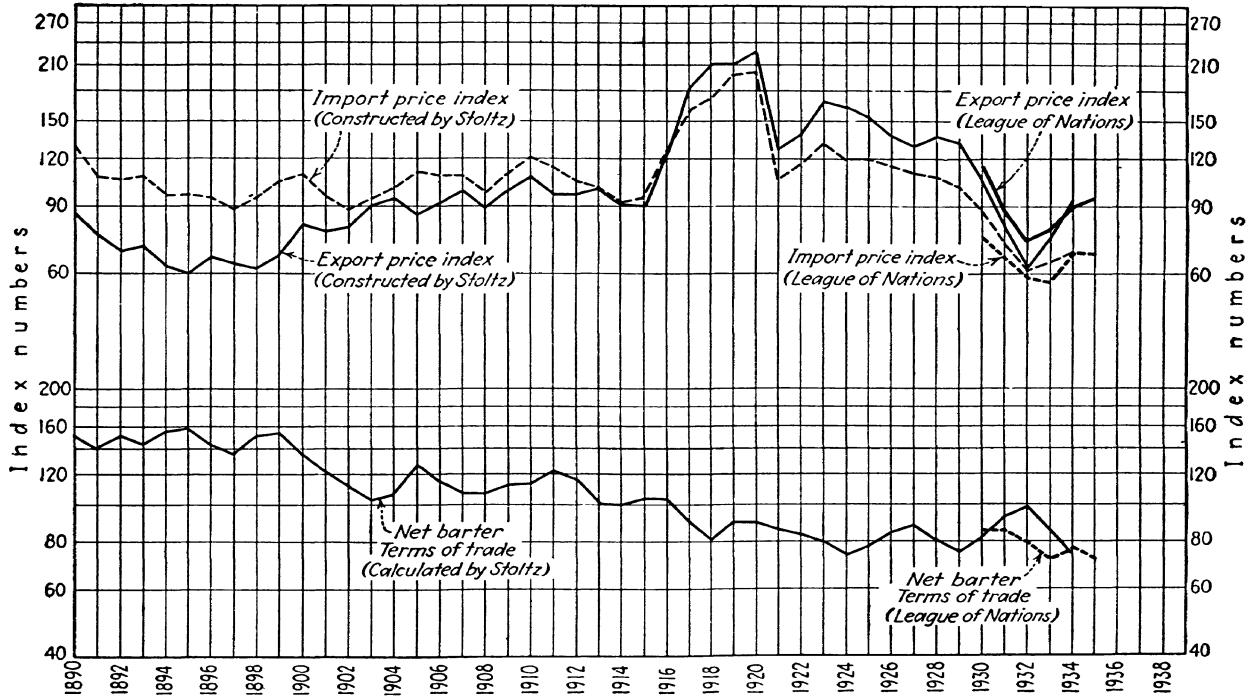


FIG. 35.—IMPORT PRICES, EXPORT PRICES AND NET BARTER TERMS OF TRADE, UNITED STATES, 1890 TO 1935. 1913 = 100

The indices here used, other than League of Nations figures, were compiled by Mr. M. P. Stoltz, sometime assistant in the Economics Department of Brown University, and the author. For method and sources see M. P. Stoltz, *Some Aspects of the Theory of International Trade Reconsidered*, master's thesis, 1936, unpublished.

exports were manufactures. In 1890 only 22 per cent of the imports were crude materials, whereas in 1930 about 33 per cent of the imports were crude materials. Freer trade might not contribute materially to this country's terms of raw-materials purchase because many of her raw-materials imports are already on a no-tariff basis. However, freer trade might contribute to reduction in prices of light manufactures and protected agricultural goods without causing a corresponding reduction in prices of mass-production exports. In short, after the internal adjustment difficulties incident to a lowering of trade restrictive barriers had been solved, consumers' goods might cost less in the domestic market and a larger proportion of the country's labor might find employment in high-wage, mass-production export industries. Gains would tend to come both from improvement in existing terms of trade and from application of favorable exchange ratios to a larger volume of trade.

When stated simply, the economic logic of the case for freer trade as a means of improving the living standards of consumers in the United States is convincing, if one is willing to accept two assumptions. One assumption is that the transition to a freer trade policy can be made without too long and too costly a period of internal economic and political confusion. A second assumption is that recurrent periods of business depression will be no more frequent and no more severe under freer trade than they would be under a system of protection. To what extent may these two assumptions be accepted as being correct? A definite answer to this question is among the imponderables which economics has not as yet succeeded in answering in a manner satisfactory to all concerned. In general, we may be reasonably sure that so long as the United States is not completely self-sufficient economically, the country's domestic economy will be sensitive to economic instability abroad.[1] For this reason assumption two, concerning recurrent periods of business depression, is a consideration pertaining more to theories of extreme isolation versus free trade than to questions of a little more or a little less protection for a market that is already subject to the influence of economic conditions abroad. The truth or falsity of assumption one, concerning the transition period, can best be answered by gradually lowering trade barriers

[1] See Chap. XXIII.

and observing the results. Experimentation of this nature may be costly. However, the possibilities of gain are also great.

RECIPROCAL TRADE AGREEMENTS—A MOVE IN THE DIRECTION OF FREER TRADE

The United States Congress might proceed to reduce trade restrictions in the United States in any one of a number of ways. Certain economists have suggested legislation providing for a general lowering of existing customs tariffs, 10 per cent per year for a period of ten years, or 5 per cent each year for a period of twenty years. At the end of the period the country would, presumably, be on a free-trade basis. In all probability, legislation of this character would prove to be politically impractical. Four or five million farmers, and two or three million persons engaged in textile trades, not to mention persons engaged in other protected industries, would be directly affected in an adverse manner by a general lowering of customs duties. These persons plus uncounted wives, who also vote, aggregate as many, possibly, as 10 or 15 million voters. No political party or combination of parties in a democratic country with protectionist traditions is likely to persist year after year for so long a period as 10 or 20 years in a policy that is opposed to the immediate interests of so many millions of voters. Especially is this conclusion true if the advantage to other voters is not obvious and unquestioned. In the case of customs tariff reductions, the gains are seldom so unmixed as to be obvious to all persons who may be among the beneficiaries.

A more likely method of tariff reduction in the United States makes use of political advantages to be gained through a process of selection. The Promotion of Foreign Trade Act of 1934,[1] commonly referred to as the Reciprocal Trade Agreements Act, is an example of legislation providing for selective tariff reductions. This act authorized the President of the United States to enter into trade agreements with foreign governments and to proclaim such modifications of existing duties (within specified limits) as might be required to promote the foreign trade of the United States. Between June, 1934, and February 19, 1937,

[1] Passed as an amendment to the Tariff Act of 1930. An Act to Amend the Tariff of 1930—73d Congress, June, 1934. The act expired in 1937 and was renewed for another three years. It provided for reduction or increase

the United States Government concluded agreements with 16 countries.[1] The selective character of tariff changes effected by these agreements can best be illustrated with examples. In the agreement with Cuba, the following items were among those upon which United States tariffs were reduced: sugar, mahogany, glycerin, tobacco (wrapper and filler), honey, pineapples and certain vegetables at off seasons for United States growers. The amounts of reduction in duties ranged from 20 per cent to 50 per cent. The number of workers, employers and investors adversely affected by the downward tariff revisions in this agreement was small in relation to the total number of voters in the United States. Furthermore, the reciprocal reduction of Cuban tariffs on United States cement, electrical goods, roofings, steel goods, cottonseed, machinery, automobiles, radios and various other things fostered a certain amount of political good will in export industries. Similarly political disadvantage was more or less offset by political advantage in all the other agreements. In the agreement with Switzerland, for example, United States tariffs were reduced on watches, music boxes, laboratory instruments, metal alloys, perfumes and various other Swiss goods. Political objections emanating from the jewelry industry and other United States industries that were adversely affected were offset in greater or less amounts by advantage secured for export industries. Advantages were gained for manufacturers of automobiles, tires, cash registers, adding machines, electrical goods and various other American goods that were permitted to enter Switzerland at lower rates of duty than had prevailed before the agreement was negotiated.

Each of the reciprocal trade agreements negotiated under the act in question contained an unconditional most favored nation clause. Inasmuch as the United States had most favored

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of tariff rates by amounts not to exceed 50 per cent of the duties payable at the time the act was passed.

[1] The countries with which the United States negotiated reciprocal trade agreements between June, 1934, and the end of 1936 were as follows: Cuba, Brazil, Belgium, Haiti, Sweden, Colombia, Canada, Honduras, the Netherlands (including Dutch East Indies, Dutch Guiana, and Dutch West Indian Islands), Switzerland, Nicaragua, Guatemala, France (including its colonies, dependencies and protectorates other than Morocco), Finland, Costa Rica and El Salvador.

SOURCE: *Trade Agreements Calendar*, Department of State release, May 10, 1937.

nation treaties with the leading commercial countries, every reduction of a tariff rate on a particular import good amounted, for all practical purposes, to a general tariff reduction on that particular good. This feature of an agreement did not neutralize all advantage to the reciprocating nation because, in most cases, the reciprocating nation was the principal exporter to the United States of all goods involved in its particular agreement. If reciprocal treaties should be made in such numbers as to cover all American imports and if rate reductions were equal for all kinds of import goods, the net result would be similar to a general, flat tariff reduction. However, all classes of imports are not covered by reciprocal trade agreements, and rate reductions on the goods which are affected are not uniform. Furthermore, the reciprocal feature of the trade agreements makes them more acceptable to many voters than some other means of tariff razing might prove to be.

CONCLUSIONS

As already stated, a nation's political policy in international diplomacy and its political policy in international economic relations are functionally related. Inasmuch as the economist does not know what direction American diplomatic policy may take in the future, he is not in position to know precisely the kind of policy course in international economic relations which he would consider economically sound. Nevertheless, he is in position to draw a few conclusions which, in the light of available information, appear to be economically sound.

In the first place, the available evidence points overwhelmingly to the conclusion that a policy of economic isolation is not in accord with tides of economic development. The United States is moving in the direction of more participation in world economy, not less.

In the second place, the evidence is conclusive that certain definite advantages are to be derived from a lower tariff policy in the United States, provided the downward revision of the tariff system can be made in such a manner as to minimize its disruptive effects upon the domestic economy. Lower tariffs will permit a freer flow of world trade, reduce economic strains in industrially specialized and densely populated countries and encourage employment of American labor and capital in this country's most efficient industries. However, inasmuch as

large sections of American industry have developed behind the shelter of tariff walls which have stood for a century or more, downward adjustments in the tariff system must necessarily be gradual. Furthermore, in view of the near equality of political strength on the part of groups who stand to lose by tariff reductions and those who stand to gain, reductions based upon a process of timely selection and reciprocal agreements where possible are more likely to succeed politically than tariff reductions applying equally to all rates and all industries.

In the third place, it is well for all political parties frankly to recognize the fact that temporary advantages to be gained from exchange depreciation are likely to be very costly, in the long run, in terms of consequent instability both in the domestic economy and in world economy. When a nation depreciates its currency it tends thereby to get, for a time, a larger share of world trade at the expense of other nations. At best, the advantage is only temporary. The depreciating nation's internal economy is subjected, sooner or later, to an aftermath of inflationary influences, not to mention the fact that other nations may retaliate in a manner which tends to reduce the aggregate volume of world trade and to subject all nations to unnecessary economic strain.

Finally, too much emphasis cannot be laid upon the importance of giving full recognition to all the many causes of world-wide economic maladjustment. Modification of the tariff policy of the United States and stabilization of international currencies cannot cure all economic ills of the world or of the United States. The evidence at hand suggests that economic maladjustments carried over from the World War period are mixed with the effects of a slowing up in the rate at which industrialism is spreading from highly industrialized to less industrialized nations. In consequence, readjustments in national economies all over the world will have to be made more or less regardless of the tariff and monetary policies of one or more nations. By working for international monetary stability and a relaxation of trade barriers, the United States may be able to facilitate in some degree the necessary reorganization of national economies abroad. An equally important contribution to world economic stability may be made by the United States if her citizens can recognize the domestic causes of internal economic instability, as well as the foreign causes, and cooperate in courageous and vigorous corrective action.

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INDEX

A

Acceptance, bill of, 289
Adams, William Ware, 478*n*.
Advantage, comparative, 83, 336, 338, 347, 583
(*See also* Comparative costs)
Agencies, foreign trading, 281
Agrarian state controversy, 364
Agreements, commercial, 386, 389, 436, 587
Ottawa, 434–436
Alexandria, 44
Alloy metals, 200, 567
Alsace-Lorraine, 304, 469
Aluminum, 190–193
Argentina, 115, 130, 142, 148, 164, 165, 188, 344, 394, 583
Aski transactions, 481, 483
Assembling, raw materials, 282
Associations, trade, 294–296
Auction sales, 285
Austria, 18, 97, 142, 148, 192, 209, 216, 226, 249, 256, 344, 395, 397
Australia, 352, 362, 412, 519, 559, 567, 583

B

Balance of payments (*see* Payments)
Balance of trade, 67, 302, 312
of France, 307, 463–464
of Germany, 309, 488
of Great Britain, 98, 305, 457
of Italy, 501
of Japan, 515
of United States, 304, 313, 543–546
of U.S.S.R., 531–532
Barley, 132
Bauxite, world production, 191, 192
Belgium, 115, 130, 142, 148, 152, 185, 186, 188, 195, 196, 209, 216, 226, 276, 293, 392, 412, 588*n*.
Beveridge, Albert J., 363*n*.
Bibliography, 591
Bill of lading, 289
Bills of exchange, 289–291, 316
Blocked exchange (*see* Foreign exchange restrictions)
Board of Trade, 297, 434
Bolivia, 567
Bonds, yields on, 256, 344
Boundary changes, political, 393, 397, 398
Bourses, establishment of, 55
Bowley, A. L., 383*n*.
Boycotts, trade, 383, 484
Brazil, 97, 115, 130, 135, 142, 152, 208, 226, 232, 234, 249, 256, 267, 344, 567, 583, 588*n*.
Brentano, Lujo, 366
British Guiana, 191
British-Japanese competition, 212, 430
Bureau of Foreign and Domestic Commerce, 298

C

Cables, ocean, 250, 251
Cabot, John, 51
Cairnes, John Eliot, 91
Camphor, 236
Canada, 18, 115, 130, 134, 142, 148, 188, 192, 193, 195, 196, 201, 204, 226, 249, 344, 362, 394, 558, 567, 583, 588*n*.
Capital exports (*see* Investments, foreign)

Carbohydrate foodstuffs, 153
Cassel, Gustav, 328*n*.
Chemical industries, 237
Chicle, 236
Child, Sir Josiah, 62
Chile, 97, 148, 196, 352
China, 32, 115, 134, 188, 208, 212, 216, 221, 242, 249, 256, 267, 323, 344, 384, 519, 562, 567, 583
Coal, 57, 156–178
  output per worker, 174
  reserves of, 170
Coffee, 14, 152
Coke, prices of, 169
  production of, 169
Collection, of foreign bills, 291
Colombia, 97, 152, 164, 165, 588*n*.
Colonies, American, 51
  British, 93
  as markets, 508
  as sources of raw materials, 507
Colonization, 51, 57
Communications, control of, 251, 252
  foreign, 292
  network of, 299
  and political control, 251
Companies, joint-stock, 55, 94, 95
  trading, 52, 53
Comparative costs, 245, 334, 336 (*See also* Advantage, comparative)
  Mill on, 86–91
  principle of, 85
  Ricardo on, 86
  in United States, 547–557
Compass, navigator's, 50
Copper, 13, 193–198
  foreign trade in, 196
  refining centers, 197
  world production, 193
Corn laws, 93, 364
Corporate interests, international, 8
Cortes, in Mexico, 51
Cost, adjustments, 338
  combinations, 339, 340, 346
  comparative (*see* Comparative costs)
Cost, competitive, 338
  marginal, 342, 346
  of production, 340
Costa Rica, 588*n*.
Cotton, 14, 66, 206–215, 218, 225, 227–228
Cotton fabrics, exports of, 212
Courts, commerce, 293
Credits, foreign, 291, 313
Crusades, effect on trade, 46
Cuba, 134, 135, 142, 148, 267, 352, 388, 559, 583, 588
Culbertson, William Smith, 10
Currency, inflation, 9, 409–413, 512
  stabilization, 590
Customs tariffs (*see* Tariffs)
Customs unions, 389
Cycle of investments (*see* Investment cycle)
Czechoslovakia, 115, 134, 135, 142, 226, 399

D

Dairy products, 145–149
Davenport, H. J., 338*n*.
Dawes Plan, 405, 473
Debt conversion office, German, 480
Debts, German, 489–490
  inter-Allied, 401
  internal, 407
Definitions, acceptance, 289
  ad valorem duty, 20
  bill of exchange, 289, 316
  cereal, 126
  customs tariff, 20
  dumping, 26, 372
  economic law, 279
  free-trade policy, 359
  internationalism, 537, 573
  international trade, 3
  mercantilism, 58
  national economy, 58
  nationalism, 537
  protective policy, 359
  rationalization, 473
  specific duty, 20
Deflation, 4, 330, 410, 414

DeHaas, J. Anton, 10
Demand, elasticity of, 350
Denmark, 18, 97, 115, 142, 148
Department of Overseas Trade, 296
Devaluation, of dollar, 419
Diminishing returns, principle of, 116, 117, 527–528
Discoveries, the Great, 50
Disputes, commercial, 292
Distribution, of production factors, 338
Division of gains from trade, 333
Division of labor, personal, 71
  reasons for, 265, 277, 279
  territorial, 111
Dominican Republic, 134, 135
Double tariff system, 388
Dumping, definition of, 371
Dutch East Indies, 134, 148, 152, 164, 165, 188, 519
Dutch Guiana, 191, 588*n*.
Duties, maximum, 388
  minimum, 388
    (*See also* Tariffs)

E

Economists, on protection, 440–446
Efficiency, of labor, 347
Egypt, 28, 148, 164, 208, 519, 563
El Salvador, 152, 588*n*.
Elasticity, of demand, 350
Energy, nonhuman, 155, 162
  resources, 162
  sources of supply of, 155
  stored-up, 156
England (*see* Great Britain)
Equal treatment, 388
Europe, map of, 398
  size of, 400
  wealth of, 400
Exchange, ratios of, 337*n*.
  value, 348
    (*See also* Foreign exchange; Par of exchange)
Exchanges, organized, 285
Export, industries of United States, 548–551
Export duty, example of, 20
Export prices, 353, 354
Export quotas, 383
    (*See also* Quotas, merchandise)
Exporting, direct, 286
  indirect, 287

F

Factors of production, mobility of, 343
Ferraris, Felix, 288*n*.
Fertilizers, 238, 240
Financing, foreign trade, 288, 313
Finland, 588*n*.
Fish, 144
Food, habits, 125
  requirements, 124
  types of, 125
Foreign agents, 287
Foreign exchange, cables, 290
  clearing transactions, 481–483
  demand, 290
  depreciation, 417, 590
  equalization fund, 438
  mint par of, 21, 290, 316
  rates of, 317, 319, 418
  restrictions, 380, 381*n*., 478, 481, 505, 532
Foreign investments, British, 96, 99, 258–260, 262, 263, 306, 310, 461
  expansion of, 254, 422
  French, 308
  German, 310
  Japanese, 517
  motives for, 255
  opportunities for, 101
  postwar tendencies of, 263
  prewar status of, 256
  and tariffs, 373
  types of, 257–260
  of United States, 261, 543, 578–580
  yields on, 344
Foreign trade, of China, 33
  in coal, 169
  in copper, 195, 196
  in dairy products, 148

Foreign trade, of France, 270, 446, 466
gains from, 333–354
of Germany, 272, 486–488
of Great Britain, 76, 270, 276, 277, 454, 455, 460
in iron manufactures, 185, 186
in iron ore, 185
of Italy, 272, 501–503
of Japan, 273, 517–519
in meat, 142
in Middle Ages, 41–44
per capita, 266–269
procedures, 28, 286–288
shifts in, 395
in silk, 224
in sugar, 134
of United States, 196, 548–559
of U.S.S.R., 273, 530–533
of various countries, 212, 270–277, 395
in wheat, 130
in wool, 216
(*See also* World trade)
Foreign trading, agencies, 281
monopoly, 281*n*.
Forest products, minor, 236
Forwarder of freight, 291
Fox, Hugh Crosby, 478*n*.
France, 78, 115, 130, 134, 135, 142, 148, 152, 174, 181, 185, 186, 191, 192, 195, 196, 209, 212, 216, 221, 224, 226, 246, 248, 256, 267, 271, 276, 293, 297, 307, 344, 360, 388, 392, 394, 395, 397, 407, 412, 463–470, 588*n*.
Franco-Prussian War, 390
Free market, advantages of, 6
economy, 337
Free trade, British, 82, 98, 100, 441–446
circumstances favoring, 27, 80
and imperialism, 34
and Italian policy, 503
Mill on, 86–91
and political union, 35
policy, 359, 527
Ricardo on, 85
Free trade, Say on, 81
Smith, Adam, on, 68
theory of, 69
Freight forwarder, 291
Fruits, 151

G

Gains, from trade, 333, 584
German Empire, formation of, 390
Germany, 18, 78, 108, 115, 130, 135, 142, 148, 152, 174, 181, 185, 186, 188, 192, 193, 195, 196, 209, 212, 216, 226, 246, 249, 256, 272, 276, 297, 309, 344, 362, 364–367, 380, 381, 390, 392, 394, 395, 397, 399, 402–407, 412, 422, 469, 471–493, 519, 562
Gold, 200–204
new discoveries of, 55
price-specie-flow theory of movements of, 89
production of, 201, 202
shipment points, 315–319
Great Britain, 5, 18, 76, 78, 92–101, 103, 115, 130, 134, 142, 148, 174, 181, 185, 186, 192, 195, 196, 209–212, 216, 226, 246, 249, 256, 259, 262, 267, 270, 276, 293, 305, 306, 319, 322, 344, 354, 359, 388, 392, 394, 395, 397, 407, 412, 418, 429–462, 580–582
Greece, 30, 31, 97, 148, 226
Guam, 564
Guatemala, 152, 588*n*.

H

Haberler, Gottfried von, 337*n*.
Haiti, 588*n*.
Hamilton, Alexander, 102–105, 368, 563
Hanseatic League, formation of, 46, 55
Harvey, A. S., 431
Hawaii, 135, 564

Hawley-Smoot Tariff Act, 554
Hay, John, 8
Heavy industry, centers of, 397
Hedging, exchange, 289
Henequen, 236
Henry, the Navigator, 50
Hobson, C. K., 256
Honduras, 588*n.*
Hoover moratorium, 474
Hungary, 130, 191, 226, 344

I

Imperalism, 7, 255, 510
  British, 99, 574
  early, 34
  and free trade, 34
  Japanese, 524–527
Import, industries, of United States, 551–557
  prices, 353, 354
    (*See also* Quotas, merchandise; Tariffs)
Importing, direct, 287
  indirect, 287
India, 115, 130, 134, 135, 164, 165, 188, 208, 212, 221, 344, 519, 567, 583
Industrial activity, of U.S.S.R., 529–530
Industrial advantages, of Great Britain, 83
  of United States, 547, 553
Industrial stability, argument, 569, 570
  and tariffs, 372
Industrialization, of China, 525
  of Japan, 510–512
  and nationalism, 109
  of U.S.S.R., 527, 534
Industry, ancient, 178
  British, 95, 100, 448
  heavy, centers of, 183
  iron and steel, 180
  of Japan, 510
  modern, 178
  size of, 330
  of United States, 547–557
Infant-industry argument, 368
Inflation (*see* Currency, inflation; Monetary disturbances)
Interdependence, of nations, 13, 22, 24, 240, 567, 568, 586
  of prices, 329
Interest, rates of, 256, 344
International payments (*see* Payments)
International trade (*see* Foreign trade; World trade)
Internationalism, American, 575
  definition of, 537
  parliamentary, 575
  policy course for United States, 571
Investment cycle, 96–99, 303, 313, 472*n.*, 516
    (*See also* Foreign investments)
Investments, foreign (*see* Foreign investments)
Iraq, 165
Irish Free State, 18, 148
Iron, 180–190
  ore, trade in, 185
    reserves of, 184
  pig, prices of, 189
    production, 76, 78, 95, 181, 182, 394, 470
Italy, 18, 115, 130, 135, 142, 148, 152, 188, 191, 192, 195, 196, 209, 212, 216, 221, 224, 226, 246, 249, 272, 361, 395, 397, 412, 494–509

J

Japan, 115, 130, 134, 142, 164, 188, 193, 195, 210–212, 216, 226, 242, 256, 273, 344, 352, 362, 384, 395, 412, 510–526, 563, 567
Japanese-British competition, 212, 430
Java, 135
Jenks, L. H., 99
Jute, 228

K

Keynes, J. M., 403
Kreps, Theodore J., 324, 326

L

Labor, efficiency of, 347
  mobility of, 16, 345
Land utilization, Italy, 495, 496
Lausanne Conference, 406
Lead, 198
Least-cost combination, 339, 340, 346
Letter of credit, 38, 289
Levant, 221
Liner service, 244
List, Friedrich, 102, 103, 107, 368
Logrolling, 379
Lorwin, Lewis L., 531*n*., 534*n*.

M

Machinery, international trade in, 186
  power, 75, 77, 157, 162
Malthus, Thomas Robert, 117
Manufacturing-state controversy, 364
Map, of England, 173
  of Europe, 398
  of world, 177
Marginal cost, 337*n*., 342, 346, 350
Market, standardized, 19
May, Edwin G., 478*n*.
Meat, 138–144
Meat-packing industry, 140
Mechanical power, 75, 77, 157, 162
Mercantile period, 58–67
Merchant class, rise of, in England, 56
Merchant, export, 287
  import, 287
Merchant marine, of Italy, 500
  of Japan, 511
  of leading countries, 246
  policy, 246
  of world, 246, 396
Mexico, 115, 164, 165, 193, 196, 204, 208, 559
Mileage, railway, 249
Milk, 146–148
Mill, John Stuart, on comparative costs, 86–91
  on diminishing returns, 116
  on gains from trade, 333
  on infant-industry tariffs, 368
  on international demand, 89
  on price-specie-flow theory, 89
Miller, Douglas, 478*n*.
Mills, F. C., 545*n*.
Ministry of Commerce and Industry, 297
Mitchell, Wesley C., 570
Mobility, of labor, 16, 345
  of production factors, 343
Monetary disturbances, 409–420, 423, 438
  (*See also* Money)
Money, 37, 55, 329, 331
  instability of, 327, 329, 331, 389, 412, 438
Money economy, extension of, 54–56
Monopoly, 349
  of foreign trade, 282, 532, 536
Most favored nation clause, 387
Multiple-tariff system, 388
Mun, Thomas, 62

N

National defense, argument, 566
  and tariffs, 374
National economy, development of, 46–59, 84
  institutions of, 59
Nationalism, 103–111
  meaning of, 111, 537
  (*See also* Self-sufficiency)
Navigation laws, 93
Netherlands, 18, 115, 130, 142, 148, 152, 188, 209, 226, 267, 293, 588*n*.
Neutrality, 567

New Zealand, 115, 142, 148, 216, 245, 344
Newfoundland, 185, 267
Nicaragua, 588*n.*
Nickel, 199
Norway, 115, 192, 246

O

Occupations data, of Germany, 472
of Great Britain, 95, 497
of Italy, 494, 497
of Netherlands, 497
of United States, 559–562
Open-door policy, 8, 387
Organized exchanges, 285
Ottawa Agreements, 434–436
Ownership, transfer of, 284–285

P

Panama Canal Zone, 564
Par of exchange, 21, 290, 316
(*See also* Foreign exchange)
Parish, Sir George, 258
Parity, purchasing power, 328
Parity clause, 387
Payments, balance of, 300–310
of France, 307, 463
of Germany, 309, 488–489
of Great Britain, 96, 305, 456
of Italy, 498–501
of Japan, 514–517
of United States, 301, 304, 314, 542–546, 576–579
Persia, 115, 164
Peru, 97, 135, 164, 165, 193, 196, 204, 208, 267, 412, 567
Petroleum, 162–167
consumption of, 156
geological formations for, 163
prices of, 166
production of, world, 164
Philippine Islands, 134, 135, 148, 564
Phoenicia, 27–29, 37
Pig iron (*see* Iron)
Pizarro, 51
Planning, national, 570
Poland, 18, 115, 134, 135, 164, 226
Policy, national, 101, 103, 427–490
Population, 4, 115–123
danger zones, 120
density, 15, 468*n.*
emigrations of, 118
of Germany, 472
of India, 120
industrial, of United States, 494
of Italy, 494
of Japan, 510, 511, 514*n.*
pressure, 117
restriction policy, 119
status of nations, 121, 425
Ports, leading, 243
Portugal, 97, 193, 393
Potatoes, 133–135
Poultry products, 149
Power machinery, employment of, 75–80
significance of, 110
Power resources, 155–179
Price-specie-flow theory, 313–327
Price trends, in China, 322
in Great Britain, 322
postwar, 330
in various countries, 410–413
Prices, of aluminum, 192
of coal, 167, 169
of coke, 169
of copper, 191, 194
of cotton, 214, 228
effects of trade restrictions on, 335–359
export-import, 326, 353
and gold, 320–331
inflation of, 409–413
interdependence of, 329
of international commodities, 329*n.*, 342
of lumber, 231
and marginal cost, 350
of meat, 143
of petroleum, 166
of pig iron, 189, 190

Prices, of rayon, 228
of rubber, 234, 235
of silk, 222, 223, 228
of sugar, 137, 352
of sulphur, 239, 351
of wheat, 128, 341
of wool, 217, 228
Principle, of comparative costs, 334, 347
of diminishing returns, 116, 117, 527–528
of proportionality, 338, 340, 346
Private sale, 285
Production, costs, 340, 346, 370
factors, distribution of, 338
shifts, 393
Promotion, of trade, 294–299
Protection, arguments for, 102–107
and economic stability, 443
for Empire self-sufficiency, 446, 459
in Germany, 476
in Great Britain, 429, 431–433, 457
and social stability, 447
Protectionism, 102–111
Protective policy, defined, 359
(*See also* Tariffs)
Protein, principal foodstuffs, 153
Puerto Rico, 135, 564
Purchasing-power parity, 328

Q

Quotas, foreign exchange, 482
merchandise, 383, 437, 464, 465, 477, 505, 532

R

Railway, mileage, 249
Rationalization, definition of, 473
Ratios, of international exchange, 337*n*.
Rattan, 236
Rayon, 225–227
characteristics of, 227
prices of, 228
Rayon, production of, 225–227
Reciprocal trade agreements, 585
Reciprocity clause, 387
Regional specialization, reasons for, 13, 111
Reparations, German, 402–407
Rhodes, Cecil, 255
Ricardo, David, on comparative costs, 86
on free trade, 85, 90
on gains from trade, 333
Rice, 131–132
Roads, Roman, 40
medieval, 41
Rome, capitalism of, 38
commerce of, 35, 36
conquest of, 35
investments of, 38, 39
roads of, 40
Rubber, 232–236
Rumania, 130, 164, 165, 399
Russia (*see* U.S.S.R.)
Rye, 132

S

Saar, population of, 468*n*.
Sanctions, League of Nations, 506
Sarawak, 164
Say, J. B., 80–82
Scrip, German, 481
Seasonal trade, 312
Self-sufficiency, arguments for, 565–571
of British Empire, 446–459
of Egypt, 27, 28
of Germany, 365, 492, 582*n*.
of Japan, 563
national, 24, 41, 110, 492, 589, 593
of United States, 571
Shann, Edward, 363*n*.
Shipping, British, 98
companies, 244
costs, trend of, 247
lines, 242
ocean, 242
papers, 289
(*See also* Merchant marine)

Shoes, illustration of costs, 340, 346
Silk, 218–225, 228
Silver, 200–204
Smith, Adam, 25, 57, 68–72, 74, 333
Spain, 18, 97, 185, 193, 209, 221, 226
Specialization, and trade, 5, 12, 13–16
Stamp, Sir Josiah, 320
Standstill agreements, 479
State control, of external trade, 281*n.*
State Department, 299
Steel, 180–190
Steere, L. V., 478*n.*
Stephenson plan, of price control, 236
Stoltz, M. P., 333, 585
Structural change, 4, 5, 7, 377, 423, 448–455, 559
Submarginal, concerns, 338, 348
Submarines, danger of, to Great Britain, 429
Subsidies, merchandise, 437, 484
  merchant marine, 245–248
Sugar, 135–138
Sulphur, 237–240
Sweden, 18, 115, 148, 152, 185, 195, 226, 246, 588*n.*
Switzerland, 115, 148, 192, 226, 588

T

Taiwan, 135
Tariff, arguments, 71, 105, 364–374, 430, 440–446, 565–569, 589
Tariff system, Australian, 362
  Canadian, 362
  double, 388
  French, 360, 464–466
  German, 363, 364, 476
  of Great Britain, 359, 431, 434, 457
  of Italy, 361, 503–505
  of Japan, 520–521
  multiple, 388
  single, 388
  of United States, 539–542
  of U.S.S.R., 360, 532–536
Tariffs, bargaining, 370, 388, 445
Tariffs, and capital movements, 373
  and conflicts of interests, 372, 376
  and cost equalization, 370
  and economic stability, 9, 94, 371–378, 570, 582, 587, 588
  effects of, on prices, 335–359
  to equalize costs, 370
  and harmful goods, 374
  height of, 439, 541, 542*n.*
  making of, 378–380
  motives for, 374
  for revenue, 367, 446
  to stimulate manufacturing, 370
Taussig, F. W., 10, 98, 368, 555*n.*
Tax, on German industry, 485
Tea, 153
Technical methods, 57, 254
Terms of trade, of Australia, 219
  of Great Britain, 354, 456
  of Japan, 519–520
  of manufacturing countries, 269
  measurement of, 351, 353–354
  and specialization, 269
  and tariffs, 369
  of United States, 584, 585
Textile, industries, 205–229
Tin, 199
Tobacco, production of, 583
Trade (*see* Foreign trade)
Trade agreements (*see* Agreements)
Trade associations, 294–296
Trade balance (*see* Balance of trade)
Trade, gains from, 12, 333–354
  promotion of, 296
  routes in Middle Ages, 44
Trading cities, ancient, 43–44
Trading companies, early, 52, 53
Trading posts, 37
Transfer problem, 579
Transport, air, 248
  inland, 248, 249
  ocean, 19, 242
Treaties, commercial, 386–390 (*See also* Agreements)
Treaty, German-United States, 405*n.*
  of Versailles, 402, 475
Trinidad, 164, 165

U

Unemployment, political effects of, 416
in various countries, 414
Unification, political, 48, 102
Union of South Africa, 188, 201, 249, 267
United Kingdom (*see* Great Britain)
United States, 18, 78, 103, 115, 130, 134, 135, 142, 148, 152, 156, 164, 165, 174, 181, 186, 188, 191–193, 195, 196, 201, 204, 208, 210–212, 216, 224, 226, 246, 249, 261, 267, 272, 276, 298, 300–305, 314, 319, 322, 323, 344, 362, 394, 395, 405, 406, 407, 412, 418, 422, 519, 538–590
Uruguay, 142, 216
U.S.S.R., 115, 130, 135, 148, 164, 165, 181, 188, 192, 193, 195, 201, 208, 226, 249, 360, 394, 397, 527–536, 567, 583

V

Value, exchange, 348
Vegetables, 150
Venezuela, 152, 164, 165
Virgin Islands, 564

W

Wagner, Adolph, 465
Water power, 158–162
Wheat, 14, 126–131
international trade in, 130
prices of, 143, 341
shifts in production of, 393
Whitaker, Albert C., 10
Wickham, Sir Henry, 232
Williams, B. H., 386*n*.
Williams, John H., 544*n*.
Wood, 230–232
Wool, 215–219, 225, 228
World economy, Europe in, 425
Great Britain in, 580–582
United States in, 580–582
World trade, in coffee, 152
in cotton, 209
in dairy products, 148
distribution of, 395
in iron manufactures, 186, 188
in iron ore, 185
in meat, 142
status of, 424, 425
in sugar, 134
in rubber, 234
in wheat, 130
in wool, 216

Y

Young plan, 474
Yugoslavia, 18, 399

Z

Zinc, 199
Zollverein, German, 109, 399, 471