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MONEY AND BANKING

BY

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FIFTH EDITION: REWRITTEN, REARRANGED AND ENLARGED

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PREFACE TO THE FIFTH EDITION

THE present edition is a reprint of the fourth with the addition of a section to Ch. X on the Federal Reserve Act and its operation and of such changes in Ch. XV and a few other chapters as the introduction of the Federal Reserve system has rendered necessary. Some other changes have also been made but they are relatively unimportant.

WM. A. SCOTT.

UNIVERSITY OF WISCONSIN,
December, 1915.

PREFACE TO THE FOURTH EDITION

The present edition of Money and Banking has been prepared with two primary purposes in view: firstly, the presentation of a fuller treatment of the subject of banking, especially of the banking systems of the chief countries of the world, than was given in previous editions, and secondly the rearrangement and restatement of portions of the subject matter of previous editions. To these ends the entire book has been rewritten with the exception of Chapters I, II, III, XVI and XVII which, with slight modifications, are reprints of Chapters I, II, III, XIV and XV of the old editions. Chapters VI, X, XI, XII, XIII, XIV and XV are entirely new, and Chapters IV, V, VII, VIII, and IX embody the substance of Chapters IV, V, VI, VII, VIII, IX, XI, XII and XIII of former editions with modifications, rearrangements and considerable new material.

Additions have been made to the references so as to include recent books, but no attempt has been made to give complete bibliographies of the subjects treated. The references have been selected with the needs of American students primarily in view. As in previous editions those at the close of the chapters are sometimes abbreviated, full titles being given in the Appendix. When an author's name without title is given, reference is made to the first book listed under the name in the Appendix.

In the preparation of this edition the author has received valuable assistance from his colleague, Professor Richard T. Ely, and from his former students, Professors R. H. Hess and G. D. Hancock, now Professors respectively in the Universities of Minnesota, and Washington and Lee.

Wm. A. Scott.

University of Wisconsin.
July, 1910.

CONTENTS

CHAPTER I

THE NATURE AND FUNCTIONS OF MONEY

PAGE

1. THE STANDARD OF VALUE 2
2. THE MEDIUM OF EXCHANGE 6
3. CREDIT AS A MEDIUM OF EXCHANGE 11
4. THE RELATION BETWEEN THE STANDARD OF VALUE AND THE MEDIUM OF EXCHANGE 13

CHAPTER II

THE MEDIUM OF EXCHANGE: ITS CHARACTERISTICS AND COMPOSITION, AND THE RELATION BETWEEN ITS CONSTITUENT ELEMENTS

1. THE IMPORTANCE OF AN ACCURATE, CONVENIENT, AND SAFE CURRENCY 14
2. CHARACTERISTICS OF A GOOD CURRENCY 16
3. THE COMPOSITION OF MODERN CURRENCIES 18
4. GRESHAM'S LAW 24
5. STANDARD AND SUBSIDIARY COINS 28
6. THE CONCURRENT CIRCULATION OF METALLIC AND PAPER MONEY 30

CHAPTER III

THE STANDARD OF VALUE AND PRICES

1. THE UNIT OF VALUE AND PRICES DEFINED 32
2. THE RELATION BETWEEN THE STANDARD OF VALUE AND PRICES 33
3. PRIMARY AND SECONDARY STANDARDS 34
4. CHARACTERISTIC FEATURES OF STANDARDS OF VALUE 37
5. THE HISTORY OF STANDARDS AND UNITS OF VALUE 40
6. THE IMPORTANCE OF STABILITY OF VALUE IN THE STANDARD .. 43
7. DIFFICULTY OF SECURING A STABLE STANDARD OF VALUE ... 46
8. THE INTERPRETATION OF PRICES 46

Chapter IV

THE VALUE OF THE STANDARD

PAGE

1. Demand for the Primary Standard 50
2. Supply of the Standard Commodity 56
3. The Value of Secondary Standards 58
4. The Quantity Theory 61

Chapter V

THE ELEMENTS OF THE MEDIUM OF EXCHANGE

1. The Purpose and Importance of Coinage 66
2. Units of Value and Methods of Reckoning 69
3. The Size, Weight and Fineness of Coins 72
4. The Naming and Stamping of Coins 74
5. Seigniorage 75
6. Inconvertible Government Notes 79
7. Convertible Government Notes 81

Chapter VI

CREDIT

1. Meaning of the Term 92
2. The Advantages of Credit 93
3. Credit Instruments 95
4. The Foundations of Credit 99
5. Credit and Prices 102

Chapter VII

BANK CURRENCY

1. Origin and Development of Banking Institutions 105
2. Deposits 108
3. Loans and Discounts 108
4. Deposits as Currency 109
5. Bank Notes 110
6. The Advantages of Bank Currency 111

Chapter VIII

CLEARINGS AND THE EXCHANGES

PAGE
1. Local Exchanges ... 116
2. Out-of-Town Exchanges ... 117
3. Bankers' Balances ... 120
4. The Balance of Indebtedness between Communities ... 121
5. The Rate of Exchange ... 123
6. Foreign Exchanges ... 125

Chapter IX

THE REGULATION OF COMMERCIAL BANKING

1. Incorporation ... 131
2. Capital and Surplus ... 132
3. Double Liability of Stockholders ... 134
4. Regulation of Investments ... 134
5. Regulation of Reserves ... 138
6. Regulation of Note Issues ... 141
7. Public Inspection and Supervision ... 145
8. Importance of Honesty, Wisdom, and Discretion in Bank Officials ... 150

Chapter X

BANKING IN THE UNITED STATES

1. The Earliest Banks ... 153
2. The First United States Bank ... 155
3. State Banks in the Period 1791 to 1811 ... 157
4. The Period 1811 to 1816 ... 159
5. The Second United States Bank ... 160
6. The Establishment of the Independent Treasury System ... 162
7. The Growth and Reputation of State Banks ... 163
8. Origin and Development of the National Banking System 176
9. State Banking since the Civil War ... 183
10. The Federal Reserve Act of December 23, 1913 ... 187

Chapter XI

BANKING IN CANADA

1. Epochs in the History of Canada ... 219
2. Early Conditions ... 220
3. The First Banks ... 222
4. Restraining Influences on Banking Excesses ... 225
5. The Experiment with Free Banking ... 228
6. Steps Toward the Uniform Regulation of Banking ... 230

PAGE
7. The Issue of Provincial Notes 232
8. The British North American Act of 1867 in its Relation to Banking 233
9. The Bank Acts of 1870 and 1871 237
10. The Decade 1870 to 1880 and the Revision of 1880 239
11. The Decade 1880 to 1890 and the Revision of 1890 242
12. Recent History 246

Chapter XII

BANKING IN ENGLAND

1. The Early History of the Bank of England 248
2. Country Banking and the Act of 1826 249
3. The First Banks of Deposit 251
4. Discount Brokerage as a Special Branch of Banking 252
5. The Bank Act of 1844 253
6. The Joint Stock-Banks and Concentration 257
7. The Present Functions of the Various Groups of Banking Institutions Doing Business in England 258

Chapter XIII

BANKING IN FRANCE

1. Origin and Early History of the Bank of France 266
2. Banking in the Provinces 270
3. Effects of the Revolution of 1848 271
4. The Bank of France since 1848 273
5. Other Banking Institutions since 1848 277
6. The Present Position of the Bank of France 281

Chapter XIV

BANKING IN GERMANY

1. The Period Preceding 1848 285
2. The Period 1848 to 1870 287
3. The Period 1870 to the Present Day 289
4. Mortgage and Coöperative Banks 295
5. The Present Organization of the Banking Business in Germany 298

Chapter XV

THE MONEY MARKET

1. The Central Markets 301
2. The Central Reserves 302
3. Bank and Market Rates 304

PAGE
4. Bank Notes and the Money Market ... 309
5. Peculiarities of the New York Market ... 310
6. Some Peculiarities of the London Market ... 314
7. Some Peculiarities of the Paris Market ... 316
8. Some Peculiarities of the Berlin Market ... 319

Chapter XVI
THEORY OF BIMETALLISM

1. The Nature and Purpose of Bimetallism ... 323
2. The Bimetallists' Arraignment of the Monometallic System 326
3. The Compensatory Action of the Double Standard ... 327
4. The Weak Points in the Theory of Bimetallism ... 330
5. National and International Bimetallism ... 335

Chapter XVII
THE HISTORY OF BIMETALLISM

1. Early European Experience ... 337
2. Currency Reform in England and the Act of 1816 ... 342
3. Bimetallism in France to 1865 ... 345
4. Bimetallism in the United States to 1873 ... 352
5. The Fall in the Value of Silver after 1875 ... 357
6. The Latin Union ... 361
7. Bimetallism in the United States since 1873 ... 363
8. The International Conferences ... 365
9. The Present Status of Bimetallism ... 369

Appendix I
LIST OF REFERENCES ... 375

Appendix II
STATISTICAL TABLES

A. Statistics of the Production of the Precious Metals ... 390
B. Statistics of Coinage in the United States ... 391
C. Statistics of Coinage in France ... 393
D. Surplus of Imports of Gold and Silver into British India ... 396
E. Annual Average Rates of Discount of the Banks of France and Germany ... 397

Appendix III
THE PAR OF EXCHANGE AND GOLD POINTS OF THE CHIEF CENTERS OF FOREIGN EXCHANGE ... 398
INDEX ... 399

MONEY AND BANKING

CHAPTER I

THE NATURE AND FUNCTIONS OF MONEY

MONEY is one of those terms which political economists have borrowed from popular speech and found ill-adapted to their purposes. In spite of numerous attempts to make a suitable definition, it still lacks the precision and definiteness of meaning which should characterize scientific terminology. Popular usage is tolerably consistent and clear, but fails to include under the term all the instrumentalities which belong together in any scientific treatment of the subject, and political economists are not agreed regarding the point to which the popular meaning of the term should be extended. Even if these difficulties were removed, however, one not easy to overcome would still remain. All are agreed that under the head *money* we must include both the *standard of value* and the *medium of exchange,* two instrumentalities which perform very different functions, and the distinction between which is apt to be minimized, if not entirely overlooked, when an attempt is made to include them under one definition.

In order to avoid this difficulty and to promote clearness of thinking, we shall discuss first of all the functions of the standard of value, and the medium of exchange, and, so far as possible, defer the use of the term *money* until the student is prepared to form an independent judgment regarding the meaning which ought to be attached to it.

1. The standard of value.—A standard of value is any commodity by means of which people measure and express the value of other commodities. For example, when we say that a pair of shoes is worth five dollars and a coat ten, we measure and express the value of these two commodities by means of another which, for this purpose, we call a dollar. In the United States this standard commodity is gold, and to 23.22 grains of it, many years ago, Congress gave the name dollar. If our ancestors had acquired the custom of comparing the value of everything with that of a bushel of wheat, by always finding out for how many bushels each article would exchange, then wheat would have been our standard of value, and Congress might have decided to call a bushel of wheat a dollar, instead of a few grains of gold.

The acquisition of the habit of using some one commodity as a standard of measurement and a means of expressing the values of all others is characteristic of every people who have advanced beyond the most primitive stages of civilization, and is explained by the need for *a common language of value,* which made its appearance very early in the history of commerce and which demanded satisfaction before trade could play an important part in economic processes. This need may be best appreciated by imagining ourselves reduced to a state of barter. Each one would then be obliged to trade the commodity or service which is the result of his special activity directly for the various commodities and services which he needs or desires. A shoemaker would needs exchange shoes directly for flour, butter, sugar, meat, etc.; the farmer would have to barter wheat and cattle for groceries, clothes, and agricultural implements; the laborer would have to trade his services for whatever he and his family need, etc., etc. The difficulties which would be encountered under these

circumstances are many, but one of the greatest and the most fundamental would be due to the fact that each person would have a language of values peculiar to himself and difficult of comprehension by his fellows. This difficulty may be illustrated as follows:—

Suppose that A is a producer of wheat, B a cattle-breeder, C a shoemaker, D a tailor, and E a manufacturer of sugar. Each, having frequently bartered his product for each of the other commodities, would have an accurate idea of their relative values, but would be able to express that idea only in terms of his own commodity. A, for example, would think and speak of value in terms of wheat. If he had frequently traded 100 bushels of wheat for an ox, 5 bushels for a pair of shoes, 10 bushels for a coat, and 1-10 of a bushel for a pound of sugar, the figures 100, 5, 10, and 1-10 would represent to him the relative values of these and serve as a means of expressing them. If, on other occasions, he were compelled to give 110 bushels of wheat for the same sort of ox as before cost him only 100, he would conclude that the value of beef had risen, and would measure the rise by comparing the figures 100 and 110. In fact, this method of expressing values would not only be natural to A, but it would be the only one possible. On the assumption that he produces wheat and wheat only, and barters it for whatever else he needs or desires, his knowledge of values would not extend beyond the ratio of exchange of wheat with other commodities.

B, C, D, and E would each likewise have one means and only one of expressing the relative values of commodities, namely, the figures which represent the ratio of exchange of his product with each of the others. B, for example, might express the value of wheat, shoes, coats, and sugar by the fractions 1-100, 1-20, 1-10, and 1-1000, the portions of an ox exchangeable respectively for a bushel

of wheat, a pair of shoes, a coat, and a pound of sugar, or by the figures 100, 20, 10, and 1000, representing the number of bushels of wheat, pairs of shoes, coats and pounds of sugar exchangeable respectively for one ox. C's expression for the relative values of wheat, cattle, coats, and sugar would be the figures 1-5, 20, 2, and 1-50, representing the number of pairs of shoes and fractions of pairs exchangeable respectively for a bushel of wheat, an ox, a coat, and a pound of sugar, or the figures 5, 1-20, 1-2, and 50 representing the amount of wheat, cattle, coats, and sugar equivalent in value respectively to one pair of shoes. Under the same conditions of value, D who has only coats for trading, would have to pay for a bushel of wheat 1-10 of a coat, for an ox 10 coats, for a pair of shoes 1-2 a coat, and for a pound of sugar 1-100 of a coat; and E, who barters sugar, would pay for a bushel of wheat 10 pounds, for an ox 1000, for a pair of shoes 50, and for a coat 100.

It is thus evident that in a state of barter each man would have an accurate numerical expression for the values of all the commodities on the market, but one peculiar to himself, and consequently unintelligible to others, or at any rate capable of being made intelligible to others only by a mathematical calculation. In describing values A could only give the amount of wheat each commodity is worth; B, the amount of beef or live cattle; C, the number of pairs of shoes; D, the number of coats; and E, the amount of sugar. If a dealer should attempt to establish in this community a store for the purchase and sale of all the goods produced, he would be obliged to quote the price of each article in terms of all the others in order to meet the needs of his customers. Were commerce at all active and large in amount, this would mean an interminable price-list and an amount of calculation which would require more time

than all the other business of the establishment, to say nothing of the liability to error and the consequent danger of loss. It is safe to say that under such conditions commerce would never have assumed very great proportions or played a very important rôle in the world's history. The difficulty which these traders have met is that of a variety of methods of expressing values, and the remedy is the acquisition of a method common to all. The difficulty is similar to that which people speaking different languages would meet in trading, if no one understood the speech of the other. Each trader's language of value is peculiar to himself and not understood by his fellows. What is needed is a common language intelligible to all.

The acquisition of such a language is accomplished through the use of a single commodity as the standard for comparing and reckoning values. In our hypothetical community, for example, any one of the five commodities could be used for this purpose. On the assumption that sugar is consumed by every one and consequently frequently bartered for every other commodity, each person would know the value of his product in terms of this one, and would be able to express that value in a form intelligible to others. If A should always describe the value of his wheat by stating the number of pounds of sugar a bushel would buy, and B, C, and D in the same manner should express the value of cattle, shoes, and coats, each would readily understand the other, and comparisons and calculations of values would be easy and simple. The figures in which such comparisons and calculations were expressed would always refer to multiples or subdivisions of a pound of sugar, and would constitute a language of value understood by every member of the community. If, in discussions of value, for convenience or any other reason, a special name were given to a pound of sugar, for example, the name dollar, franc, mark,

or pound sterling, the language of value would become that employed in the United States, France, Germany, or England at the present day.

The capacity to serve as a standard of value is possessed by all commodities which are widely used and consequently frequently bought or sold. In primitive societies custom has usually caused the selection of that commodity as the standard which is most widely known and most highly esteemed among the people who have occasion to trade with each other, and in more highly civilized communities considerations of convenience and economy have usually dictated the selection of one among several articles which might conceivably be employed for this purpose. Whatever the commodity may be, however, and by whatever process selected, its function as a standard is simply that of furnishing the community with a means of measuring, expressing, comparing, and recording the values of the various articles of commerce.

2. The medium of exchange.—The phrase *medium of exchange* describes a group of instrumentalities which serve as a go-between in commercial transactions. In the United States, it includes, gold, silver, nickel, and copper coins, several varieties of government notes, bank-notes, checks and drafts, bills of exchange, and several other kinds of documents less commonly used. Each of these is appropriately called a *medium* of exchange because it is used as a go-between in the exchange of commodities. For example, suppose a farmer brings butter and eggs to market, and wishes to exchange them for groceries. In all probability he will not make the exchange directly, but through the *medium* or by the *mediation* of coins; that is, he will trade his butter and eggs for coins and then trade the coins for groceries. A laborer wishes to exchange several days' work for a coat, but he will rarely find a tailor who

needs his services, and who will, therefore, be able and willing to trade a coat directly for a certain number of days' work. Instead he will trade his services with some one who needs them for coins or government notes or bank-notes or both, and then trade the coins or notes for the coat. It is possible, and it often happens, that a considerable period of time intervenes between the first trade and the last. The farmer may sell his produce a whole year or even longer before he trades the coins or notes received for other commodities. Indeed, he may never himself complete the trade, but transfer the right so to do to some one else. In any case the coins, notes, or other documents received will be used in buying other things and will thus fulfil their mission as a medium of exchange. In the same way people use checks, drafts, bills of exchange, and various other documents.

Like the standard of value, the medium of exchange owes its existence to certain wants which were felt very early in the history of commerce, and upon the satisfaction of which further progress depended. These wants are three in number, namely: that for some means of exchanging commodities of unequal value, that for some means of accumulating wealth in such a form as to make it available at any time for the purchase of any and all commodities, and that for facilities for borrowing and lending.

The first of these may be illustrated as follows: A farmer has an ox for sale and desires a pair of shoes. He may succeed in finding a man who has shoes for sale and wants beef, but the ox is worth twenty pairs of shoes and he wants but one, and very likely the shoemaker wants only a few pounds of beef instead of a whole ox. Manifestly the trade cannot take place unless the farmer is willing to take nineteen pairs of shoes which he does not want and the shoemaker twenty times as much beef as

he wants, or unless the farmer is willing to kill his ox, to hand over to the shoemaker an amount of beef equal in value to the shoes and to keep the remainder. Of course there might be other people in the community quite willing to take the beef which neither the farmer nor the shoemaker wants, but that would not help the matter unless these traders should happen to want the various commodities which their neighbors might be willing to give in exchange for it. On the assumption that the farmer wants only a pair of shoes and the shoemaker only a few pounds of beef, the willingness of other people to buy the surplus might not improve the situation.

The need of some means of accumulating wealth is obvious. Frugal people wish to make preparations for the future, and if the aggregate of their products exceeds that of their consumption, they are able so to do, provided some means of saving exists. The most obvious one which suggests itself is that of hoarding surplus products, but this is a very precarious method in case the products in question are perishable, or are subject to frequent fluctuations in value or are so bulky that the process of hoarding them is very expensive. Most of the ordinary products of industry are subject to one or more of these contingencies. Hence, in the absence of some special provision for the accumulation of wealth, the risks involved are so great as to prevent saving on any large scale.

The need of facilities for borrowing and lending is equally obvious. A farmer may have no accumulations to tide him over the period during which his crops are growing, or he may wish to keep his produce for a rise in price, or he may wish to extend his agricultural operations by more fully stocking his farm, by the use of superior implements, or by the cultivation of more acres. In any one of these cases he needs to borrow, and inability so to do might

seriously interfere with his prosperity. In an advanced industrial community there are always people quite competent successfully to carry on industrial operations, who do not possess the requisite capital, and many people, on the other hand, who have capital but do not wish to engage in industry. Facilities for borrowing and lending are needed to bring these two classes together for their mutual profit and that of the community. This need might equally well be illustrated by the case of a really sound business man who has temporarily met with misfortune, or by that of a young man capable of profiting by an education but lacking the funds necessary for its acquisition, or by many other situations which will readily occur to the student upon reflection.

Let us now inquire how a medium of exchange satisfies these wants. Our assumed case of the farmer and the shoemaker will assist us. It will be remembered that these two persons found difficulty in exchanging their products on account of the wide difference in value between the farmer's ox and a pair of shoes. If, in the community to which these two traders belonged, there had been some one durable commodity which was an object of universal desire and consequently daily bought and sold and sure to be in general demand in the future, the way out of their difficulty would have been easy. Even though he might not have wanted it for his own consumption, the farmer would have been quite willing to accept this commodity in payment for the balance due him from the shoemaker, simply because he would have been able to trade it at any time for anything he might chance to want. The shoemaker, likewise, would not have been seriously inconvenienced by the surplus beef, provided he had been able to sell it to his neighbors for this highly exchangeable commodity. By way of illustration let us suppose that gold

is a commodity well known and highly valued by every member of the community and considered so very precious that no one doubts the continuance of its value and high estimation through future generations. Being very durable and possessing great value in small bulk, it can be easily kept for any length of time, and, on account of the belief in the continuance of its value, every one feels safe in keeping it by him, and is confident that at any time in the future he can dispose of it for whatever he may desire or need. Being also readily divisable, it is easy to arrange for equivalents of almost any value. Under these circumstances, then, the farmer would have been quite willing to sell his ox for the pair of shoes and the balance in gold, and the shoemaker would have been willing to sell to his neighbors in exchange for gold the beef which he did not want, neither one perhaps intending to consume the gold itself, but being confident of his ability to exchange it at any time for whatever he might chance to desire. Since other traders under similar circumstances would follow the example of the farmer and the shoemaker, all the members of the community would speedily acquire the habit of taking gold in exchange for their produce, even when they did not need it for consumption, because they could exchange it for whatever they might chance to want at any time more easily than their own product. When any commodity comes to be generally used in this way, it becomes by that fact a medium of exchange.

In our illustration the medium of exchange obviated the difficulty of exchanging two commodities of unequal value, namely, an ox and a pair of shoes. It is evident that it might also be used as a means of accumulating wealth, and also for facilitating borrowing and lending. Being by its very nature a commodity which every person is willing to take at any time in exchange for his goods, no risk would

be involved in hoarding it; and people who had succeeded in accumulating it could loan it to others who needed for any purpose to make immediate purchases and lacked the means. The people discussed in our illustration would naturally keep their savings in the form of a hoard of gold. The various commodities of their own production or manufacture being perishable and, perhaps, of uncertain value and consequently incapable of being hoarded, would be exchanged for gold, which could be kept without loss and readily sold for other commodities whenever desired. This hoarded gold could also be loaned to others who need to make immediate purchases but lack the means. In this case, of course, some guarantee that the gold would be returned when wanted would have to be given, but, granted the requisite degree of confidence between man and man, the gold would make possible the loan with all of its conceivable advantages to both borrower and lender.

3. **Credit as a medium of exchange.**—The three wants which we have been considering are frequently, and at the present time commonly, satisfied by means of credit instruments in one form or another. The methods of employing these instrumentalities as a medium of exchange are various, but only the simplest one can be appropriately explained at this point. Modern commercial processes are conducted by means of a large class of middlemen who intervene between exchangers and relieve them of the greater part of the work involved in trading their products. Among these are shopkeepers who purchase goods, giving the sellers credit on their books for the value of their sales, and sell them again at such times and in such amounts as are desired, debiting buyers with the amounts of their purchases. Inasmuch as the buyers and the sellers are frequently the same persons, these merchants are a means of overcoming the difficulties of barter discussed in the preceding section,

and their book accounts serve as a medium of exchange.

By way of illustration let us suppose that a primitive community has already acquired a standard of value, and that some very reliable person, in whose integrity and wealth everybody has perfect confidence, establishes a general store, and agrees to buy from the producers everything they have for sale and to sell these same commodities to others at such times and in such quantities as are desired. After the harvest A brings his wheat to the store and receives credit on the books of the storekeeper for the amount agreed upon, this amount being stated in terms of the prevailing standard. Subsequently he purchases various commodities, such as sugar, shoes, coats, meat, etc., and is debited by the storekeeper with the amounts of his purchases, these amounts being likewise stated in terms of the standard. It is evident that the difficulty involved in exchanging commodities of unequal value is not here met, because it is not necessary that A's account should balance on the occasion of every purchase or sale. It is also evident that A could accumulate his savings in the form of credit on the storekeeper's books, and could borrow by overdrawing his account; that is, by accumulating an uncovered debit balance. In this case the book account serves precisely the same purposes as the gold in our previous illustration. It obviates the difficulty of exchanging commodities of unequal value, and it furnishes a means of making savings and of borrowing and lending.

At first sight there does not seem to be much resemblance between this primitive storekeeper and the great merchants and bankers of the present day. But as a matter of fact they are performing the same functions as he, and by means of more complicated machinery they are using credit of substantially the same sort as he. Like his, their book accounts satisfy the three fundamental wants which we

have been discussing and which are felt by all traders however primitive or advanced.

4. The relation between the standard of value and the medium of exchange.—Though the functions of the standard of value and the medium of exchange are quite distinct, they may be performed by the same commodity. In a primitive community this is usually the case, because universal exchangeability, a quality essential to both, is rarely possessed by more than one commodity, and that one, therefore, must necessarily serve in both capacities. At the present time, however, the standard of value is only one element of a very complex medium of exchange, consisting of several commodities and a considerable number and variety of credit instruments. Why this is so will be made clear in the two following chapters.

REFERENCES

The topics included in this chapter are discussed in most textbooks under the head "The Functions of Money," but they are rarely treated in such a way as to show the true relation between money and the fundamental wants of traders, and to emphasize the distinction between the functions of the medium of exchange and that of the standard of value. The following references are typical of the usual method of treating the subject: Mill, *Political Economy*, bk. III, ch. vii; Walker, *Money*, ch. i, and *Money Trade, and Industry*, chs. i, ii, and iii; Jevons, *Money and the Mechanism of Exchange*, chs. i, ii, and iii; Nicholson, *Money and Monetary Problems*, pt. I, ch. ii. In Laughlin, *The Principles of Money*, ch. i and in Menger's article entitled, "Geld" in the *Handwörterbuch der Staatswissenschaften*, the subject is well treated. See also Kinley, *Money*, ch. v; Taylor, *Some Chapters on Money*, ch. i; Johnson, *Money and Currency*, chs. i and ii; Knies, *Das Geld;* Knapp, *Staatliche Theorie des Geldes*, ch. i; and Nasse, "Das Geld und Münzwesen" in Schönberg. *Handbuch der politischen Oekonomie.* For a collection of definitions of money see Roscher, *Principles of Political Economy*, Lalor's translation, v. I, bk. II, ch. iii, note 5, and Hildebrand, *Theorie des Geldes*, p 5.

CHAPTER II

THE MEDIUM OF EXCHANGE: ITS CHARACTERISTICS AND COMPOSITION, AND THE RELATION BETWEEN ITS CONSTITUENT ELEMENTS

THE term *universal exchangeability,* which we have just used to describe one of the essentials of a medium of exchange, signifies that quality or combination of qualities which renders a commodity or a credit instrument universally acceptable to people in exchange for their goods or services. In a primitive community this quality or combination of qualities is the capacity to satisfy some fundamental want or wants, such as those for food or clothing or armor, but in a more highly developed state of society certain credit instruments quite incapable of serving as objects of general consumption possess universal exchangeability, and none of the commodities which constitute the medium of exchange enters into the consumption of every person, though all of them are extensively used for a variety of purposes and are highly esteemed by every one. It is, therefore, evident that other considerations besides the capacity to serve as an article of general consumption concur in the selection of the constituent elements of the modern medium of exchange. Among these, accuracy, convenience and safety in commercial transactions are of prime importance.

1. **The importance of an accurate, convenient, and safe currency.**—The kind of accuracy which we must here consider is that which concerns the acquisition of the exact equivalent for a commodity sold or the giving of an exact equivalent of a good bought. Many other kinds of ac-

curacy are of the first importance in business, but this only is significant in the present connection. As compared with former times, commerce is nowadays conducted on a large scale and with small margins. The difference between the buying and the selling price is often so small that a few cents added or subtracted in each transaction mean riches or ruin to a large concern. Hence it is absolutely necessary that very close calculations be made, and that these calculations be realized in the commercial transactions which follow. Inasmuch as practically every trade involves the use of the medium of exchange, this being the universal equivalent given for goods bought and received for goods sold, it is evident that this medium must be of such a character as to render possible the transfer from buyer to seller of the *exact* amount agreed upon. Otherwise the closest and most careful calculations might be of no avail.

The importance of a convenient currency may be appreciated by considering the disadvantages which the use of a medium consisting of a single element such as gold or silver would involve. For large payments the weight of the metal would render transportation difficult, expensive, and slow; and for very small payments, say of a few cents, the amount of metal would be so small that it could not be put into the form of a coin which would be usable, and, if the scales were necessary in every exchange, the rapidity absolutely essential in numberless transactions of everyday life would be impossible. Imagine, for example, the difficulties of travel and of conducting a ticket-office at a busy railway station, if in making small change gold had to be weighed and the infinitesimal amounts preserved and carried about by the passengers. Imagine also the expense and inconvenience which would be involved in traveling abroad or in taking long trips at home, if one were compelled to carry the amount needed for the entire journey

in the form of gold or silver, as would be the case if one of these metals should constitute our only form of currency. Indeed a convenient currency is quite as essential to commerce as are suitable machines for manufacturing, locomotives for railways, or improved facilities for any other business purpose.

By a safe medium is meant one the use of which does not involve loss. It is desirable, therefore, that the value which it is the purpose of the exchangers to transfer should be always and under all circumstances obtainable through the currency by which the exchange is accomplished, and that the various elements of the medium should be so selected and manipulated as to protect merchants against loss under all circumstances. For example, it is highly desirable that a form of currency should exist which can be sent through the mails or by express without subjecting the parties concerned to loss in case of accident to the train or the ship. So far as possible, also, protection against robbers and against the ordinary accidents of commercial intercourse should be secured.

2. Characteristics of a good currency.—In order to meet the demands of modern commerce in the respects which have been indicated, the medium of exchange must possess the following characteristics:—

A. It must consist of elements representing many grades of value.—In the United States we need means of payment ranging in value from at least one cent to one hundred thousand dollars, and European nations have found money of even smaller denominations useful. By combination of different elements of the medium it should be possible to represent the exact value of any and every commodity, and the exact amount of the various payments necessary in commercial transactions, and that, too, with the greatest celerity and without difficult calculations. If a commodity is

worth twenty-six dollars and thirty-two cents, for example, we should be able to combine from the constituent elements of the medium exactly twenty-six dollars and thirty-two cents of value. If one should wish to make a payment of a million dollars, it should be possible so to do without burdening oneself with a heavy load of metal or running the risk of making mistakes in counting.

B. It must be easily and safely transportable in any and all amounts.—For the purposes of modern commerce currency must frequently be sent by mail or express or freight. It must be carried about in people's pockets and portmanteaus, and stored in banks, treasury vaults, places of business, and the houses of the people. The material or materials of which it is made are, therefore, a matter of great importance. What is suitable for one sort of currency is quite unsuitable for another. A heavy, bulky substance might serve well for small change, but would be an expensive means of making payments in distant places. A commodity possessing great value in small bulk would answer well for large payments and for hoarding, but would be useless for purposes of retail trade and for small purchases generally. Anything possessing high intrinsic value would subject the owner to the danger of loss in case it were sent through the mails or by freight or express. It is, therefore, evident that we need in our currency commodities of different degrees of value as well as instrumentalities which possess little or no intrinsic worth.

C. It must be easily recognized, durable and certain in its value.—The various denominations of a currency should be recognizable and distinguishable from each other at sight. Otherwise mistakes will be frequent, fradulent practices easy, and rapidity in making change impossible. Metals used for currency purposes should be put up in the form of coins with their values plainly stamped upon their

faces; and the coins of different denominations should be distinguishable by their size, colour, design, or other easily recognizable features. The metals used in the manufacture of coins should also be capable of receiving and holding an easily recognizable stamp.

The fact that the medium of exchange is used as a means of saving and that it must pass from hand to hand year in and year out explains the need for durability. Any commodity which wears out readily would soon lose a portion of its value and become worthless for further service as a medium, to say nothing of the loss, expense, and inconvenience involved in its use. If it were perishable, it would be useless for purposes of hoarding and accumulation.

Absolute certainty of value is also essential to a good medium. If one does not know the exact value of what he is to receive in payment, he will hesitate about selling, or he will raise the price of his commodities or services in a degree sufficient to recoup him for any possible loss from over-estimating its value. A medium of uncertain value, therefore, is sure to obstruct trade and to cause spasmodic and speculative fluctuations in prices.

The five characteristic features of a good medium which we have just described enable us to explain the chief component elements of modern currencies. Generally speaking it is true that those elements have survived and become permanent parts of currency systems which have proven to be best adapted to the ends they serve. Arbitrary power directed by ignorance or self-interest has exerted an unfavorable influence here and there and from time to time, but in the long run the necessities and the convenience of the commercial world have triumphed in the survival of the fittest.

3. **The composition of modern currencies.**—The currency of every important commercial nation at the present time

is composed partly of metallic and partly of paper instruments. The metallic portion consists of coins and may be classified as follows: (*a*) from the standpoint of the materials employed in its manufacture, as gold and silver coins and those of cheaper metals; and (*b*) from the standpoint of the relation between its various elements, as standard and subsidiary coins. The paper portion may be classified as *government* currency and *bank* currency. The currency of the United States, for example, consists: (*a*) of gold coins of the denominations twenty, ten, five, and two-and-one-half dollars; (*b*) of silver coins of the denominations one dollar, fifty, twenty-five, and ten cents; (*c*) of a coin made of nickel of the denomination five cents; and (*d*) of a copper coin of the denomination one cent. Our paper currency consists of several varieties of notes issued by the national government, for example, of greenbacks, Sherman notes, silver certificates and gold certificates; of notes issued by national banks, and of several other varieties of bank paper, of which checks and drafts are the most important. The currency of other countries is similarly constituted, the chief difference being due to the absence of government notes in many of them.

A. The utility of several varieties of coins.—The first characteristic of a good currency described above explains why we need coins of different denominations. Payments of all sizes, both large and small, are necessary and several varieties of coins are needed in order that they may be made accurately and conveniently. If the silver dollar were the only coin we possessed, it would be impossible to pay for purchases of the value of a few cents, and accurate payments of any size which involve fractions of a dollar could not be made. Moreover, in large payments the weight of the silver would be burdensome and expensive, and the counting of it would require time which the

existence of money of large denominations might save.

The need for coins of large and small denominations explains the use of gold, silver, and cheaper metals in their manufacture. Convenience demands that coins of large denominations should be manufactured from some metal the value of which is very high. For this reason, the world over, gold is used for coins of higher denominations than one dollar. In our country, as we have seen, twenty-, ten-, five-, and two-and-one-half-dollar coins are of gold; in England the sovereign and half-sovereign are made from this metal; in Germany the twenty- and ten-mark pieces, and in France the twenty- and ten-franc pieces. On account of its much lower intrinsic value, silver is well suited for coins of denominations ranging from ten cents to one dollar. Accordingly England uses silver for the manufacture of her sixpences, shillings, florins, half-crowns, and crowns; Germany in the manufacture of her five-, two-, and one-mark and her fifty-pfennige pieces, and France in the manufacture of her five-, two-, and one-franc and fifty-centimes pieces. For coins of lower denominations than ten cents, fifty pfennige or fifty centimes, silver is not well adapted, because the coins are so small as to be extremely inconvenient. Holland has two silver coins of lower denominations than our ten-cent piece, but they are so tiny that they are difficult to handle, easy to lose, and hard to distinguish. Experience has led to the abandonment of such small silver coins in nearly all nations, and to the use instead of copper or bronze for the smallest coins, and of nickel for the coins intermediate between the smallest and those of about the value of our ten-cent piece. The practice of the great nations regarding these smaller coins is not identical except in the one point that they use metals cheaper than silver in their manufacture.

Besides their value several other qualities should be

noted in any attempt to give a complete explanation of the selection of gold and silver as the chief monetary metals of the world. Among these the most important are the durability, divisibility, and homogeneity of these metals and their adaptability to the art of coinage. When slightly hardened by the admixture of small quantities of other substances, gold and silver coins will endure the wear and tear of modern commercial usage with but small loss of substance, and are but slightly, if at all, affected by the atmospheric elements which cause other metals to rust and subject them to chemical changes which in time result in their complete destruction. They are also capable of being refined to such a degree and are so easily divisable that coins exactly alike in weight, fineness, and form can be made from them. In the form of coins they can also receive and retain a stamp which is easily recognizable. As compared with other metals, moreover, the value of gold and silver has been remarkably steady throughout long periods of time. In fact, no other metals are known which possess in the same degree of perfection as these the peculiar combination of qualities required in the manufacture of coins.

B. The utility of paper currency.—The characteristic feature of paper currency is the fact that it does not contain in its own substance the value expressed by the figures or statements on its face, but simply represents the obligation of some public or private corporation or of some person to pay the amount indicated. The secret of its circulation has already been suggested.* If people have entire confidence in the ability and willingness of the issuing party to pay the obligations on demand, and if they meet a real currency need, they will circulate. The measures necessary to secure and maintain the confidence of the public in this sort of currency will be discussed under the appropriate

* Chapter I, pp. 11 and 12.

heads in succeeding chapters. We shall here point out simply its superiority for certain purposes over other forms of currency.

The comparative inexpensiveness of paper currency is obvious. It costs only the value of the paper and the labor of printing. Compared with the expense involved in the mining and assaying of the metal and in the minting and the wear and tear of coins manufactured from such valuable materials as gold and silver, this is significant, to say nothing of the loss involved in withdrawing immense quantities of these valuable metals from ordinary consumption. When considerable sums need to be transported from one part of the country to another or from one country to another, the economy of paper currency is still more apparent. If it were necessary to transport several millions of dollars from Chicago to London, the express charges on the necessary amount of gold or silver would be very high, while a draft for the amount can be sent in a letter for two cents.

While not so obvious, the superiority of credit currency, under certain circumstances, in the respects of convenience and safety is important. In the making of large payments it is much more convenient to write a check than to hand to your creditor the requisite amount of gold or silver or even of bank-notes or government notes, and it is more convenient to hand him bank-notes or government notes of large denominations than coin. When one is making a long journey and on this account finds it necessary to carry on his person considerable sums, he appreciates the superior convenience of paper currency. The claim of superior safety cannot be made for all forms of credit paper, but it can be made for checks and drafts and certain forms of notes issued by express companies, postoffice departments of governments, etc. The loss of a check or a draft or

of certain forms of money orders through theft or other means does not involve the loss of the sum indicated on its face. Being made payable to a definitely specified person, and careful records being kept by the issuing parties, duplicates are obtainable. Moreover, the use of credit currency in its various forms obviates the danger that would otherwise be involved in carrying about large quantities of gold and silver. The police force of every large city would needs be largely increased if the actual transfer of coin of the required value were necessary in every transaction. Every railway and steamship company and every private mercantile establishment would also need to provide itself with heavy safes and a small army of police for purposes of protection. The temptation to robbery thus occasioned would doubtless largely increase crime, and thus diminish the general security of the community.

Certain forms of paper currency also possess the very desirable quality of elasticity; that is, the quantity in circulation automatically adjusts itself to the needs of commerce, increasing when more money is wanted and decreasing when the need that called it into existence has passed away. An element of this sort is essential to a perfect currency because the need for money varies greatly from year to year and in different seasons.

In the United States the needs of different sections of the country are subject to seasonal variations, and the volume needed for the entire nation is larger in times of great commercial activity, and smaller during periods of depression. No one has sufficient foresight to be able to predict the degree of these changes, and only occasionally, as in the case of certain of them which depend upon crop movements, can the dates be even approximately fixed. It is necessary, therefore, that certain forms of currency should, as it were automatically, move from place to place.

and increase and decrease in quantity. As will appear in later chapters, only certain varieties of paper currency possess this desirable quality. The movements of coin in both the directions indicated are far from automatic, its entrance into and withdrawal from circulation requiring considerable time and the manipulation of the machinery of government.

The superiority of credit currency in the respects mentioned accounts for its extended use in all modern commercial nations, and for its increasing use as commercial operations grow in extent and magnitude. It must not be forgotten, however, that its superiority is confined to certain of the uses of a medium of exchange, and does not extend to all. In retail trade and for the making of change and for small payments everywhere coins still excel in convenience and safety, and there is no reason to expect that their use will ever cease.

4. Gresham's law.—The concurrent circulation of metallic and paper currency and the use of coins made of different metals involves a difficulty the removal of which only time and long experience have made possible. This difficulty may be illustrated as follows: Suppose that, at the time of the minting of gold and silver coins, the relative value of these metals is 1 to 20; that is, one ounce of gold is exactly equal in value to twenty ounces of silver, and that accordingly twenty times the weight of silver is used in the manufacture of five silver dollars as of gold in the manufacture of a five-dollar gold piece. For example, suppose that 125 grains of gold be put into each of the five-dollar pieces and 500 grains of silver into each of the one-dollar pieces. Suppose that the proportions of the two metals used in the manufacture of all the other coins be precisely the same. Under these circumstances the market value of the metallic content of each and every coin would be exactly

expressed by the stamp on its face, and five silver dollars, ten silver half-dollars, and twenty silver quarter-dollars would be equivalent in market value to each other and to a five-dollar gold piece. Let us suppose further that, in order to avoid all possibility of inconvenience or difficulty in the circulation of these coins, a law is passed conferring upon them the so-called *legal-tender* quality; that is, declaring that in the payment of debts and the making of purchases of all kinds five silver dollars, ten silver half-dollars, twenty silver quarter-dollars, and a five-dollar gold piece shall be equivalent. For a time we may suppose that all goes well, everybody giving and receiving indifferently gold and silver coins in the proportions indicated, the gold coins being naturally used in large payments and the silver in small. Soon, however, the value of one or both of the precious metals changes, so that *on the markets twenty-five ounces* of silver instead of *twenty* are needed to purchase an ounce of gold. What now will happen to the coins which have been declared by law equivalent in the making of purchases and the payment of debts? Will people continue indifferently to give and to receive five-dollar gold pieces and five silver dollars in payments of the amount of five dollars? Certainly not. They will sell the gold coins as metal or hoard them for future use, and make their payments in silver alone. If we suppose that the majority of people are unaware of the change in the value of the metals or through habit or ignorance continue indifferently to pay out the gold and silver which comes into their possession, we may be sure that the money-changers and the bullion-dealers will be sufficiently shrewd and wide awake speedily to drain the currency of all of its gold.

The same difficulty may result from the concurrent circulation of metallic and paper money. Suppose that the government has issued notes in denominations of five, ten,

twenty, fifty, etc., dollars and made them legal tender at their face value; that is, declared a five-dollar note equivalent to a five-dollar gold piece or to five silver dollars in the payment of debts and in all other kinds of financial transactions, a ten-dollar note to a ten-dollar gold piece or to two five-dollar gold pieces or to ten silver dollars, etc., etc. If the people have perfect confidence in the government's ability and willingness to pay, and it is perfectly easy to procure gold and silver coin with the paper without loss or difficulty of any kind, they will continue to give and to receive the notes and the coins indifferently; but if they should lose confidence in the government or should for any reason prefer coin, they would avail themselves, whenever possible, of the advantages of the legal-tender law by paying out their notes and retaining their gold and silver for the purpose of hoarding or in order to sell them as bullion or for any other use in which they could realize their full value. Under these circumstances it is evident that coins would speedily disappear from circulation and the government notes remain in full possession of the field.

The difficulty involved in the disappearance of undervalued coins from circulation has been experienced over and over again in the monetary history of the world and in a variety of forms. Now one class of coins has been removed from circulation and now another, and frequently all kinds of metallic money have disappeared before the advent of depreciated paper. In the early years of the last century our coins consisted chiefly of silver, because gold was undervalued at the mint. Later on, after the discovery of the gold-mines of California and Australia, gold diminished in value very greatly, and our silver speedily disappeared from circulation. During our Civil War and for many years after its close depreciated government notes prevented the use of gold and silver coins for monetary

purposes. Sir Thomas Gresham, one of the most famous directors of the English mint, formulated the experiences of his time along this line into a law which has ever since borne his name.* Poor money, he said, always drives good money out of circulation. By poor money he meant money which was not worth its face value, and the process which he described as the driving of the good money out of circulation was simply the disappearance of the coins of superior intrinsic value from circulation as money because they could be more profitably used in other ways. This so-called Gresham's law is simply the expression of a universal experience which has as its cause the commercial instinct common to all men and which urges them to make the most of their possessions.

The operation of Gresham's law is always accompanied by inconvenience and loss. In the first place, it renders impossible the realization of the advantages of a complex currency. If the gold disappears from circulation, the community has no coins suitable for the making of large payments. If the silver goes, it becomes difficult or impossible to make small change. If government paper drives all the coin from circulation, the community suffers from a combination of ills, which will be described in subsequent chapters. In the second place, the operation of Gresham's law interferes seriously with prices.

When people begin to make use of their legal rights by the employment of the depreciated element in the payment of debts, persons of all sorts who have goods for sale and persons who are making loans which are to be paid back in the future will protect themselves against the depreciated currency by raising the prices of their goods to at least

* This law was discovered at least two centuries before Gresham's time, being clearly stated in Oresme's "De Origine, Natura, Jura et Mutationibus Monetarium" published in the fourteenth century.

the extent of the depreciation and by so adjusting the terms of the loan as to avoid loss. The result, therefore, will be a general rise of prices. If the depreciation be a certain fixed amount which can be readily calculated, as will be the case with a coin whose intrinsic value is less than its face value, the shock to prices may be but a single one and the new level may be as stable as the old. If, however, the depreciation is more or less uncertain and perhaps in part due to speculation, as is liable to be the case with certain forms of credit currency, the interference with prices is liable to be continuous and the new level to be very unstable. Such conditions are sure to breed speculation of the most dangerous sort, and, if long continued, seriously to shake that confidence between man and man which is essential to the maintenance of the credit system, thus creating conditions favorable to crises and other forms of commercial disaster.

5. **Standard and subsidiary coins.**—How to prevent the operation of Gresham's law and thus to avoid the evils which it involves has been a most difficult problem. During the middle ages its solution was sought in vain, and the monetary history of every European country during several centuries exhibits a succession of fruitless attempts to retain in concurrent circulation gold, silver, and copper coins of the various denominations needed for commercial and governmental purposes. Finally, however, the solution was found, and no nation nowadays needs to be troubled by Gresham's law. So far as the concurrent circulation of coins made of different metals is concerned, the operation of this law is avoided by the device of making certain of the coins *subsidiary* to others which are called *standard*. In many countries at the present day the gold coins are the standard ones, and all others are made subsidiary by treating them in the following manner:

(*a*) By reducing the quantity of the metal in them to such an extent that their intrinsic value is much below their face value;

(*b*) By limiting the quantity of them to the actual needs of the community for coins of these particular denominations;

(*c*) By limiting their legal-tender quality to small sums; and

(*d*) By making them redeemable in the standard coins.

The explanation of the efficacy of these measures is obvious. So long as the silver, nickel, and copper coins are redeemable at their face value in gold coins, no one will hesitate to take them at that valuation, no matter how much below it their actual intrinsic value may be. The lowering of their intrinsic value by diminishing the amount of metal used in their manufacture, therefore, does not prevent their circulation at par, but it does prevent their disappearance from circulation in case of a considerable increase in the market value of the metal of which they are composed. For example, if an ounce of gold is equal in value to twenty ounces of silver, and the five-dollar gold piece weighs 125 grains and the one-dollar silver piece 400 grains, the value of the metal in the silver dollar is worth only eighty cents. So long, however, as the government stands ready to give a five-dollar gold piece for five silver dollars, each silver dollar will continue to circulate at its face value, and the value of silver would needs rise more than twenty-five per cent. before the operation of Gresham's law would drive the silver coins out of circulation. The disappearance of the gold coins by the operation of Gresham's law and the impoverishment of the government on account of the demand for the exchange of silver for gold is prevented by the limitation of the quantity of subsidiary coins minted and by making them legal-tender for small

sums only. So long as the quantity of such money in circulation does not exceed the actual need for it for commercial purposes, there will be no disposition to demand its redemption, and so long as its legal-tender quality is limited, no one is obliged to receive it in large quantities, and consequently its general substitution for gold in the currency is rendered difficult, if not impossible. Indeed these four regulations place the control of the substitution practically in the hands of the government, at the same time giving it the power to prevent the operation of Gresham's law and to protect itself against loss.

The laws passed by the various nations for the regulation of their subsidiary currencies differ considerably in details, but they all embody these principles. Special exceptions are sometimes made, as, for example, in the case of our silver dollars and the five-franc pieces formerly minted by the states of the Latin Union, but such exceptions must not be regarded as in any sense an abandonment of these principles or a demonstration of their uselessness. On the contrary, the unfortunate experiences which have usually followed attempts to make exceptions in the application of these principles have confirmed their validity and demonstrated the danger of their violation.*

6. The concurrent circulation of metallic and paper money.—All forms of paper money are characterized by the possession of the credit feature briefly explained in the first chapter. Each and every one represents and in some way expresses the obligation of some individual, corporation, or government to pay the sum indicated on its face. The intrinsic value of these notes is, of course, practically nothing. Why, then, do they circulate side by side with

* The reasons for making these exceptions and the unfortunate experiences which have followed them will be treated in the chapters on Bimetallism.

silver and gold coins without displacing them or being displaced by them? Attempts to answer this question have probably given rise to more controversy than any other subject in the range of monetary science, and it is not best in this chapter to enter into a discussion of the various pertinent questions; but it is desirable to call attention at this time to the fact that the principles which we have discussed in the preceding section may be applied here. For example, if the paper money is made redeemable on demand at its face value in standard coins, it will readily circulate without danger of depreciation. If the quantity issued does not exceed the demand for it for currency purposes, and its legal-tender quality be limited, there will be no danger of its substitution for coin in large quantities or of the disappearance of coin from circulation. Without entering in any way into the discussion of controverted questions therefore, we may understand at least one method of maintaining in concurrent circulation metallic and paper currency. The application of these principles to the various forms of paper currency issued by governments and banks, and the danger of their violation in this case as well as in that of silver and gold coins, will be made clear in the appropriate place.

REFERENCES

On Gresham's law see Laughlin, ch. xii; Johnson, pp. 194-196; Kinley, ch. iv; Jevons, ch. viii; Nicholson, *Money and Monetary Problems,* ch. iv, and *Political Economy,* v, II, ch. xiii.

On subsidiary currency see, for a discussion of the principles involved, Laughlin, ch. xv; Nicholson, ch. iv; Mill, bk. III, ch. x; Nasse, ch. vii; and *Report of the Monetary Commission of the Indianapolis Convention,* §§ 42 to 45.

For the regulations of the various States see Norman, *Complete Guide to the World's Twenty-nine Metal Monetary Systems;* Watson, *History of American Coinage, ch. xxi;* and Lejeune, *Monnaies, Poids et Mesures des Principaux Pays du Monde.*

CHAPTER III

THE STANDARD OF VALUE AND PRICES.

1. The unit of value and prices defined.—In the first chapter the standard of value was defined as that commodity in terms of which the values or ratios of exchange of all other commodities are expressed. It was also shown that these expressions of ratios always take the form of figures which represent multiples and subdivisions of a definite portion of the standard. The portion of the standard which is selected as the basis of measurement is usually given a specific name, such as a dollar, a pound sterling, a franc, a mark, or a lira, and is called the *unit of value*. The quantity thus selected is purely arbitrary, as well as the name given to it.

The technical term which has been universally adopted for the numerical expression of the values of commodities in terms of the standard is *price*. When, for example, we wish to say that the ratio of exchange between wheat and gold is as one bushel of wheat to 23.22 grains of gold, we say that the price of wheat is *one dollar* per bushel, because in the United States we have adopted 23.22 grains of gold as our unit of value, and have named it one dollar. When we wish to express the fact that the ratio of exchange between a pair of shoes and gold is one pair of shoes to 116.10 grains of gold, we simply say that the price of a pair of shoes is five dollars, because 116.10 is five times 23.22, our unit. In England these ratios or prices are ex-

pressed in terms of pounds, shillings, and pence, in France in terms of francs and centimes, and in Germany in terms of marks and pfennige, because these nations have adopted these names for their units of value and subdivisions respectively.

2. The relation between the standard of value and prices.—Remembering that prices are simply the numerical expression of the ratios of exchange between every other commodity and the standard commodity, we may easily explain the immediate causes of their fluctuations. Since the ratio of exchange between two commodities is simply the relative quantities that exchange for each other, it is evident that this ratio will change whenever the worth of either of the commodities changes. If wheat is being exchanged for shoes from time to time, and it becomes for any reason more valuable, it will exchange for a larger number of shoes; if it becomes less valuable, it will exchange for a smaller number. Likewise if shoes become more or less valuable, the ratio of exchange with wheat will change. By parity of reasoning, prices, which are the expression of the ratio of exchange between the standard and commodities, may change from any one of the following four causes or from various combinations of these: (*a*) from a rise in the value of the commodities the prices of which are in question; (*b*) from a fall in the value of these commodities; (*c*) from a rise in the value of the standard commodity; and (*d*) from a fall in the value of the standard commodity. The first and fourth of these causes will result in a rise of prices, and the second and third in a fall.

By way of illustration of these propositions, let us consider the possible causes of changes in the price of wheat. Remembering that gold is our standard and that Congress has decreed that 23.22 grains of gold shall be called a

dollar, by definition we know that when wheat is a dollar a bushel, 23.22 grains of gold are exchanging on the markets for one bushel of wheat. If subsequently, for any reason, the value of wheat should increase, that is, if people should desire it more intensely, or some new use for it should be discovered, or the supply of wheat should become short, the value of gold remaining unchanged, the price of wheat would certainly rise, since it would require more than 23.22 grains of gold to purchase a bushel. If wheat had just doubled in value, it would require 46.44 grains to make the purchase; that is to say, wheat would sell for two dollars a bushel. If, on the other hand, the value of wheat should diminish one-half, a bushel could be purchased with one-half the former amount of gold, and the price of wheat would be one-half of a dollar per bushel. Reversing the terms of our illustration, and assuming that the value of wheat remains unchanged, and that of gold rises and falls, we obtain corresponding results. When the value of gold rises, less gold will be required for the purchase of a bushel of wheat, and its price will rise. When the value of gold falls, more will be required for the purchase of a bushel of wheat, and its price will rise. If both wheat and gold were changing in value at the same time, it is evident that the result would be either rising or falling or stationary prices, according to the direction and amount of the changes. If gold should fall in value in exactly the same degree and at the same time that wheat was falling, prices would remain stationary. If, on the other hand, the changes were in opposite directions, the gold falling and the wheat rising, the rise in the price of wheat would be very great. Conversely, if gold were rising in value and wheat falling, the price of wheat would fall very rapidly.

3. **Primary and secondary standards.**—In order to avoid

confusion in the interpretation of prices it is necessary to distinguish a special class of value standards to which the adjective *secondary* may be applied. The commodity standard, the function of which we have described in the preceding pages, may be called *primary*. Secondary standards are based upon the primary in the sense that their value is derived from them and that their independent existence is impossible. In other words, a community may have a primary standard of value without a secondary, but cannot have a secondary standard without a primary.

Secondary standards usually consist of government notes which have been made *legal-tender*, that is of promises to pay, put into circulation by the government, and by law made receivable for all debts public and private. The effect of a legal-tender law of this sort is to compel creditors to accept government notes for the sums due them and to permit debtors to pay their debts by presenting or *tendering* these notes. In succeeding chapters we shall explain how such notes may take the place of all other forms of money, and why people, though compelled to accept them for payments due, ordinarily discount them, that is, receive them at less than their face value. It is discounted or depreciated notes of this sort that become secondary standards and in the following manner:—

Suppose our government were to issue notes of the various denominations, one dollar, two dollars, five dollars, ten dollars, fifty cents, twenty-five cents, ten cents, etc., and by law compel us to receive them in all payments, the notes containing upon their face a printed statement to the effect that the government promises at some not specified future date to pay to the bearer the sum indicated. Suppose further that, fearing lest the government might not keep its promise or that it would be slow in paying, or for some other reason, we should be unwilling to accept a dol-

lar note for more than fifty cents, a two dollar note for more than one dollar, a ten-dollar note for more than five dollars, etc. The result would be that prices would be doubled and these notes would become a secondary standard. A farmer whose wheat is worth one dollar per bushel would now demand a two-dollar note for it, and, if these notes constituted the only available money, he would henceforth quote his wheat at two dollars per bushel instead of one, knowing that he must receive these depreciated government notes in payment. When everybody had acquired the habit of quoting prices in terms of this depreciated paper, all prices would have doubled and the government notes would have acquired the quality of a secondary standard of value.

It should never be forgotten, however, that under such circumstances the use of the primary standard would not be discontinued. It would needs be constantly used to test the depreciation of the notes and in foreign exchanges. The expressions one dollar, five dollars, fifty cents, etc. printed on the notes would mean nothing until they were referred to the unit of value defined by statute as a certain amount of the primary standard. The community would have two sets of prices, one quoted in terms of the primary and the other in terms of the secondary standard, the difference between the two measuring the extent of the depreciation of the notes.

When a community possesses a secondary standard of value it is subject to fluctuations in prices from three instead of two sets of causes, namely, from changes in the value of commodities, from changes in the value of the primary standard, and from changes in the degree of depreciation of the secondary standard. In such a community, even though commodities and gold were relatively stable in value, great fluctuations in prices might result

from changes in the degree of depreciation of the government notes.

4. Characteristic features of standards of value.—The danger of confusing primary and secondary standards renders desirable a more detailed account of the characteristics of the former. Among these the most important are the following:—

A. A high degree of utility for purposes of ordinary consumption.—No commodity can serve as a primary standard of value which is not highly prized for purposes of ordinary consumption, so highly prized indeed that it is or may easily become an object of universal desire. The truth of this proposition rests upon two facts which become self-evident the moment one grasps the real nature of a standard. The first is that people can get into the habit of quoting the value of their commodities in terms of some one commodity only after they have learned the ratios of exchange between said commodities and the one in question by means of frequent exchanges. It is manifestly impossible to express a ratio which you do not know, and there is no conceivable way of knowing a ratio of exchange except by actually making exchanges and observing the terms in which they are made. It is equally evident that such knowledge could become *common* only after practically everybody had frequently traded his products for the one in question. For convenience of expression we shall hereafter speak of a commodity for which people generally are anxious to trade their products and services as one *possessed of a high degree of exchangeability.*

The second fact upon which the truth of the proposition we are defending rests is that such general and frequent trading of all sorts of goods for some one commodity as is necessary to fit it for the work of a standard implies the possession by said commodity of very great utility for pur-

poses of ordinary consumption. That every person in a community should frequently trade his products or services for a commodity which to him is useless it is impossible to conceive. It is necessary, however, to emphasize the truth at the very beginning of our study, because the failure to grasp it is responsible for a great deal of fallacious reasoning and a number of monetary heresies.

B. Serviceability as a medium of exchange.—In primitive communities the same commodity serves both as a standard of value and a medium of exchange, for the reason that a high degree of exchangeability fits it for both services. With the growth of commerce, however, the credit method of conducting exchanges, explained in the first chapter, has come into extensive use, and nowadays the medium of exchange everywhere consists of credit instruments and a number of different commodities besides that which serves as the standard. Nevertheless it is still important that the standard should constitute an element of the medium of exchange. This becomes evident when we recall the regulations necessary to maintain in concurrent circulation several varieties of coins and paper currency. As explained in the preceding chapter, subsidiary coins and paper currency must be redeemable directly or indirectly in some one kind of coins, and it is best that these latter coins should be made from the commodity which serves as the standard of value. The statements on the faces of the coins and notes in circulation always refer to the standard commodity. A five-dollar government note or bank-note is a promise to pay a specified amount of this commodity; and while the statements on the faces of the coins do not formally constitute promises to pay, the figures always refer to specific amounts of this same commodity; and if they circulate at the value indicated by these figures, it is because they are either directly exchangeable for that

specified amount of the standard commodity or redeemable in an amount of some other commodity exactly equivalent to this in value. The difficulty connected with the redemption of the various elements of the medium in other commodities than the standard is the fact that the quantity of such commodities receivable in payment for a ten-dollar note or a dollar or fifty-cent coin would vary with the price of the commodities. Suppose, for example, that all elements of the medium were made redeemable in silver, gold being the standard of value. When silver was worth a dollar an ounce it would take ten ounces to pay a ten-dollar note, and when its price was fifty cents an ounce it would take twenty ounces to redeem the same note. It would always be necessary to determine the price of silver in gold before the payment of the note or the redemption of the coins could be accomplished.*

When all forms of currency are made redeemable in the standard commodity, on the other hand, the quantity payable for a ten-dollar note is unchangeable, since ten dollars means ten times the unit of value called the dollar, and this unit is defined by law to be a certain number of grains of gold. If, then, the standard commodity be put up in coins of convenient sizes and denominations, it constitutes as nearly perfect a material for redemption as it is possible to obtain. It follows that a good standard of value must be a commodity which possesses the qualities needed in the manufacture of coins, such as durability, divisibility, homogeneity, malleability, etc.

* The student must not allow himself to be deceived by indirect systems of redemption. We may make notes redeemable in silver dollars at their face value without reference to their intrinsic value, and no difficulty will be experienced provided the silver dollars are themselves directly or indirectly redeemable in gold. Under such a system the notes are really redeemable in gold, but by an indirect or roundabout process.

C. Capacity to be easily and cheaply hoarded and transported.—The extensive use of the standard commodity as material for redemption renders important its capacity to be easily and cheaply hoarded and transported. The commodity used for the payment of notes and the redemption of coins must be frequently transported between different countries and different parts of the same country, and the question of expense of transportation thus becomes an important matter. If the redemption material is bulky and of low value, the expense of transportation will be high; if it is very valuable, that is, possessed of a good deal of value in small bulk, these expenses will be much lower, indeed may be relatively insignificant. In subsequent chapters we shall explain the necessity of paying balances between banks in the same and different countries in the standard commodity, and consequently the need many banks, and sometimes the national treasury, feel for keeping large amounts of this commodity on hand in their vaults. A bulky commodity is much more expensive to store than one of high value. It thus becomes evident that of two commodities otherwise equally well fitted to serve as a standard of value, the more valuable one has the advantage in the particulars just described. Great financial institutions which are obliged to handle large quantities of the standard commodity possess great influence in the determination of what that commodity shall be, and, for the reasons mentioned, among others, are quite certain to favor the more valuable commodity.

5. The history of standards and units of value.—The number and variety of commodities which at various times have served as standards are great. Various kinds of grain, rice, cattle, salt, tobacco, skins of animals, cacao, and various metals, of which the most important are lead, iron, copper, silver, and gold may be mentioned. Of these, gold

has best endured the various tests, and is now the standard in all the great commercial nations. Since commerce has been playing an important rôle in the affairs of nations, silver has been its only competitor. These two metals are better fitted for the work of a standard in all the respects we have mentioned than any of the other commodities. On account of their durability, divisibility, adaptability to the coiner's art, and high value, they are preëminently fitted for service as a medium of exchange, and their great beauty and consequent adaptability to purposes of ornamentation made them objects of universal desire very early in the history of civilization. Custom and law have also long favored them. The victory of gold over silver in comparatively recent times is due chiefly to its superior value and its consequent extended use in international exchanges and in the payment of balances between banks. Legislation has also favored it, but largely for this reason. It is equally as good as silver in all other respects, and much better in this very important one.

Of secondary standards history presents us with numerous examples. During the years 1790-1796 France had such a standard in the depreciated government notes which displaced all other forms of money and which were issued by the Revolutionary governments as a means of meeting the extraordinary expenses of the time. During the years 1793-1821 the notes of the Bank of England, not being redeemable on demand in coin, depreciated and became a secondary standard. So comparatively slight was the depreciation of the notes during the greater part of the period, and so gradual their introduction as a secondary standard, that many people believed them to constitute the primary standard, and a number of theories in support of this contention gained currency. During our Revolutionary and Civil wars depreciated government notes came into general

circulation as money and served as secondary standards. In all of these instances silver or gold continued as the primary standard, and prices were commonly quoted in these metals as well as in the depreciated paper.

The history of units of value is too complicated and in many cases too obscure to warrant any extended account here. The English pound sterling has probably had the longest continuous history of any of the units of value employed by modern nations. It dates back at least to the later Saxon period, and probably still farther. The name *pound*, however, has been the only really permanent element. For many centuries it consisted of silver, but the amounts which it represented were repeatedly diminished until from a pound's weight it ultimately fell to a few ounces. It was not represented in the form of a coin until modern times. In 1816 it was changed to gold and has remained unaltered to the present day. In France the same system of reckoning as in England, with the French names livre, sou, and denier instead of pound, shilling, and penny, was employed until 1795, when the modern franc was adopted as the unit. As in England, the amounts of metal represented by these names constantly diminished, and they were even less frequently represented in coins. In Germany the same system with the names pfund, schilling, and pfennig was originally employed, but a number of independent and widely different systems were developed in the free cities and independent principalities of the Middle Ages, and it was not until 1873 that the mark, consisting of .398247 of a gramme of gold, became the unit of the whole German Empire. In the United States the dollar has been the name of the unit since colonial times. Up to the establishment of our own coinage system it meant the Spanish milled dollar, but the act of 1792 defined it in terms both of silver and of gold, the ratio between the two being reckoned

as 15 to 1. Its content in pure gold at that time was fixed at 24.75 grains, but in 1834 it was diminished to 23.22 grains, and has remained unchanged since that date.

It is by no means necessary that the unit should be represented in a coin, although it is desirable, as we have shown, that some coins should be made from the standard commodity. For example, though gold is the standard of value in this country and our unit, the dollar, is defined in the statutes as 23.22 grains of pure gold, we do not coin a gold dollar as its representative for the reason that it would be too small for convenient use. Our dollar coin is, therefore, made of silver. The same is true of the present French and German units. While the franc and the mark are both defined as a certain number of grains of gold, the coins designated by these names are, for convenience's sake, made of silver. The English pound sterling, being a very large unit, is represented in a gold coin called the sovereign, which is of convenient weight and size for purposes of general circulation.

6. The importance of stability of value in the standard.— The vital part which the standard of value plays in the determination of prices suggests the importance of stability of value in the commodity which is to perform this function. Fluctuations in prices ought, if possible, to correspond exactly with fluctuations in the value of commodities. If we could be perfectly sure that every change in the price of a commodity represents and exactly measures a change in the relation between its demand and supply, producers would be able to determine with a considerable degree of accuracy the results of prospective increases or decreases in the supply of their product, and would thus secure a sound basis for the management of their concerns. Under these circumstances, too, political economists and sociologists would be able accurately to translate price statistics into

vital changes in our economic life, and thus to trace causes to their effects with a certainty and a degree of accuracy now unknown. To the extent, however, that changes in prices are due to fluctuations in the value of the standard, an element of uncertainty is introduced into all calculations based on prices. Without a special investigation, always difficult, sometimes impossible, and never accurate, one does not know whether a given change in prices is due to a cause operating upon the commodities whose prices are under consideration, or upon gold. If a manufacturer, for example, on account of a rise in the price of his product, which in reality has been caused by a fall in the value of gold, concludes that the demand for his product has greatly increased, and, on the basis of a calculation founded on this conclusion, proceeds to enlarge his factory and increase his output, he is quite sure to suffer loss and possible bankruptcy. The increased supply of goods which he throws upon the market as a result of his mistake would really not be needed and he would be obliged to sell them at a sacrifice. If his loss should chance to be great enough to cause bankruptcy, and if his concern were a very large one, and connected in a business way with banks and other large enterprises, his fall might carry others down with him in a constantly widening circle, and a great commercial crisis be the result.

Uncertainty in business affairs of the kind we have been describing can only be completely removed by a standard whose value never changes; that is, by one whose value is absolutely stable. The proof of this is the fact previously stated, that outside of changes in the values of the commodities themselves, the only cause of price fluctuations is a change in the value of the standard.

A second reason for desiring stability of value in the standard commodity is the fact that debts are nearly always

measured and expressed in its terms. In this country promissory notes, bonds, stocks, and all contracts calling for payment by one party to another at some future date are drawn in terms of dollars and cents. Each of these documents contains the promise of some individual or corporation to pay some other individual or corporation a specified number of dollars at some period in the future. It is very evident that if these dollars change in value before the date of maturity of the document, the essential character of the contract is changed. If they rise in value, debtors must pay more; if they fall, less. The effect upon creditors, of course, is directly the reverse. For example, a farmer, whose land is mortgaged, must pay to his creditors more value than he intended if the value of the standard rises, and less if it falls. If the amount of the mortgage is $5000, and the value of the standard doubles before the mortgage matures, he will be obliged to pay double the amount of value he intended or an amount of produce which would have been worth $10,000 at the time the mortgage was made; if the value of the standard diminishes one-half, the mortgagee will receive no more than the equivalent of $2500 at the time the mortgage was made. The mass of indebtedness at the present time is so enormous that a comparatively slight change in the value of gold transfers millions from the pockets of debtors into those of creditors or vice versa. It sometimes happens that the people of an entire section of the country are debtors to a much greater extent than creditors or vice versa, and hence that a change in the value of the standard seriously interferes with the prosperity of the entire community or unjustly enables one region to draw tribute from another. The interests of an entire nation may be dominantly on the side of the creditor class or the debtor class, and international relations thus seriously affected by changes in the value of the standard

commodity. The only way in which justice in money matters between man and man, section and section, and nation and nation can be attained, therefore, is by means of a standard which is absolutely stable.

7. **Difficulty of securing a stable standard of value.**—However desirable a stable standard of value may be, its attainment is very difficult. Not only does no commodity exist the value of which is absolutely stable, but other necessary qualifications limit the choice. We may not select a commodity for a standard simply because its value is stable in a high degree. It must possess the other qualifications mentioned as well. Fortunately, however, these other qualifications contribute toward stability of value. Other things being equal, a commodity which is an object of universal desire, and consequently widely and generally used, is less liable to fluctuations in value than one which satisfies the wants of only a few people. The use of a commodity as a medium of exchange also is liable to steady its value, since it is possible to substitute other things for it if its value tends upward, and to substitute it for other things if its value tends downward. The quantity of the commodity thus used acts as a sort of reserve fund which is used from time to time to steady the market. It seems probable, therefore, that the commodity which has survived the various tests of actual experience, and is now the standard of value of the commercial world, is as stable in value as any single commodity which could be selected. That it comes far short of being an ideal standard, however, will be made evident in succeeding chapters.

8. **The interpretation of prices.**—The facts which have been presented in the present chapter should help us to appreciate the difficulty involved in the interpretation of present prices and of price statistics. The market price of any commodity is certain to be the result of at least two

sets of circumstances, namely, those which determine the demand and supply of the commodity, and those which determine the demand and supply of gold. In a country which possesses a secondary standard a third set of circumstances enters in, namely, those which determine the depreciation of the paper currency. Suppose, for example, that we are asked to interpret a change which took place in the market price of wheat in the United States between the years 1863 and 1865, the price in the former year, for example, being quoted at $1.10 per bushel and in the latter year at $2.50 per bushel. If we desire to know what caused the great rise in the price of this commodity, we are obliged to investigate, in the first place, the demand and supply of wheat during the period, in the second place, the demand and supply of gold, and in the third place, the depreciation of the government notes which constituted the currency of the period. The changes of price may have been due entirely to any one of these sets of causes, but it is more probable that it was due to the operation of all the causes combined. An investigation of this kind is necessarily very difficult. It is not easy to determine at any particular time precisely what is the demand or the supply of a commodity such as wheat. It is still more difficult to determine and accurately to measure at any particular time the demand and supply of gold. The depreciation of the notes is also difficult to determine. At the best, in such a case, it is usually possible only to establish a certain probability in favor of one explanation or another, but it is rarely possible to obtain absolute certainty.

The interpretation of certain price statistics present even greater difficulties. The statistical tables which are usually found in public documents, and upon which interpretations of price changes are based, contain averages of the prices of the commodities in question over a certain period of

time and on a particular market. For example, the *London Economist* publishes annually a statement of the average prices on the London market of twenty-two commodities, and compares the average each year with that of a number of preceding years. At the same time it presents also an average of the prices of the twenty-two commodities, and much use has been made of these statistics in the discussion of monetary questions. It is evident from the facts presented in this chapter that the interpretation of the meaning of the average price of a commodity for a certain period of time is even more difficult than that of a specific quotation for a particular moment. Besides the various considerations mentioned in the preceeding paragraph, we have now to struggle with the confusion of averaging a number of quotations. In the average one cause may offset another, and the meaning of the result can only be obtained by unravelling all of these changes. Suppose, for example, that we average the daily price quotations of wheat for a particular year. One day the price is high as compared with the preceding, another day it is low. The difference is now great, now small. These specific fluctuations, as we have seen, are due to various causes, now affecting the demand and supply of wheat, now the demand and supply of gold. It is difficult, as we have seen, to measure and unravel these various causes in the case of a specific quotation. How much more difficult is it to solve the problem when we have combined more than three hundred of these quotations in a single average! If it is excessively difficult to interpret the average price of the individual commodity, how nearly impossible it must be correctly to interpret an average of the prices of a number of commodities.

The purpose of statistics of average prices is usually to indicate changes in the purchasing power of the unit of value. The average of the daily quotations of wheat for a

year gives us an idea of how much wheat on the average during the year in question a dollar would buy, and when we combine the prices of twenty-two commodities for a year we have a result which indicates to us the average amount of those twenty-two commodities which a dollar would command during the year. A knowledge of the purchasing power of the unit is useful for many purposes, but it renders little, if any, assistance in the determination of changes in the actual value of commodities or in the actual value of gold. If we wish to determine whether the ratio between the demand and supply of gold or of any other commodity has changed during a series of years, only a minute and careful investigation into the various circumstances which have entered into the determination of said demand and supply will suffice.

REFERENCES

The nature and history of standards of value are treated in Laughlin, ch. iii; Jevons, ch. iv; Taylor, chs. v and vii; Knies, ch. iv; section V of Menger, article "Geld" in the *Handwörterbuch der Staatswissenshaften* and in his *Grundsätze der Volkswirthshaftslehre,* ch. viii. On the importance of stability of value in the standard commodity see Walker, *Money, Trade, and Industry,* ch. iii, and *Money,* ch. i; Nicholson, pt. I, ch. ii, §§ 4, 5, and 6; and Ross, The Standard of Deferred Payments, *Annals* for November, 1892. Price statistics and their interpretation are treated in Laughlin, ch. vi; Nicholson, pt. II, ch. vii; Schoenhof, *A History of Money and Prices,* ch. i; Walsh, *The Measurement of General Exchange-Value,* especially chs. v, vi, and xiv; Falkner, introduction to the *Aldrich Report on Retail Prices and Wages* and his *The Theory and Practice of Price Statistics* in the Publications of the American Statistical Association, v. III, pp. 119-140.

CHAPTER IV

THE VALUE OF THE STANDARD

THE standard commodity is no exception to the general laws of value. Marginal utility, costs of production and demand and supply operate in this case in precisely the same manner as in others. For a discussion of these laws the student is referred to general treatises on political economy. In this chapter we shall treat only the peculiar influences which lie back of them in the case of this particular commodity.

1. **Demand for the primary standard.**—It is necessary to treat separately primary and secondary standards. The reason for this, if not obvious at this point, will soon appear. From the standpoint of demand the peculiarity of the standard commodity consists in the fact that a very large, usually the largest, part of it comes from its use as a standard of value and a medium of exchange. It is probable that between 70 and 80 per cent. of the present demand for gold comes from these sources, and from 20 to 30 per cent. from its use for purposes of ordinary consumption, such as jewelry, plate, ornamentation, dentistry, etc. These proportions may and do constantly change. The point to be firmly grasped at this stage in the discussion is the fact that in the case of the standard commodity there are *always* two main sources of demand, namely, its service for ordinary consumption purposes and its service as a standard of value and a medium of exchange. Neither of these sources should at any time be neglected, since neither of them is ever suspended. To the extent of its magnitude one is just as

potent as the other, and at a given time the total demand which operates together with the total supply in the determination of its value is the sum of the separate demands which come from its various commodity and monetary uses.

There is nothing in the ordinary consumption uses of gold or of any other standard commodity that calls for special treatment in this chapter, but the elements of demand which come from its monetary uses require further consideration. As a standard of value a commodity performs its chief function by lying in the vaults of banks and certain government treasuries, like those of the United States, as security for the redeemability of the various forms of credit currency that constitute the bulk of the medium of exchange. How large a sum is needed for this purpose it is impossible to say. It depends primarily on the state of confidence. If men generally trust each other and freely accept each other's promises to pay, the amount required is very small. Indeed, it is conceivable that it might be reduced almost, if not quite, to zero. If confidence between man and man becomes impaired in any degree, the amount required is larger and it may become enormous. At any given time it is determined chiefly by the judgment of bankers. Sometimes, as in the case of most of the banking institutions of the United States, the laws fix a minimum, in the form of a percentage of their deposits, below which bankers are not permitted to allow their reserves to fall, but only a part of these reserves can be regarded as an insurance fund of the kind we are describing. A part of them is also required to meet the ordinary demand of the community for a particular form of currency. This fact brings us to the consideration of the second source of the monetary demand for the standard commodity, namely, the demand for it as a medium of exchange.

In a preceding chapter it was shown that coins of different denominations are essential elements of a good medium of exchange. If the standard commodity is used in the manufacture of some of these coins, as it always is, a demand for it results, measured by the amount of such coins needed. The amount depends upon a great variety of circumstances, many of which are subject to purely arbitrary changes. Among the most important of these are: the presence or absence of other forms of currency of the same denominations; the capacity of such other forms of currency to satisfy the needs of commerce; and the aggregate value of the commodities to be exchanged within a given time by means of currency of these particular denominations.

The manner in which the substitution of other forms of currency affects the demand for the standard commodity is well illustrated by the practices of the various countries at the present time. For example, in England there is no form of ordinary hand-to-hand credit currency in circulation below the denomination of five pounds or twenty-five dollars. Consequently the entire demand for money of denominations between the silver crown, worth about one dollar and twenty cents, and the five pound bank-note must be supplied by coins made of the standard commodity, gold. In Scotland a large part of this demand is supplied by means of one pound bank-notes, and in the United States we use for this purpose not only bank-notes of denominations five dollars and above, but various forms of government notes of denominations from one dollar up. If we should cease to use credit currency of these denominations, a demand for gold coins to take its place would appear and the total demand for gold would be to that extent increased. If the Bank of England should be permited to issue one pound notes against securities, and should actually do so,

there would be a decrease in the use of gold coins in England and a corresponding decline in the demand for gold in that country.

It is obvious that no form of credit currency can take the place of coins made of the standard metal in their use as a medium of exchange unless it is capable of performing that service quite as well as or better than such coins. In order to do this, the public must be assured of the ability of the issuer to redeem such currency on demand in the standard commodity, it must be equally as convenient or more convenient than standard coins, and the public must be able to obtain it by means no more onerous than those required for obtaining such coins. Not all forms of credit currency are capable of meeting these requirements, but many are, and the ingenuity of man in inventing such forms has by no means been exhausted.

The composition of the currency and the habits of the people in the use of its various elements being for the time fixed, the magnitude of the demand for the standard metal as a medium of exchange is determined by the total value of all the commodities simultaneously to be exchanged by means of standard coins. Suppose, for example, a thousand commodities worth on the average a dollar a piece are going to be simultaneously exchanged by means of standard coins. It is obvious that coins to the amount of one thousand dollars will be required for that purpose. Several points involved in this proposition should be carefully noted. First, the word *simultaneously* employed in this connection is important. If groups of commodities are exchanged *one after the other* instead of simultaneously, the same coins may be used again and again. This fact is frequently emphasized by the statement that *the rapidity of the circulation* of coins is an element in the determination of the demand for them. If in a given time, say a day, a thousand

dollars' worth of coins are used four times, they would perform the same amount of work as four thousand dollars' worth used once only during the day. If, therefore, we consider a unit of time, such as a day or a week, the demand for standard coins will depend upon the rapidity of their circulation as well as upon the total value of the goods exchanged. The use of the word *simultaneously* in our proposition concentrates attention on the goods to be exchanged *at the same time,* and it is obvious that the same coins cannot do two pieces of work at once.

Another point to be carefully noted is the fact that the *prices* of goods are a factor in the determination of their total value, and consequently of the monetary demand for the standard commodity, equally important with their quantity. If the average price of each of the thousand commodities had been two dollars instead of one, two thousand instead of one thousand dollars' worth of coins would have been required to accomplish their exchange. The determination of prices is, therefore, antecedent to the determination of the monetary demand for the standard commodity. This statement reveals a relation between this source of demand and prices which requires further elaboration, since it is frequently misunderstood.

In a previous chapter we have shown that prices are the numerical expression of the ratio of exchange between the conventional unit of any good and of that amount of the standard commodity fixed by statute as the unit of values. We have now shown that one element in the determination of the demand for the standard commodity, and hence in the determination of its value, and hence in the determination of prices, is the amount needed for monetary purposes, and that into that amount prices also enter as a determining factor. This looks like reasoning in a circle, but the arrangement of these various influences in their proper order

as regards time of operation will show that in reality it is not. At a given date, for example, the values of each class of goods and of the standard commodity have been determined by the various elements entering into the supply and the demand of each one, including in the case of the standard commodity the demand for it for monetary purposes. Prices are the numerical expression of the values thus determined. In the next period of time, that is, in the one immediately succeeding that just considered, these prices will enter into the determination of the monetary demand for the standard commodity, either increasing it or decreasing it or maintaining it as before, and in this way together with all the other influences affecting its demand, help to determine its value, which, when thus determined, will play its usual rôle in prices. The starting point in this process of action and reaction is the value of the standard commodity for ordinary purposes of consumption, since, as we have already shown, a valuation based upon these uses must necessarily have preceded its use either as a standard of value or a medium of exchange. In the process of time this valuation has been greatly changed by its monetary uses and it is constantly being so changed, but this fact does not alter the fundamental character of its demand for ordinary purposes of consumption or justify the neglect of this demand in the consideration of the processes of valuation.

In this connection it is well to remember that the monetary demand for the standard commodity, while very real and very potent, is peculiar in that it may be arbitrarily modified by the substitution of credit currency for it in the medium of exchange and by changes in the regulations pertaining to bank reserves. The former process has been illustrated in a preceding paragraph; of the latter our own history furnishes many examples. Between the years 1863

and 1879 government notes not redeemable on demand in coin were the chief element of the bank reserves of this country. After the resumption of specie payments in 1879 coin was again used, but even up to the present time greenbacks and gold and silver certificates are available for that purpose. If Congress should pass a law, as it might, forbidding the use of anything except gold coin for this purpose, the demand for gold would be largely increased. If it should supply an additional amount of greenbacks and permit them to be held as reserves, a considerable diminution in the demand for gold would result. A change in the limitation at present established by law on the amount of reserves banks must hold or in the places at which they are permitted to keep them might very materially affect the demand for this metal.

The use of gold as a store of value is often mentioned as one of the sources of its demand. By this is meant its employment in hoards for the purpose of preserving and safeguarding property. This is certainly one of its uses, but one continually diminishing in importance and in normal times of no great influence. Other means of preserving and safe-guarding property, such as its use for production purposes through the various processes of loan and investment, are far superior and are now-a-days generally employed. In times of uncertainty and distrust, however, this use of gold may become important and a disturbing element of considerable significance.

2. Supply of the standard commodity.—The supply of every commodity, regardless of its uses, is subject to conditions some of which are peculiar to itself, and to this rule gold and silver, the sole standard commodities in use at the present time among civilized peoples, are no exceptions. From the point of view of durability these metals stand at the head of the mineral kingdom. On this account, in pro-

portion to the amount annually produced, the quantity in existence tends to accumulate more rapidly than that of other commodities, the loss from wear and tear and actual destruction in the process of consumption being relatively small. In consequence of this fact the amount of these metals in the world at the present time is very great, the process of accumulation having been going on for many centuries. The form, too, in which a very large proportion of it exists,—plate, jewelry, bars, coins, etc.,—is such that its transfer from one use to another can be very easily made.

The supply of either of these metals, which in connection with the demand determines their value, is the amount offered for sale at a given time, and not the entire mass accumulated through the centuries; but the existence of this mass constitutes a potential supply which exerts a steadying influence on its value, since any change tends to cause a transfer to or from this mass to the market. If the market value of the metal tends to rise, coin, plate, jewelry, etc., may be melted and sold as bullion, thus increasing the supply, and in the opposite case, bullion may be transformed into coin, plate, jewelry, etc. and the market supply diminished. These changes in supply to a degree counteract the tendency of the market price to change and thus contribute toward stability of value. The portion of this mass, which exists in the form of coin, may be very easily moved to the bullion market, little or no change in form or fineness being required, and bullion may be transformed into coin at the mints of some countries without any cost to the owner and with very little loss of time.

Another consequence of the durability of the precious metals and of the consequent steady increase in the mass accumulated has doubtless been a gradual fall in their value, at least since the discovery of the mines of South America

in the sixteenth century. There can be little doubt that their supply as compared to the demand for them at the present time is greater than at any other period in the world's history. The same statement could probably be made concerning most other commodities. This is but another way of saying that the wants of people are better supplied now-a-days than ever before. It is, however also probable that the degree of decline in the value of the precious metals has been greater than in most other commodities. The evidence of this is the tendency of prices to rise. A comparison of the recorded prices through long periods of time of a commodity like wheat, reveals this tendency, as does also a comparison of the averages of the prices of groups of commodities.

3. The value of secondary standards.—Secondary standards have already been described as discounted or depreciated notes which, in accordance with Gresham's law, have taken the place of coin in the medium of exchange, not only as hand-to-hand money, but as a basis of other elements of the currency. We shall now consider the chief causes and consequences of the difference in value between these notes and the primary standard in existence at the time.

Being actual or implied promises to pay, these notes are credit instruments and their value is subject to the laws governing such instruments. The most fundamental of these is the result of the loan feature which characterizes them. When a government issues such notes it is really forcing a loan from the people, a loan of the services and commodities for which it gives the notes in payment. When, in the ordinary processes of commerce, a person receives these notes in payment for goods or services, he is in reality making a loan, since what he has obtained in return for his property is a promise to pay the standard commodity, which promise is not redeemable on demand

but *at some date in the future.* For loans interest must be paid, and since these notes are non-interest-bearing their value necessarily depreciates. The amount of depreciation depends upon the rate of interest at which the public is willing to make loans of this kind, and this rate is subject to wide fluctuations on account of the uncertain features of the contract. Of these the most important are the date of maturity of the loan and the willingness and ability of the borrower to pay.

On the face of the notes the date of their redemption is usually not indicated, and in most cases a considerable period of time elapses before a date is fixed by the public authorities. During all this time people can only speculate regarding the time at which the notes will be redeemed and their speculations will vary according to the course of events likely to affect the ability and willingness of the responsible party to pay and according to the various degrees of their optimism or pessimism. During our Civil War, for example, the United States notes, which became a secondary standard of value soon after their issue in 1862, fluctuated with the varying fortunes of the armies in the field and the financial condition of the government. After the war the element of risk diminished as the financial condition of the government improved, and after the passage of the resumption act in 1875 the date for the redemption of the notes became definite. During this entire period the question whether or not the notes would be redeemed at all was a subject of debate, and this uncertainty did not completely disappear until actual redemption commenced.

The monetary services performed by these notes tend to obscure the influence of the loan feature and to introduce new factors into the determination of their value. The ability of a person to pay his debts with them and to use them in the purchase of other commodities renders possible a con-

tinual shifting from one person to another of the risks and possibilities of loss involved in their possession, but the fact that, so long as industry and commerce continue, every person must receive them in payment for the goods and services he sells offsets any advantage which might otherwise be derived from this possibility. Ultimately each person must assume a share of the risks and losses involved in the use of such notes, and their depreciation to the full extent warranted by such risks and losses would be inevitable, were it not for the fact that their serviceability for monetary purposes creates a new demand for them which affects their value. The possible extent of this demand is the amount of coin in use for monetary purposes plus the amount the increase in prices, due to the depreciation of the notes, would occasion. However, it would rarely, if ever, be so great as this. Coin does not cease to be useful for many monetary purposes when such notes come into competition with it. At a premium measured by the depreciation of the notes they are as useful as ever and may continue to be used whenever such premium can be realized. The notes will take their place only in those uses in which this premium cannot be realized, namely, as hand-to-hand money within the territory in which they are legal-tender. For that element of bank reserves which constitutes an insurance fund against future contingencies, such as the shattering or destruction of confidence between man and man, for international payments, and as a store of value the use of coin will continue to be as profitable as ever.

The tendency of this monetary demand is to diminish the depreciation to which the notes are normally subject, but it is impossible to determine the magnitude of its influence in this direction. As we have seen, the most potent causes of depreciation are subjective and hence impossible

of exact measurement and there is no way of determining the magnitude of the monetary demand for them at a given time. The actual depreciation of the notes, or the premium on the standard commodity, which is the same thing, is a known quantity, obtainable from market quotations, but the various influences which have determined it cannot be separated and measured. The market records which are available for study indicate that the monetary demand has rarely, if ever, been sufficient to prevent depreciation. Indeed, whenever and wherever such notes have been extensively employed their depreciation has been great and subject to frequent and wide variations.

4. The quantity theory.—The value of the standard is ordinarily explained by a theory which assigns to the money supply so peculiar an influence on its value that the name *quantity theory* is commonly given it. In many important particulars this theory is out of harmony with the explanation given in the preceding paragraphs. On this account it demands attention at this point. Various methods of stating and defending this theory have been employed which the student is advised to examine with the aid of the references given at the close of this chapter. Only its essential features will be indicated here. A recent writer has described them in substantially the following manner:

At a given time there is needed in a country a certain amount of money value or utility, that is, "utility in a form possessing universal and immediate acceptability." This amount "depends upon the volume of transactions, upon the population of the country, the quantities of goods they produce and exchange, their customs with regard to the use of credit as a medium of exchange, their business organization, their methods of production and exchange,

and their habits with regard to the keeping of money on hand." *

This need or demand for money value creates the supply of money value, since all the goods the sale of which produces this demand are offered in exchange for the money of the country regardless of its amount, and, being useful for no other purpose, all the money of the country is offered for them. ** These two aggregates being exchanged each for the other, their values are equal, and the value of a unit of the money supply equals the total value of the goods offered for sale divided by the number of units and varies inversely with this number. For example, if the amount of money value needed is 1000 and the number of money units 500, the value of a single unit is 2; if the number of units be increased to 1000, the value of each falls to 1; and if the number be decreased to 100, the value of each rises to 10.

In this description the word money means standard coins and the substance of the entire statement may be expressed in three propositions:

(1) At any given moment a certain quantity of commodities is offered in exchange for standard coins, the quantity being determined by the various circumstances mentioned above;

(2) The total value of the standard coins regardless of their number or of their value as bullion will equal the total value of the goods offered in exchange for them;

(3) The total value of the unit will, therefore, equal the total value of such goods divided by the number of units in the supply and will vary inversely with that number.

In order to make very clear the lack of dependence of the value of the monetary unit on that of the bullion con-

* Johnson's Money and Currency, p. 19.

** Ibid, pp. 27, 28.

tained in it, another writer * illustrates the theory by assuming the money of a country to be composed of dodo bones, the nearest approximation to an absolutely worthless thing he could think of. Under this assumption, if the number of dodo bones were 1000, the value of each would be one one-thousandth part of that of the goods offered in exchange; if the number were reduced to 100, the value of each would rise to one one-hundredth part of that of the goods, and so on.

Regarding the first proposition it should be observed that the exchange of any good or goods for standard coins implies the previous possession of value by the latter.** It is unreasonable to suppose that any one would trade a commodity which he valued for one that had no value whatever. The dodo bone assumption is, therefore, impossible, since such a worthless thing could never come into use as standard money. This truth has been obscured by the monetary use of inconvertible notes. These notes, however, are always actual or implied promises to pay, and the amounts are always stated in terms of the prevailing standard. They constitute secondary standards, and the satisfactory explanation of their value is impossible without reference to the value of the primary standard which has been previously and independently established.

It is obvious that exchanges between goods in general and the standard commodity will take place at the beginning on the basis of the value already established by their respective demands and supplies for ordinary consumption purposes, no other basis being possible, and that the extent of the monetary demand for this commodity can only reveal itself quantitatively on the basis of prices thus established. For example, if there are 1000 commodities, and the average price of each is one dollar, there will be a demand for

* J. Shield Nicholson.

** For proof of this proposition, see pp. 37 and 38.

$1000, if the average price of each is two dollars, there will be a demand for $2000. It is obviously impossible to know what the demand will be before the price of each commodity is determined. That demand once revealed and made effective by the offering of goods for the standard commodity on this basis will become an element of the total demand and will affect its value, and through that value prices, and through these the monetary demand again. The proportion of the monetary demand to that from other sources makes no difference in the valuation process or in the fundamental character of the value of the standard commodity for purposes of ordinary consumption. The utility of the standard commodity for these purposes is the basis of its utility for monetary purposes. The latter could not exist without the former and for all time continues to have vital relations with it.

If the prices of the commodities exchanged are determined by comparisons of their values with that of a standard independently determined by its supply and demand, in which its use for ordinary purposes of consumption is a fundamental factor, then the total value of the monetary supply is *not* independent of the number of units in circulation, as is stated in the second of the above propositions, but is proportional to that number, being equal to the product of it and the value of the unit. Furthermore, the number of units in use for monetary purposes is in the first instance a result of the level of prices established by the above mentioned comparisons, and enters into the determination of the value of the unit in the succeeding period of time only to the extent that it constitutes an increase in the demand for the bullion of which it is composed.

The statement that the value of the unit equals the total value of the goods exchanged for standard coins divided by the number of units they represent is an identical proposi-

tion which has no significance, if the second of the above propositions be not true, and is objectionable in so far as it leaves the impression that the value of the unit is derived solely from the demand for it for monetary purposes and is independent of the supply and demand for bullion.

The chief objections to the quantity theory may, therefore, be summarized as follows:

1. It underestimates the importance of the bullion value of the standard commodity and incorrectly explains the relation of that value to the value of the standard coins.

2. Its statement of the relation of the quantity of money to its value is incorrect and misleading.

3. Its explanation of the sources of the value of the monetary unit being incorrect, it fails to recognize the existence of secondary standards and consequently correctly to explain the value of inconvertible notes.

4. It may be added that on account of these errors it has given support to a widespread belief in the efficacy and importance of changes in the volume of the circulating medium which is erroneous and dangerous.

REFERENCES

This subject is ably and exhaustively treated in Laughlin, chs. vii, viii and ix. For other criticisms of the quantity theory see Miss Hardy, "The Quantity Theory of Money and Prices," *Jour. of Pol. Econ.*, March, 1895; Mitchell, "Quantity Theory of the Value of Money," *ibid.*, March, 1896; Willis, "Credit Devices and the Quantity Theory," *ibid.*, June, 1896; Hazell, "Quantity Theory of Money from the Marxist Standpoint," *ibid.*, December, 1898; Scott, "The Quantity Theory," *Annals*, March, 1897; Farrer, *Studies in Currency*, ch. v; White, *Money and Banking*, bk. II, ch. xvii; and Schoenhof, *The History of Money and Prices.*

For statements and defense of the quantity theory see Johnson, *Money and Currency*, chs. ii, iii, vi, xiii; Kinley, *Money*, ch. viii; Walker, *Political Economy*, §§ 169-175; *Money*, chs. iii-viii; and "The Quantity Theory," *Quart. Jour. Econ.* v. IX; Nicholson, *Money and Monetary Problems*, chs. v-vii; Mill, *Political Economy*, bk. III, chs. viii and ix; and Kemmerer, *Money and Credit Instruments in their relation to general prices.*

CHAPTER V

THE ELEMENTS OF THE MEDIUM OF EXCHANGE

In Chapter II the currencies of modern times were analyzed into their constituent elements and their general characteristics pointed out. We shall now consider each element separately, beginning with the metallic.

1. **The purpose and importance of coinage.**—Metals nowadays serve the purposes of money chiefly in the form of coins. Originally doubtless, and occasionally in historic times, they were used in a crude state, the requisite amount being weighed out on the occasion of each exchange or passed from hand to hand in quills or other crude receptacles capable of being used as instruments of measurement. The great advantages of coins, however, led to their universal use in very early times, and at present their manufacture constitutes a business of no small magnitude and of great social significance.

A coin may be defined as a piece of metal or combination of metals bearing a stamp indicative of its weight and fineness, and other devices designed to render counterfeiting difficult, to prevent clipping and sweating, and sometimes to serve educational, artistic, or patriotic purposes. The explanation of their universal use may be found in the fact that, in order to transact business rapidly and accurately, it is absolutely necessary that the money metals should be put up in accurately labelled packages of convenient size and weight, so that any amount, large or small, can be transferred from one person to another or from one place to another without the waste of time and danger of error

which weighing the metals or measuring them in any other way would involve. If gold and silver in its pure state had to be weighed in every transaction, commerce on a large scale, in which rapidity and accuracy are essential and even slight losses in each exchange ruinous, would be impossible. A properly made coin always contains a fixed amount of metal of an invariable degree of fineness, and is so marked that we may know its exact weight and contents at sight without resort to the scales or the melting-pot. In making exchanges, therefore, it is only necessary to count and handle them, processes which may be performed very rapidly if their denominations, sizes, and weights are conveniently arranged.

Among the prime considerations in the manufacture of coins are honesty and accuracy. Inasmuch as they must pass from hand to hand throughout the length and breadth of the land and among rich and poor, learned and ignorant, those who understand their nature and those who do not, and must be accepted by everybody at the value represented by the devices placed upon them, absolute confidence in the honesty and accuracy of their manufacture is essential. If the stamp placed upon the coins were false, for example, people would soon discover the fact, and refuse to accept them, or, if compelled by law, protect themselves by refusing to sell their goods and services or by raising their prices. In any case commerce would be seriously obstructed and perhaps entirely destroyed. Inaccuracy in their manufacture is almost equally harmful. Two coins of the same denomination and made from the same metal should be exactly equivalent to each other in weight and fineness. Otherwise the superior coins would soon be culled out and melted up and the currency be constituted exclusively of the inferior ones. Moreover, the process of exchanging coins for each other simply for the purposes of gain in-

terferes with their legitimate use and obstructs commerce.

Owing in part at least to its great importance, the right of coinage has been considered from very early times as the prerogative of the sovereign. Throughout Europe, however, during the Middle Ages it was frequently granted to petty princes and free cities, and in consequence very much abused. In order to make the money received go very much farther than it otherwise would in the payment of debts and the purchase of commodities, debasement was frequently practised; that is, baser and cheaper metals were substituted for a part of the gold and the silver, the old weight and name being retained. Another method employed to accomplish the same end was the reduction of the weight and the size of the coins. These practices were equivalent to a partial repudiation of debts, and so far as the sovereign possessed and exercised the right of fixing prices, they also amounted to the levy of a tax upon the merchants with whom these sovereigns dealt. In partial justification, or at least explanation, of this abuse, it should be said that the laws of value were unknown to the royal personages of the Middle Ages, and that they generally believed that they possessed both the right and the ability to fix the value of money arbitrarily. The debasement of coins and the diminution of their weight, therefore, were not considered as criminal acts, but as the exercise of a sovereign right and a sovereign power. Not until commerce was developed to such an extent as to make its importance understood by kings and princes did the voice of the merchant class make itself heard in protest against these practices, and correct ideas regarding the nature and functions of money become a part of the common knowledge of business men and other well-informed people. The process consisted in the gradual withdrawal of the right of coinage from all private persons, and in the development

of the strictest integrity in the manufacture of coins on the part of public authorities. At the present time coinage is exclusively a government function, and in no one of the great nations would debasement or other dishonest practices be tolerated. When much worn by usage or in any other way defaced or reduced in weight coins are usually withdrawn from circulation by public authority and reminted. Perfect confidence is thus ensured. Since the laws of every nation contain an accurate description of the material, weight, fineness, and devices of its coins, and the mints execute these laws with perfect integrity, there is no occasion for ignorance, and no danger is involved in accepting metallic money at its face value.

In the preparation and maintenance of a good coinage system several important problems arise, in the solution of which all nations have been guided by substantially the same considerations, though their practices differ considerably in detail. Of these we will discuss the selection of units of value and methods of reckoning, the size, weight, and fineness of coins, and their names and devices.

2. Units of value and methods of reckoning.—Two systems of reckoning are at present in use, which we will designate as the English and the decimal. The former is the older of the two, having been employed everywhere in Europe during the Middle Ages, while the latter is the one in common use at the present time. According to the English system the unit is the pound sterling, which is divided into twenty parts called shillings, each of which is further divided into twelve parts called pennies, and these again into four parts called farthings. A pound is, therefore, equal to twenty shillings or two hundred and forty pence or nine hundred and sixty farthings. The names applied to the unit and its subdivisions have been different in the different countries, and the weight and materials of the

coins have changed many times. For example, the names common in Germany were pfund, schilling, and pfennig, and in France livre, sol or sou, and denier. It is probable that the English unit originally was a pound weight of silver, while at the present time it is fixed by law at 113.001 grains of pure gold.

Everywhere except in England this cumbrous system has been abandoned for the decimal, according to which the unit is divided into one hundred parts. In the United States, for example, we call our unit a *dollar,* and the hundredth part of it a *cent;* in Germany the name of the unit is a *mark,* and of the hundredth part a *pfennig,* the same name formally applied to a two-hundred-and-fortieth part of the old unit. The corresponding names in France are *franc* for the unit and *centime* for the subdivision; in Italy *lira* and *centesimo;* in Austria *krone* and *heller,* formerly *florin* and *kreutzer;* and in Russia *ruble* and *kopeck.* The prevalence of the decimal system is due to its superior convenience. It is much easier to multiply and divide by ten and its multiples than by twelve and twenty.

In the determination of the size and name of its unit of reckoning each nation has been influenced by a variety of considerations, many of which have been peculiar to itself. It is difficult to change a system already in vogue, and consequently historical precedents have been often followed. In the United States the fact that a Spanish coin called a dollar was in general circulation at the time our monetary system was established and for many years previous to that date, doubtless was the determining factor in the choice of our unit. In Europe the so-called *franc* system is the most widely extended, partly on account of the dominant influence of France among the nations of the Latin race, and partly on account of the inherent merits of the system itself. In consequence of the very different circumstances by which

the several nations have been influenced, a large number of units, however, are now in use. From the point of view of size they may be grouped into four main classes. In the first class belongs the English *pound sterling,* which is the largest of all, being equivalent to nearly five of our dollars. To the second class belong the United States and Canadian *dollar,* the Russian *ruble,* and the *peso* of several of the South American States. Of these our dollar may be regarded as typical. To the third class belong the old *florin* of Austria, the *florin* or *gulden* of Holland, and the *krone* of the Scandinavian countries and Denmark. As a type of this class may be taken the Dutch gulden, which is worth about forty cents of our money. In the fourth class belong the units of Germany, France, Spain, Italy, Belgium, Switzerland, and the new unit of Austria-Hungary. Of these the French *franc,* worth about twenty cents of our money, may be taken as a type. It must be remembered that the units of the countries here classed together are not identical. Our dollar and the Russian ruble, for example, differ in value by more than forty-eight cents but they have this in common, that, with the exception of the English, they, together with others of the same class, are the largest units now in use. The German mark and the French franc differ in value by about five cents, but they are both relatively small, while the Dutch gulden and the old Austrian florin, though not identical in value, in size range between the United States dollar and the French franc.

In the determination of the coins to be minted the size of the unit and the method of reckoning are important. As a rule the nations with small units have coins of lower denominations than those with large, the smallest representing one-hundredth part of the unit. The countries which use the franc system for example, usually have a coin about equivalent to one-fifth of a cent. The other

fractional coins which are most common wherever the decimal system is used are of denominations equal respectively to two, five, ten, twenty, or twenty-five and fifty times the smallest coin. In France and Belgium, for example, there are five-, ten-, twenty-, and fifty-centime pieces; in Germany, one-, two-, five-, ten-, twenty-, and fifty-pfennig pieces; in Austria-Hungry one-, two-, five-, ten-, twenty-, and fifty-heller pieces; in the United States one-, five-, ten-, twenty-five-, and fifty-cents pieces, etc., etc. Experience has shown that coins of these denominations are most convenient for purposes of reckoning and making change. In the English system the subdivisions are quite different, the coins in most common circulation being the half-penny, penny, sixpence (equivalent to six pennies), shilling (equivalent to twelve pennies), and two-, two-and-a-half, five-, and ten-shilling pieces. The large coins almost universally represent five, ten, twenty, and sometimes fifty times the value of the unit, paper money being used for the higher denominations.

3. The size, weight, and fineness of coins.—The denominations of the coins once determined, the size, weight, and substance are dictated chiefly by convenience, and in this respect the different systems exhibit remarkable similarity. In the countries with the small units the smallest coin and those representing two, five, ten, and twenty times its value are made of cheap metals, such as copper, bronze, or nickel; those representing half the value of the unit or fifty times the value of the smallest coin, the unit, and its multiples up to five, are made of silver, and the coins of higher denominations of gold. In other countries coins of corresponding value are made of the same metals. In the United States, for example, the one-cent piece is copper, the five-cent piece nickel, the ten-, twenty-five-, and fifty-cent pieces and the dollar coins are silver and the others gold. In England the

penny, half-penny, and farthing are bronze, the sixpence, shilling, two-, two-and-a-half, and five-shilling pieces silver, and the coins of higher denominations gold. In Germany the one-, and two-pfennig pieces are copper, the five- and ten-pfennig pieces nickel, the twenty- and fifty-pfennig, one-, two-, and five-mark pieces are silver and the other coins gold. In France the five- and ten-centime pieces are copper, the fifty-centime, one-, two-, and five-franc pieces silver, and the coins of higher denominations gold. Indeed, as nearly as the size of their respective units will permit, the coins of the various nations correspond to each other in size, weight, and substance, a fact which clearly shows the universal dominance of commercial interests in monetary matters. Despite the fact that the manufacture of coins is a government monopoly the world over, and despite the differences in the history, political characteristics, and economic and social policies of the different nations, common commercial needs have given to their coinage systems the same general features.

In order to render gold and silver coins more durable and thus to protect them as much as possible from loss by abrasion the pure metal is usually mixed with copper or, in the case of the gold coins, sometimes with a mixture of copper and silver. This admixture is known as an alloy, and the metal thus hardened is known as *standard* gold or standard silver to distinguish it from the pure metal. The most common practice at the present time is to use nine parts of pure gold or silver to one part of alloy, and the coins manufactured from metal of this standard are said to be nine-tenths fine. The process of increasing largely the proportion of alloy to pure metal is called *debasement,* a practice which, as we have previously noted, was very common in the Middle Ages and was one of the reasons

for making coinage a government monopoly and for surrounding it with all possible safeguards.

4. The naming and stamping of coins.—The naming of coins is a purely arbitrary matter, and practice varies widely in this particular. The tendency in modern timse seems to be toward employing the names used in the system of accounting. For example, in this country we commonly call our gold coins two-and-a-half-dollar, five-dollar, ten-dollar, and twenty-dollar pieces. The official names, however, are the quarter-eagle, half-eagle, eagle, and double-eagle, these names being derived from the figure of an eagle stamped upon one side of the coin. In England the practice of employing special names is more common, her gold coins being universally known as the sovereign and half-sovereign, and her silver coins as crowns, half-crowns, florins, shillings, and sixpences. With the exception of the two last mentioned all these names are derived from devices on the coins or from old customs. Until comparatively recent times this practice was almost universal, the names of the reigning monarch or of the king who first ordered the coin minted being the most commonly employed. As examples may be mentioned the French Napoleons, the Prussian Friedrich d'ors, and the English George d'ors. Such devices as the figure of an angel, a lamb, a pig, and the rising sun gave names to coins of considerable importance in the Middle Ages. Special names are frequently conferred upon coins by popular usage; as, for example, in this country the names nickel and copper for our five-cent piece and penny. Our twenty-five-cent piece, or quarter of a dollar, is known by various peculiar names in different parts of the country.

Besides the purpose of ornamentation the devices stamped upon coins are designed to serve as means of preventing "sweating" and clipping and of rendering easy the

detection of abrasion. The milled or indented edge, the practice of stamping both sides, and the circular form of coins are explained in this way. So far as possible, it is also desirable to use designs which are difficult to copy and which may thus aid in the detection of counterfeits.

5. **Seigniorage.**—The expenses of coinage are paid in two different ways. Sometimes individuals are permitted to bring gold or silver bullion to the mints and have it transformed into coin absolutely free of charge. In such a case the expenses of coinage are paid out of the ordinary revenues of the government and are a charge upon the nation as a whole in the same sense as other ordinary public expenditures. Sometimes, however, governments exact payment for coinage in the form of the retention of a certain percentage of the bullion brought to the mint by private individuals. This practice is entirely similar to that frequently employed by millers in rural districts. Farmers who take wheat to the mill usually receive in flour something less than the full product, the miller retaining a certain amount as payment for his services and the use of his mill. In the same way when private individuals bring gold and silver to the mint, governments sometimes exact a toll in the form of a certain percentage of the metal deposited. The amount thus exacted is called *seigniorage,* and the practice of meeting the expeditures of coinage in this way is ordinarily known as *the taking of seigniorage.*

At the present time the amounts exacted are usually sufficient simply to pay the actual expenses of the process, but formerly it was common to take much larger sums. During the Middle Ages persons who possessed the right of coinage not infrequently retained a considerable portion of the metal which was brought to them. On account of the peculiar notions of that day regarding the power of monarchs to fix arbitrarily the value of money this prac-

tice was not considered in any sense improper, and was not supposed to involve any particular injury to the public. Indeed, the business of minting was looked upon as a proper source of public revenue, and as much as possible was made out of it.

In order to distinguish between the practice of merely paying necessary expenses by means of this toll and of exacting an additional amount for the purpose of gain, a French writer, M. Chevalier, proposed that the former practice be known by the name of *brassage* and the latter by the name of *seigniorage*. M. Chevalier's suggestion, however, has not been generally followed, and the term seigniorage has ordinarily been employed to apply to both practices. It would be better, however, not to use the term seniorage to apply to certain gains accruing to the government from coinage. It is now the universal practice to refuse to private individuals the right to have silver transformed into subsidiary coins, and since their intrinsic value is always less than the value at which they circulate, a considerable gain may accrue to the government from their manufacture. The amount of profit thus derived, however, is diminished and may be entirely offset by their redemption in standard money, to which the government is usually obligated by law. In any case, the gain cannot properly be classed as a charge made to cover the expenses of coinage, and should, therefore, be separately considered and not confused with seigniorage. Our government, for example, has derived some profit from the manufacture of silver dollars, coins which until recently could not be classed as subsidiary. To put such profits in the same class with tolls exacted from persons who bring gold to the mint is to confuse two very different things, and such confusion is almost sure to arise when the term seigniorage is applied to both. In view of the fact that this term is often used to mean things so very

different, the student should always identify the sort of charge or profit referred to, and consider it separately and on its own merits.

Whether or not it is desirable to take seigniorage is still a moot question. It is claimed, on the one hand, that coins perform a special service, and, therefore, possess a higher degree of utility than the bullion they contain, and that this should be represented by an increase in their value equal at least to the expense of their manufacture. It is frequently said that there is no more reason why a coin should represent the exact value of the material out of which it is made than that a steel rail should have the same value as the iron it contains. It is also urged that the taking of seigniorage acts as a check upon the melting-down and exportation of coin. In case the government freely transforms bullion into coin, metal-workers are quite as apt to secure the gold and silver needed for their purposes by the melting-down of coins as by the purchase of bullion upon the open market. Whenever for any reason, too, there is a demand for gold for exportation, coins are quite as apt to be sent as bullion, if their market value is precisely the same. If no seigniorage is charged, it is urged, the government is thus obliged to incur an unnecessary expense in the manufacture of coins which in many cases remain in circulation for only a short period; and since coins are designed for purposes of circulation only, it is urged that some check should be placed upon their illegitimate use.

The advocates of the abolition of seigniorage, on the other hand, emphasize the importance of a perfectly free movement of the precious metals from country to country and from the arts to the mints and vice versa. A proper distribution of the precious metals throughout the world demands that they should flow freely from one country to the other whenever there is even a small difference in value

between two markets. Any obstruction of this free movement is sure to produce an artificial level of prices, and thus to contribute to a lack of stability in the business world. It is equally important, it is claimed, that a proper distribution of metals between their various uses should take place, and, hence, that no more gold should take and retain the form of coin than is necessary for the economical transaction of the commerce of the world. Every encouragement possible, therefore, should be given to the melting-down of coins for use in the arts whenever for any reason their quantity is excessive. In reply to the argument that the people should not be burdened with the expense of minting coins which are destined for the melting-pot or for exportation, it is said that the government is quite as much justified in furnishing the community with good metallic money at the general expense as in furnishing a good judicial system or any other public service.

In order properly to weigh these arguments a number of considerations are necessary which must be deferred to later chapters of this book. It is possible here, therefore, only to state clearly the nature of the questions involved. First of all, it should be noted that at the present time the problem of seigniorage concerns only standard coin. There is no difference of opinion among economists or statesmen regarding the proper treatment of subsidiary coins, and, as we have already said, it is questionable whether the term seigniorage should be applied to the gains arising from the minting of these. That gold is the standard of value of the most important nations of the present day and that its more extended use in this capacity is probable are facts which also affect the question, especially when the constantly increasing use of credit money is considered. Since gold is suitable only for coins of large denominations, and since many forms of paper money can,

therefore, be conveniently substituted for it in the ordinary circulating medium, the chief use of this metal tends to a greater and greater extent to become that of paying balances between different countries and between different localities in the same country. For this purpose properly assayed and stamped bars of bullion can be used quite as well as coins. The nature of the question has also changed somewhat on account of the increasing importance of the freedom and ease of movement of gold which is involved in its more extended use in the payment of balances. For these reasons the importance of the seigniorage question has somewhat diminished, and the power of governments greatly to enhance the value of coins by such a charge is also much less than formerly.

6. Inconvertible government notes.—By these are meant government notes not directly or indirectly convertible on demand into standard coins. The most noted historical examples of this form of currency have been issued by governments in times of fiscal exigency, and have constituted a forced loan. They have been issued in fixed denominations, made legal tender, and otherwise fitted for circulation as money in order to increase their serviceability as a fiscal agency rather than for the purpose of providing commerce with an ideal monetary instrument. Few people nowadays would recommend their use as a medium of exchange except as a kind of last resort when other fiscal means have failed and a government is forced to adopt not such measures as it would, but such as it must. Nevertheless it is important and instructive to note the disadvantages of this form of currency, this being the price the people must pay for its use.

Why such notes depreciate, take the place of metallic currency, and become a secondary standard of value, has been explained in Chapter IV. The disadvantage of this

procedure is the rise and unsteadiness of prices which result. One more source of price fluctuation, namely, variations in the depreciation of the notes, is added to the two which may be regarded as normal, namely changes in the value of commodities and in that of gold. This cause of price movements is much more capricious than the other two, since subjective influences are more potent in this than in the other cases. The result is uncertainty in all commercial calculations. No one knows what the value of money may be from day to day or week to week. The only certainty is that prices will be unstable and subject to changes from purely subjective influences. Every business man must either suspend operations or become a speculator. Shrewd guessing and chance take the place of sound calculation and enterprise. The effect of this sort of thing upon industry is always injurious and sometimes deadly. Even the best habits are not always proof against the insidious influences of speculation in ordinary times, but, when sound business methods are rendered impossible by a fluctuating currency and men are compelled to speculate in order to live, commercial virtues are rendered inoperative and gambling is given a clear field. Even moral sensibilities become blunted under such circumstances, and business men and public servants practise and countenance actions which in normal times would not be tolerated. Witness the gradual smothering of the sentiment of financial honor and integrity and the appearance of a number of theories in support of public dishonesty in the French legislative bodies during the regime of the assignats and the mandats, and the rapid decay of legitimate industry under the blighting influence of the fever of speculation which reigned during that period.* Witness also the greenback heresy in the

* See Andrew D. White's pamphlet on "Paper Money Inflation in France."

United States and the wild monetary theories which clouded the vision of many of our public men and of a considerable portion of our population for more than a generation, the evil effects of which have not yet ceased to trouble us. These are the legitimate fruits of inconvertible government notes, and they render the infliction of that kind of currency upon a people one of the greatest of national calamities.

7. **Convertible government notes.**—This class of notes is characterized by the fact that they are redeemable on demand in coin, and are thus exempt from the defect of depreciation. Two varieties should be distinguished and separately considered:—

A. Silver and gold certificates.—These may be described as notes issued to take the place of certain coins, and completely covered by the deposit of said coins in the public treasury. As typical of these may be taken our silver and gold certificates. The former were issued to take the place of silver dollars, which were not readily accepted by the people, but which the Bland Act practically compelled the Secretary of the Treasury to force into circulation. This act ordered the coinage into silver dollars of not less than two nor more than four million dollars' worth of silver monthly. Partly on account of their inconvenient size and weight, these coins were speedily transferred to the treasury in the payment of public dues and tended to remain there in lieu of gold or other forms of currency. The expedient was therefore tried of issuing certificates of convenient denominations and making them redeemable on demand in silver dollars, a number of which, exactly equal to the face value of the certificate issued, being stored away in the vaults for that purpose. The expedient succeeded, and these notes have constituted a part of our circulation from that time until the present day. Our gold certificates

are similar in character, except that they are issued in large denominations and are redeemable in gold.

The utility of this class of notes cannot be questioned. They are more convenient than the coin they represent, and they obviate the loss which is necessarily occasioned by the wear and abrasion of coins in circulation. In these respects, however, they are no better than other forms of paper currency of the same denominations and like them redeemable in standard money. The real problem, therefore, concerns the desirability of the manufacture of the classes of coins which they represent. Regarding gold coins there can be and there is no question in the United States. So long as this metal continues to be our standard of value we shall need to put it up in the form of coins, and since, in such cities as New York, Chicago, Philadelphia, and Boston, large sums must daily be transferred between banks in the payment of balances, gold certificates in large denominations must be regarded as a useful and economical device. Regarding silver dollars a just decision is not so easy to reach, and opinions are divided. Gold monometallists, as a rule, believe that, if they are to be retained as a permanent part of our currency, they should be reduced to the grade of a subsidiary coin, and assimilated in weight to our half- and quarter-dollars and dimes.

B. Treasury notes.—The second variety of convertible government notes referred to above is characterized by the fact that, while the government guarantees their redemption in standard coin, it does not keep on deposit for that purpose the face value of the notes and does not retire them when once redeemed, but treats them as cash and pays them out again for ordinary expenses or in exchange for standard coin. A good illustration is furnished by our so-called greenbacks and Sherman notes. The former is an inheritance from our inconvertible currency period. When

specie payments were resumed in 1879, something over $346,000,000 of the old notes were left in circulation. The Secretary of the Treasury was ordered to redeem them on demand in gold, but was denied the power to retire them. The Sherman notes were issued under authority of an act in 1890 directing the Secretary of the Treasury to purchase every month at its market value 4,500,000 ounces of silver, and to issue in payment therefor treasury notes redeemable either in gold coin or silver dollars at his option. Since the act also made it the duty of the Secretary to maintain all forms of our currency at a parity with gold, and since the metallic value of silver dollars was at the time but little more than half their face value, the redemption of these notes on demand in gold was a practical necessity. As in the case of the greenbacks, the Secretary was also forbidden to retire these notes. Before the repeal in 1893 of the clause of this act authorizing the monthly purchase of silver bullion about $150,000,000 worth of notes were issued. The act of 1900 provided for the gradual retirement of these notes. Consequently only a small quantity are at the present time in circulation and these will be gradually withdrawn. Treasury notes similar to these in essentials have been circulated from time to time in other countries, but ours is the most notable attempt permanently to maintain a circulating medium of this sort.

In considering the merits and defects of this variety of notes, it should be observed that the only rational purpose of their employment as a permanent part of the currency is to *supplement* coin. Unlike the silver and gold certificates considered in the preceding section, they are not intended to circulate in the place of certain classes of coins. On the contrary, they are only partially covered by a coin reserve, and they are issued for the purpose of expanding the currency.

In a previous chapter attention was called to the importance of elasticity in at least certain of the paper elements of the currency, on account of the fact that coin does not *automatically* move from place to place and increase and decrease in quantity in response to the changing needs of commerce. It should here be noted that treasury notes of the sort we are discussing do not possess this very desirable quality. Indeed, they are quite as inelastic as metallic money. Their issue must be authorized by law and their quantity strictly limited. It would be quite unsafe and opposed to all the canons of sound finance to permit the Secretary of the Treasury or any other public officer to issue them at his discretion, and, even if such power were granted, the notes could not be speedily sent to the places where they might be in greatest demand or their quantity adjusted to commercial needs. Being entirely unable to measure the monetary needs of different localities, at the very best he could order more notes printed when in his opinion the currency needs expansion, and pay them out in the ordinary course of business. It would be the merest chance, however, if the persons or the localities to which the government payments were due were those in need of more currency. When, as is and always must be the case, the quantity to be issued is fixed by statute, an increase beyond such limit, however much needed, is only possible after the slow-moving legislative machinery has been put into operation and more notes authorized. Moreover, their withdrawal from circulation by redemption in coin, when the need for them has passed, does not contract the currency, but simply substitutes coin for the notes. The inelasticity of such notes, therefore, must be conceded, and their maintenance as a permanent element of the currency justified on some other ground, if at all.

The second defect of convertible treasury notes is the

fact that they impose upon the government the necessity for keeping on hand a reserve of standard coin sufficient to meet at any and all times the demand for redemption. There are two objections to the assumption by government of such an obligation.

The first is that it may be a source of great expense. The coin reserve must be accumulated by taxation or loans, and in either case the people must pay the bill. If, as has been proposed, in order partially to overcome this difficulty, the notes are never paid out except in exchange for standard coin, their utility as a means of expanding the currency is destroyed, the quantity of notes put into circulation being exactly equal to the amount of coin withdrawn.

It has been claimed that the expense of a coin reserve is more than offset by the profit accruing to the government from the payment of a portion of its obligations by means of non-interest-bearing notes only partially covered by the reserve. This seems to be the case when we consider simply the beginning of the history of the notes. If the reserve amounts to but one-third of the issues, there is obviously at the beginning a clear profit amounting to two-thirds of their face value. Suppose, however, that the redemption of the entire issue should be demanded three times in the course of a year. The original reserve would be exhausted when one-third of the notes had been redeemed once, and must be replenished from one of three sources: either from money coming into the treasury through the channels of its ordinary receipts, from the product of a special tax, or from the sale of bonds. The first source obviously cannot be relied upon. It is rarely practicable for the government to exact standard coin for all payments due to it, especially when it is trying to circulate its own notes. It would be the merest chance, therefore, if the requisite amount of standard coin were paid in by the government's debtors.

But certainty on this point would not remove all difficulties, since the coin paid in might be required for ordinary expenses, in which case it would not be available as a redemption fund. Even the adoption of the policy of surplus financiering would not insure the existence of a coin surplus just at the times when redemption of notes might be demanded. The levy of a special tax for the replenishment of an exhausted reserve is quite out of the question. The machinery of taxation is necessarily slow in its operation, and cannot be relied upon to furnish funds for sudden exigencies, such as the one we are considering.

The sale of bonds in such an emergency seems, therefore, to be necessary, and this involves the payment of an annual interest charge which may much more than counterbalance the profit accruing from the original issue of the notes. If, according to our assumption, redemption three times in the course of a year were demanded, and bonds payable one year or more after date were issued to procure the necessary coin, in the course of a year the face value of the bonds outstanding would be three times as great as that of the notes, and the expense incurred by the government would be treble the ordinary rate of interest on the face value of the notes.

If we assume with the advocates of this form of currency, that redemption in large quantities is an unusual and rare occurrence, and consequently that the expense involved in the issue of bonds for the replenishment of the reserve is not often incurred, we must still remember that danger from this source is always imminent, and hence that such notes at the best always introduce an element of uncertainty into the finances of the government. Whenever for any reason the reserve falls below its ordinary limit, the ability of the government to maintain specie payments is placed in question. No one knows what the Secretary of the

Treasury may do or what action Congress may take. A "panicky" feeling is, therefore, liable to be produced, which is certain to affect the value of all sorts of negotiable securities, to render business unstable, and, if other disturbing circumstances concur, to produce a commercial crisis.

Our own experiences with these notes illustrates the objections which have been mentioned, and furnishes the best argument against their use. Though the amount of the gold reserve was not fixed by law, it early become customary to keep on hand at least a hundred millions of dollars. Between 1879, the date of the resumption of specie payments, and 1890 the Secretaries of the Treasury were aided in the maintenance of this reserve by an annual surplus of revenues over expenditures and by a constantly increasing demand for currency, occasioned in part by our rapidly expanding commerce and in part by a decrease in the circulation of bank-notes. In spite of these favoring circumstances, however, in 1885 and 1886* the reserve fell to near the danger point and occasioned anxiety. In 1890 occurred two events which soon disclosed the danger to which Congress had subjected the treasury and the country when it assumed the obligation to maintain a currency of convertible treasury notes. One was the passage of the Sherman act, to which reference has already been made, and the other was the discontinuance of the policy of surplus financiering occasioned by the passage of the so-called McKinley bill. The former act added in three years $150,000,000 of new notes to the $346,000,000 of greenbacks, thus dangerously increasing the burden placed upon the gold reserve, and the latter soon substituted an annual deficit for the former surplus. The gold reserve showed the effect of the changed conditions. It fell in 1892 to $114,000,000, in October, 1893, to $81,551,385, and in 1894 to $68,000,-

* Taussig's "Silver Situation."

000.* The "panicky" conditions thus produced, combined with various other circumstances, brought on a crisis in 1893, which was accompanied by a large foreign demand for gold. The result was the establishment of the so-called "endless chain," which revealed in the most complete fashion the true nature of our currency of treasury notes. The gold reserve was first reduced far below the $100,000,000 limit by the redemption of notes. The treasurer was, then, compelled to sell gold bonds in order to replenish it, and the redeemed notes were put again into circulation in the usual manner. This process was four times repeated, and it was discovered that, in some instances at least, the very firms who had purchased bonds and thus transferred gold to the Government withdrew it very soon thereafter by presenting notes for redemption. In all, bonds to the amount of nearly $300,000,000 were issued, and the endless chain was temporarily broken by a contract with a syndicate of bankers by which they agreed to supply gold to the treasury in the payment of bonds sold them at profitable rates, and to prevent, so far as possible, the presentation of notes for redemption. The danger of the repetition of this humiliating and expensive experience was partially removed in 1900 by an act which fixed the minimum gold reserve at $150,000,000 and took from the Secretary of the Treasury the power to reissue redeemed notes except in return for gold coin. As has already been remarked, the efficiency of a regulation of this sort depends upon the extent to which it transforms the notes into ordinary gold certificates, and its necessity accordingly is a proof of the practical impossibility of maintaining a currency of this sort without endangering the safety of our financial institutions and the credit of the government.

A comparison between these notes and subsidiary coin

*Noyes's "Thirty Years of American Finance."

may be instructive. They are alike in having an intrinsic value less than their face value, and in being maintained at par in the circulation by redemption on demand in gold. They are unlike, however, in the fact that the intrinsic value of subsidiary coin is considerable, while that of government notes is practically *nil,* and in the fact that the former are not likely to be presented for redemption, while the temptation is very great to secure the redemption of the latter whenever gold is greatly needed. These differences are a sufficient explanation of the reason why subsidiary coinage is safe and treasury notes dangerous. In the case of the former the government assumes a risk equal only to the difference between their intrinsic and their face value, while in the case of the latter the government has no security whatever for the risk assumed. Nothing can take the place of subsidiary coins in the circulation, and consequently the demand for small change may be relied upon to keep them in circulation, provided the quantity issued is not excessive, while bank-notes, silver and gold certificates, and gold and silver coin can easily be made to fill the place of treasury notes in the circulating medium, and their presentation for redemption is facilitated by the fact that in no other way can gold coin for exportation or any other purpose be so easily and cheaply obtained.

The conclusion to which we are forced by the considerations presented in this chapter is that no form of paper currency based entirely or largely upon government credit is to be recommended. Subsidiary coins of relatively high intrinsic value and gold or silver certificates represented dollar for dollar by gold and silver coin do not belong under this head and, consequently, may without danger be made permanent elements of a currency system. Inconvertible government notes, however, or convertible notes

based upon a partial reserve are dangerous, the former in a degree which renders their use a national calamity, and the latter to such an extent that the nation which employs them may confidently expect occasions when its treasury will be embarassed, if not humiliated, by them and its credit system seriously disturbed and perhaps thrown into the paroxysms of a commercial crisis.

REFERENCES

The nature and purposes of coinage are discussed in Laughlin, ch. ii; Kinley, ch. iii; Jevons, ch. vii.; Walker, *Money,* ch. ix; and Lexis, "Münzwesen," in the *Handwörterbuch der Staatswissenschaften.*

On the details of the monetary systems of the various States, see Tate, *Modern Cambist;* Norman, *Universal Cambist* and *Complete Guide to the World's Twenty-nine Metal Monetary Systems;* Muhleman, *Monetary Systems of the World;* "The World's Currencies" in *Sound Currency,* v. VII, No. 8; Haupt, *Arbitrages et Parités;* and Lejeune, *Monnaies, Poids et Mesures des Principaux Pays du Monde.*

On the subject of seigniorage see, in addition to the above references, Johnson, pp. 187-194; Martin, *Seigneurage and Mint Charges;* Seyd, *The Question of Seigniorage and the Charge for Coining;* and Nasse, ch. vi.

Inconvertible government notes are condemned by all political economists, but the objections to them are not always identical with those given in the text. The following discussions are valuable: Walker, *Money,* chs. xiv-xvii, and *Money, Trade,* and *Industry,* chs. viii and ix; White, *Money and Banking,* 2d ed. bk. II, ch. iii; Mill, *Political Economy,* bk. III, ch. xiii; Johnson, chs. xiii and xiv.; Wagner, *Die russische Papierwährung,* chs. i-vii; and Hertzka, *Währung and Handel.*

On the history of our own experience with this sort of currency, see Mitchell, *A History of the Greenbacks;* Laughlin, pp. 477-490; Knox, *United States Notes,* chs. i, ii, iii, and ix; Linderman, *Money and Legal Tender in the United States;* Sumner, *History of American Currency,* ch. i; Davis, *Currency and Banking in the Province of Massachusetts Bay;* and *Report of the Comptroller of the Currency for* 1879. On our experience with silver certificates see Taussig, *Silver Situation in the United States;* Noyes, *Thirty Years of American Finance,* ch. iv; and Knox, ch. x. The history of our greenbacks and treasury notes is admirably presented by Noyes; see also Knox, chs. ix and xi, and Professor Laughin's *Report of the Indianapolis Convention,* pt. III.

On French experience see White, *Paper Money Inflation in France;* Courtois, *Histoire des Banques en France;* Vuhrer, *Historie de la Dette Publique en France,* v. 1, chs. xiii and xiv.

For the experience of other countries see Wagner, *Die russische Papierwährung;* Ferraris, *Moneta e corso Forzoso;* and Kramar, *Das Papiergeld in Oesterreich seit* 1848.

CHAPTER VI

CREDIT

As a basis for the discussion of bank currency, an element of the medium of exchange still to be considered, the subject of credit requires a more complete explanation than has been given it in the preceding chapters.

1. **Meaning of the term.**—The word credit is used in different senses in ordinary parlance and in scientific writings, and many *attempts to formulate a definition* of it have been made.* These definitions differ chiefly in the emphasis they place upon one or another aspect of credit transactions but they agree substantially in the phenomena they are attempting to define, namely an exchange transaction in which one person parts with goods or valuables on condition of receiving a return for them *in the future*. The essentials of this phenomena are *the exchange* and *the element of time* or the fact that the second part of the transaction is *deferred* or follows the first after the lapse of an appreciable interval. Exchange in political economy means a trade or a giving of one commodity for another. Two goods, two persons, and two transfers are always involved. It is in transactions of this kind and of this kind only that credit appears. There is no credit element in a gift or a robbery or in any kind of a transaction in which the trading of goods is not the essential feature. But credit does not appear in all exchange transactions; only in those in which one of the transfers is deferred. If goods are sold and paid for on the

* For a list of typical definitions, see, Laughlin's "Money," p. 72, note.

spot the transaction is not one of credit. If they are sold *on time,* that is, to be paid for at some future date, credit appears and the trade becomes a typical credit transaction. Loans are also credit transactions, since they are transfers of economic goods, one of which is deferred to some future date.

The reason for calling this kind of an exchange transaction a credit transaction is because it implies trust or confidence, and the word credit is etymologically connected with this idea. No one willingly parts with his goods or valuables on condition of a future return unless he feels confident that the return will be forthcoming. The basis of this confidence will be considered later.

2. The advantages of credit.—The advantages of credit may be considered from the standpoint of the person who employs it or from that of the nation. A person employs credit either to procure an immediate gratification of wants, to increase his capital, or to render the capital he already possesses more efficient. The first use may be illustrated by a hungry man without means who buys food on time or makes a loan and purchases food with the proceeds, or by a student who runs in debt for food, clothes, books and other things he consumes during the period of his education, or by a high-liver who buys an automobile on credit or by means of borrowed funds. The magnitude of this class of credit transactions is small compared to that of the second and third classes. In all the great nations of the world a large proportion of the capital employed in industrial and commercial enterprises is obtained by means of credit. Every great corporation borrows a part of its working capital; in a sense the funds represented by the capital stock of all corporations are obtained by means of credit. Private persons and partnerships engaged in business borrow continually. The custom of selling goods on time is

almost universal. It is chiefly the result of the lengthening of the process of production by the introduction of more and more highly capitalistic methods and of the extension of the territory over which commerce is carried on. The continual introduction of more and more highly specialized machinery, and the division of the process of manufacturing into a larger and larger number of units has greatly lengthened the period of time intervening between the beginning of the production of a commodity and its completion. Credit is used as a means of bridging over this period. For example, the cotton manufacturer may find it advantageous to purchase his cotton on the condition that he pay for it after he has turned it into cloth and placed this on the market, or, what amounts to the same thing, to borrow the funds needed for the purchase of the cotton. The wholesale dealer can operate with much less capital in hand, if he is able to bridge over the period of time which must elapse between the purchase of his goods from the manufacturer and their sale to the retailer by means of a loan or a purchase on time. When the buyer and seller of goods are widely separated a longer time is required to ship and market the goods and credit is used to bridge over this period. The use of bank deposits, one of the most important forms of credit, is another means of increasing the efficiency of one's capital.

From the standpoint of the nation the chief advantages of credit are the more complete utilization of its human and natural resources and the increase in the efficiency of its capital. The talents, skill, aptitudes and tastes of the various people constituting a nation vary widely, and, in order completely to utilize these for purposes of production, it is necessary that its capital and natural resources should be placed in the hands of those best fitted to employ them. Credit is a means to this end. It enables the man who has

great ability as an organizer and director of industrial processes to secure the capital and natural agencies needed for the utilization of his special ability, and it also enables the capital of the man who has little or no capacity to use it to further the work of production in the most efficient manner. These advantages of credit have so much impressed certain writers that they have regarded the increase of a nation's capital as one of the functions of credit. This, however, is an error. Credit cannot create capital. It can facilitate the process which terminates in its creation and can increase its efficiency.

3. **Credit Instruments.**—In order effectively to use credit a variety of written documents have been devised to which the name credit instruments has been given. Those in common use either take the form of *open accounts* or book credit, *promises to pay* or *orders to pay*. An open account is a statement of a series of credit transactions in which what is received by a person and what he parts with in return is recorded in such a form as to make comparisons between the two easy and the striking of a balance at any time possible. A person is said to be *debited* with what he receives and *credited* with what he parts with, and the *balance* at any time represents what he owes or what the person with whom he is dealing owes him. The credit transactions between a grocer and a farmer may be represented by such an account, the farmer being debited on the grocer's book with the amount of his purchases and credited with the amount of his sales. At the end of a month or a year a balance between the debits and the credits may be struck and the amount paid by the farmer to the grocer, in case the debits have exceeded the credits, or by the grocer to the farmer in case the credits have exceeded the debits. Another extensively used form of open account is the bank deposit. In this the customer of a bank is credited with

the money, checks, drafts, notes, etc., sold to the bank and debited with the checks he draws against it.

Written promises to pay are expressed in different forms according to the character and needs of the parties to the contract. Of these the most common are promissory notes, bank notes, certificates of deposit, government notes and bonds.

A promissory note is an unconditional written promise of one person to pay on demand or at a fixed or determinable future date a sum of money to another person or to his order or to bearer, that is, to any person who may present it. Various forms are in common use. One is the following:

$100.00 ———March 5, 1908.

Six months after date, for value received, I promise to pay to John Doe One Hundred Dollars, with interest at six per cent. per annum until paid.

(Signed) RICHARD ROE.

A bank-note is an unconditional promise of a bank to pay to bearer on demand a certain sum of money. The following is an example:

5 5

The Exchange Bank of Madison
will pay to bearer
Five Dollars on demand.

.....Cashier .....President

A "certificate of deposit" is "in effect a promissory note given by a bank to a depositor, acknowledging the receipt of the deposit and promising to pay it to the depositor."

Governments sometimes issue promises to pay in a form essentially like that of a bank-note. The so-called "greenbacks" or United States notes at present in circulation in the United States are examples, as are also the silver and gold certificates and the Sherman notes.

Bonds are promises to pay issued by an industrial or public corporation to persons who lend it funds. Those of industrial corporations are frequently secured by mortgage upon some or all the property of the concern, and for the payment of bonds of states and other public bodies certain taxes or other revenues are sometimes pledged. This particular kind of credit instrument is issued in a variety of forms and known by different names according to the character of the security, the rate of interest paid, the length of the period of time before maturity, the purpose of its issue, etc., etc.

A *bill of exchange* may be defined as an unconditional order addressed by one person called the *drawer* to another called the *drawee* requiring him to pay a third person called the *payee* a sum named. The drawee may be asked to indicate his willingness to pay the bill by writing his name across its face, in which case he becomes the *acceptor.* Bills of exchange may be made payable at sight, that is, on presentation to the drawee, in which case they are called *sight bills,* or after the lapse of a designated period of time, in which case they are called *time bills.* In case this period is short, say ten days or less, they are sometimes called *short bills,* and *long bills* if the period is longer than this. If the bill is drawn upon a banker, it is called a *banker's bill,* if it is drawn upon a merchant and represents goods shipped and consigned to him it is called a *trade bill.* According to the character of the goods involved, these latter are frequently called *cotton bills, grain bills,* etc. The term *draft* is commonly applied in this country to a banker's

bill drawn by one banker upon another. In case such a bill represents a loan transaction, it is frequently called a *finance bill.* A *check* is a bill drawn by a depositor against his credit account at a bank. According as the drawee lives in the same country as the drawer or in a different state or country, the bill is known as a *domestic* or a *foreign* bill. Other terms and classifications are employed dependent upon the peculiar customs and laws of the different centers at which bills are drawn and negotiated.

The chief differences in the form of these credit instruments are due to the peculiarities of the uses to which they are put. Some of them are designed to serve as a general medium of exchange, and to this end must be payable to bearer, must be issued in fixed and convenient denominations, and must be made universally acceptable. To this class belong various kinds of government notes and bank notes. Others are designed to serve as a medium for certain kinds of exchanges only, and these need to possess the qualities essential to these particular uses. Certain kinds of bank deposits, for example, are intended to be used as a medium of exchange between people who have access to banks, and who find coin, government notes, bank notes, etc., inconvenient for some of their purposes as, for example, in the making of large payments and payments at a distance. The check was designed to be used in connection with this kind of deposit, also bank drafts, circular letters of credit, etc. Some credit instruments are designed primarily to meet the needs of people who want to make investments, as, for example, bonds and various kinds of promissory notes. Within each of these groups sub-groups may be distinguished in which the forms of the credit instruments are still further differentiated to suit more highly specialized uses. For example, checks, drafts, and letters of credit are designed to meet different needs, though they

may be considered together for the purpose of contrasting them with government and bank notes. A great variety of bonds is employed to suit the needs of different classes of investors. The same may be said of promissory notes and trade and bank bills. The process of differentiating credit instruments to meet new needs and better to adapt them to old uses is continually in progress.

4. **The foundations of credit.**—The utility of a credit instrument in facilitating the transfer of capital depends quite as much upon the security back of it as upon the suitability of its form. If there is doubt regarding the fulfillment of the obligation it records, its usefulness will be impaired, possibly completely destroyed, however perfect its adaption in form to the purposes it was designed to serve. It is this element of security we are now to consider.

In its completed form every credit instrument records the obligation of some person to pay to another a specified sum, usually described in terms of the prevailing standard of value. The fulfillment of that obligation obviously depends upon the ability and willingness of this person to pay the debt thus contracted and upon the social arrangements for compelling payment in case of default. A person's ability to pay depends primarily upon the amount and the saleability of the wealth in his possession at the time his debt falls due. Obviously he cannot hand over to another what he does not possess, but to the extent of his possessions he is able to satisfy creditors, provided those possessions are saleable. At the time the obligation is contracted his ability to meet it is not necessarily measured by the amount and saleability of the wealth then in his possession. In the interval before the maturity of the debt he may lose what he had at that time or he may acquire more. In the usual case of a loan made for productive purposes,

the wealth likely to be produced in the interval is the chief element in the determination of his ability to pay.

The saleability of wealth depends upon its form and upon the condition of trade. Some forms of wealth are so constantly and so generally needed and the machinery for marketing them is so perfect that they can be sold at any time, while other forms for which the demand is not so general and so constant or for the sale of which the machinery is not so perfect cannot be so easily and quickly sold. On account of these differences some forms of wealth are better adapted to credit operations than others. There are no forms, however, which may not be so used under certain circumstances. The phrase *condition of trade* refers to the degree of perfection of the operation of the machinery of commerce, that is, of the transportation and banking systems, of the produce and stock exchanges, of the arrangements for buying and selling, for the adjustment of supply and demand along all lines, and for the regulation of the relations between labor and capital, etc., etc. This machinery may work perfectly or it may be more or less impaired. For one reason or another it occasionally almost completely breaks down. The foundations of credit are then seriously undermined whatever be the forms or the amount of the wealth in the hands of the debtors.

A person's willingness to pay his debts is an important factor in his credit, since few people would continue to lend or sell goods on time to a man, however great his financial ability, who compelled his creditors to resort to legal processes to obtain their dues. He must also be willing to pay promptly as well as ultimately, if he expects to have credit commensurate with his wealth.

The laws of all civilized nations provide for the collection of debts which have been legally contracted by putting the creditor in possession of a sufficient amount of the property

of the debtor to satisfy his claim. These laws are the result of a long process of development and are calculated to meet almost any contingency that may arise. They are essential to the existence of a highly developed credit system such as the great nations of the world enjoy at the present time. Serious imperfections in such laws or laxity in their enforcement are evidence of backwardness in civilization and seriously obstruct the commercial and industrial life of a people.

The fact that the amount promised to be paid is usually expressed in terms of the standard of value is probably responsible for a widespread belief that credit is based on standard money. This is not true in the sense that the amount of a person's, a corporation's, or a nation's credit is measured by their command of standard coins. It is measured rather by their wealth, productivity, integrity, legal arrangements for the collection of debts, etc. Neither is this statement true in the sense that the payment of the obligations contracted must ultimately be met by means of standard money. Most of them will ultimately be cancelled by an offset of similar obligations. The process by which this is accomplished will be fully explained in subsequent parts of this book. It is, however, true that standard coins and the standard commodity play an important rôle in the credit system of a country.

For reasons explained in the previous chapter there is in every country a demand for standard coins. The demand usually takes the form of requests addressed to banks for the encashment of credit instruments which serve as a medium of exchange. It is of prime importance to the credit system of a country that the banks be able to meet these demands and to this end they must keep on hand an adequate supply of standard coins or be able readily to procure a supply. What constitutes an adequate supply

varies with the same bank at different times and with different banks at the same time and has no fixed relation to the magnitude of credit transactions. If the supply is inadequate, that portion of the credit system which depends upon the banks for its support is in danger of breaking down, and if it does break down or becomes seriously impaired, a crisis ensues with all its attendant suffering and losses. The kernel of truth in the claim that credit is based on standard money is revealed by these facts. A supply of standard coins equal to the demands of the community for that kind of money is essential to the maintenance of the credit system, but these demands are variable and may be modified by various expedients. The presence of wealth in the many forms required to satisfy the people's needs and its possession by the persons who have assumed the obligations expressed by credit instruments is equally essential to the maintenance of the credit system, and for this there is and can be no substitute. Upon this we may rely even when standard money fails, and the various methods of obtaining substitutes for standard money have this in common,—that they directly or indirectly liquidize or transmute into currency other forms of wealth.

5. **Credit and prices.**—The extensive use of credit instruments as a medium of exchange has given them an influence over prices which it is important to note. The nature of that influence has been explained in the preceding chapter where it was shown that the demand for the standard commodity is affected by the extent to which substitutes for standard coins are provided. It is in their capacity to serve as such substitutes that credit instruments exert influence on prices. If the form and security of these instruments is such as to render them universally acceptable they may perform all the functions of standard coins in the

medium of exchange and completely take their place in these uses; that is to say, they may serve the public as hand-to-hand money and the banks as reserves. They cannot serve as a safety fund or guarantee for the ultimate redeemability of the credit portion of a currency, and in this use only are they incapable of serving as a substitute for standard coins.

The extent to which credit instruments will be substituted for such coins depends upon custom, statutory regulations, and the condition of trade. The influence of custom is seen in the differences in the extent to which greenbacks and other government notes are used as hand-to-hand money on the Pacific Coast and in other parts of this country. They are equally available everywhere, but the people on the coast prefer to use gold, probably because they have become accustomed to it. The influence of statutory regulations may also be observed in this country where banks are permitted to count in their reserves balances to their credit in other banks and various forms of government notes; also in England where the absence of statutory regulations has left the joint-stock banks free to use as their reserves balances in the Bank of England, Bank of England notes and short time loans, as well as coin. The condition of business is of prime importance in this connection. If the machinery of commerce is impaired, confidence between man and man is likely to weaken, fear to accept credit instruments, lest the obligations they represent may not be met, to spread, and the presentation of credit instruments for encashment in standard coins to take place. This means the withdrawal of credit instruments from their use as a substitute for standard coins and a consequent increase in the demand for the latter. This happens in times of crisis and is the chief cause of the extreme money stringency which characterizes such periods.

REFERENCES

The nature of credit and its relation to prices are discussed in Laughlin, ch. iv; Kinley, ch. viii; Johnson, chs. iii and xv; Jevons, ch. xxvi; Nicholson, ch. vi; and Macleod, *Theory of Credit,* v. II, pt. I, ch. xii, and *Theory and Practice of Banking,* v. I, ch. iv, sec. ii. In the first three mentioned books also bibliographies of the subject may be found.

A discussion and description of credit instruments is given in Cleveland, *Funds and Their Uses,* and in Macleod, *Theory and Practice of Banking,* v. I, ch. iv, sec. iv.

Various classes of bonds with their characteristics as financial instruments are treated in Lough, *Corporation Finance;* and Lownhaupt, *Investment Bonds.*

CHAPTER VII

BANK CURRENCY

THE most widely used forms of currency at the present day are supplied by commercial banks whose functions and operations must now be described.

1. **Origin and development of banking institutions.**—First of all we must note the fact that these institutions have changed very much in character since their origin, and consequently now-a-days perform many functions unknown to those of former times. The first banks seem to have arisen in connection with the business of exchanging money. In ancient times and especially in the Middle Ages the varieties of coins were greater even than at the present day, and they were much less perfectly and honestly minted. Specialists were, therefore, required to determine their exact value and equivalence, and to exchange coins of one mintage for those of another, and their services were in great demand at fairs and other places where merchants of different nations met for purposes of trade. Inasmuch as they kept their boxes or chests of coins on benches or "banken," the name *bankers* came to be applied to them. On acount of their technical knowledge and the fact that they were obliged constantly to keep on hand considerable quantities of the precious metals, this business in the early Middle Ages was usually carried on by goldsmiths, but later it was sometimes assumed by the governments of large commercial cities, as, for example, by Amsterdam in 1609, by Hamburg in 1619, and by Nürnberg in 1621. Of these latter the Bank of Amsterdam was the most im-

portant and may be regarded as typical of these early institutions.

In the early seventeenth century the city of Amsterdam was the center of the international trade of Europe, and accordingly the coins of all nations were there in circulation. These were of so many varieties and forms and of such different degrees of reliability, and some of them were so worn and defaced by long usage and the practice of clipping, that merchants found it difficult to keep themselves informed regarding their true worth and were exposed to the danger of great loss if they accepted them at their face value. The city, therefore, established a bank to which merchants took their coins, receiving therefor credit to the amount of the value of the metal they contained. Payments were then made by transferring credit on the bank's books from one person to another. That is to say, a person who owed a sum of money to another accompanied him to the bank and ordered the amount transferred from his own account to that of his creditor. Bank money, as these book accounts or the written orders to transfer them were called, thus acquired a premium over the debased and mutilated coins in circulation, and for generations constituted the basis of all the foreign exchanges of the city. It was the means of substituting order for the financial chaos which reigned previously, and contributed greatly to the prosperity of Dutch commerce.

On account of the fact that these early bankers were obliged to provide themselves with strong boxes and other facilities for protection against robbers, fire, etc., it became customary for other persons to entrust to them their money and other valuables for safe-keeping, and after a time this feature of their business became quite as important as money-changing and ultimately more so. A third function was assumed when bankers acquired the habit of loaning

at interest the funds left with them for safe-keeping. This was made possible by the fact that their receipts, which were supposed to represent actual cash on deposit in their strong boxes, and which were redeemable on demand, were quite as readily accepted in payments as coin and thus circulated from hand to hand as money. Considerable quantities of coin thus remained with the bankers for long periods of time without being called for, and they finally acquired the habit of loaning it out at interest for short periods of time, keeping on hand only a quantity sufficient to meet current demands.

From the earliest times also, bankers have been the chief agents through which intermunicipal and foreign exchanges have been conducted. As dealers in coin and bullion they had outside connections and a knowledge of outside affairs not possessed by other merchants, and were, therefore, in a position to undertake the settlement of accounts between people living in different places by means of orders drawn on bankers in other countries or other cities with whom they had regular business transactions. As keepers of other people's money they also promoted saving, and banks thus became in time the chief savings institutions of the country.

The relative importance of these various functions has changed considerably with the development of industry and commerce, and a differentiation has taken place between institutions, some specializing in one direction and others in another. For example, at the present time money-changing has become relatively unimportant, and is carried on only by a few banks situated in those places where travellers from one country to another need to exchange coins, and often by establishments not now-a-days regarded as banks in the proper sense of that term. Some institutions emphasize the promotion and facilitation of saving almost exclusively, and are hence called Savings Banks. Others provide special

facilities for the safe-keeping of securities of all sorts, and are therefore called Safe Deposit Companies. Some banks specialize in the conduct of foreign exchanges, and others do almost exclusively a domestic business. Commercial banks, as the most numerous class is now called, specialize in the conduct of exchanges, and it is with these that we are chiefly concerned in this book. Their principal operations will now be described.

2. **Deposits.**—Customers of a commercial bank sell to it their surplus cash and credit instruments representing payments due them from other persons, and make loans from it secured by their personal notes due in the future. For the amounts due them as a result of these transactions they are credited on the books of the bank in a form known as deposits. This credit account usually attested also by a little book kept by the depositor, known as the pass book, gives the customer the right to call upon the bank for legal-tender money, or for a transfer to the credit of some other person of all or some part of the amount due him. Some deposits give the right to demand payment at any time without notice and others only after the lapse of a certain time from the date of demand. Time deposits, as the latter are called, are sometimes also attested by a special instrument known as a *certificate of deposit,* in which the terms of the contract between the bank and the customer are carefully specified.

When the depositor wishes to make use of his right to secure payment from the bank, he writes an order, technically known as a *check,* for the amount desired, payable to himself or to some other person, which order, when presented to the bank, is either paid in cash or credited to the account of the payee. The amount thus paid or credited is then debited to the account of the creditor.

3. **Loans and discounts.**—Making loans and discounts is

a function correlative with that of conducting deposit accounts. It may be described as the process of advancing funds on the security of personal notes and bills of exchange, payable at some future date, the funds advanced consisting of cash or of deposits subject to check, or, as the exchange of cash or deposits subject to check for such notes and bills. The term *discount* is properly used to describe this process when the interest charge, the consideration the bank receives for making the advance or exchange, is paid in advance or at the time the transaction takes place. The term loans is broad enough to include discounts as well as advances the interest on which is paid when the note or the bill falls due.

In addition to their own notes or bills of exchange persons securing advances may transfer to the bank as security other credit instruments or forms of property with the right to collect or sell them for its reimbursement in case the note or bill in question is not paid when due. Loans thus secured are called *collateral loans* and the securities or property deposited *collateral.* For this purpose high class bonds and stocks, real estate mortgages, and bills of lading and warehouse receipts representing goods in transit or in store are widely used. In financial centers the securities listed on the stock exchanges, sometimes called stock exchange securities, constitute desirable collateral on account of their ready salability.

4. Deposits as currency.—By means of loans, discounts and deposits, banks conduct exchanges of commodities with as great and in most cases with greater facility, economy and safety than they are conducted by means of hand-to-hand money. This fact may be made clear by the following illustration: Suppose five customers of a bank, whom we shall call A, B, C, D, and E, each having commercial transactions with the other, have their notes discounted each to

the amount of one hundred dollars and receive in compensation credit balances at the bank, each to that amount. A then buys a bill of goods of B valued at one hundred dollars, but, instead of paying him in coin or government notes, gives him an order on the bank. This order may be simply a verbal command to transfer A's balance to B's credit, or it may be a written order to that effect. In either case A's balance at the bank is reduced to zero and B's increased to two hundred dollars. B now contracts an obligation in favor of C to the amount of one hundred dollars, and pays him in like manner, thus reducing his balance to the old figure and raising C's to two hundred dollars. Next in order C makes a hundred dollar purchase of D, D of E, and E of A, each paying by a transfer of credit on the bank's books in favor of his creditor. The result is that at the end of the five transactions each man has a balance of one hundred dollars at the bank, and is thus in a condition to repeat the process just described, and business to the amount of five hundred dollars has been transacted without the use of coin or government notes. The deposit account thus serves as means of payment or currency, and must be regarded as an element of the medium of exchange coördinate with hand-to-hand money.

5. **Bank notes.**—Besides the deposit account, certain banks, known as banks of issue, make use of so-called bank-notes. These are promises of the bank to pay specified sums to the bearer on demand. They are designed to serve as hand-to-hand money and hence are issued in such denominations as are convenient for this purpose. They are usually printed on specially prepared paper, though they may be written, and are signed by the responsible officers of the bank, in this country by the president and the cashier.

In many respects bank-notes and deposits resemble each

other. Both represent obligations of the bank to pay on demand. Both are used in making advances to customers or in exchange for promissory notes and bills of exchange. Both serve as means of payment and are therefore elements of the medium of exchange. They differ in that the bank note is payable to bearer and is issued in fixed denominations, while the deposit is made available by means of checks, which are orders instead of promises to pay, which are drawn for any amount to suit the transactions in which they are used, and which must be presented to the bank for payment or acceptance before their validity can be tested. On account of these differences bank notes serve as hand-to-hand money, while deposits are used in large payments and in payments at a distance. For many purposes, of course, they may be used indifferently.

The relative importance of these two banking devices, measured by the extent of their use, has greatly changed during the last century, the deposit account having everywhere and continually gained over its competitor. In great commercial centers at the present time more than fifty per cent. of all exchanges are probably made by its means. In the early days of banking in this and other countries the deposit as a checking account played a very inferior rôle, bank-notes being essential to the existence of banking institutions and being consequently almost exclusively employed. In this country the dominance of the deposit dates less than half a century back.

6. The advantages of bank currency.—Bank currency, as the deposit account and bank-notes may be called, is in certain respects superior to other forms. Besides being able to transform their notes and bills of exchange into funds immediately available for purposes of commerce, business men derive great advantage from its superior convenience, safety and elasticity. This is due, in the first

place, to the fact that this currency exists in a variety of forms, each adapted to definite commercial needs. The check, for example, is a very convenient and safe means of making large payments. It takes less time to write into the printed forms, now furnished by all banks, the name of your creditor, the amount to be paid him, the date, and your own signature, than to count out a large number of notes or coins, and in this way the danger of loss from mistakes in counting is also avoided. Your creditor finds the check more convenient and safe than coin or notes, because it is less bulky, and, if he chances to lose it, he can procure a duplicate and direct the bank not to honor the original if it is ever presented for payment. Furthermore, the stub of a check-book constitutes a convenient record of expenditures. For payments at a distance, as in another town or country, banks furnish a convenient currency in the form of drafts, that is, orders of one bank upon another to pay to the person named or to his order a specified sum. These can be conveniently and cheaply sent by mail, and, if lost, like checks, can be duplicated. For travelers in foreign countries banks furnish so-called letters of credit for any amount needed. These enable the holder to obtain at any place of commercial importance any sum he may desire in the money of the country in which he is traveling. These, too, can be duplicated if lost. The commercial letter of credit makes it easy for merchants to pay for goods bought in any part of the world or to receive payment for goods sold without inconvenience, delays or danger of loss. Bank-notes, which may be issued in any and all denominations, can be used in all ordinary commercial transactions; they are more convenient than coin for all purposes except small change, and are quite as convenient as government notes, being in all external respects identical with them.

By the elasticity of bank currency is meant its capacity to adapt itself, as it were automatically, to the varying needs of commerce. We have just learned that banks are able to supply the various forms of currency needed, and it only remains to show that they can also supply these in the amounts, at the times, and in the places required. The amount of bank currency depends primarily upon the needs and desires of the customers of banks, among whom now-a-days are to be found all business men and large numbers of people otherwise engaged or living without labor. As we have already shown, it is created by the processes of discount and deposit, and enters into circulation when the customers of banks pay out the notes received or make use of their credit balances by transferring them to others by means of checks. So long, therefore, as banks are able to continue discounting the paper of their customers the amount of bank currency can be increased, and, assuming that banks exist in sufficient numbers in all places where business is carried on, this currency will come into circulation in the places where it is in demand and at times when it is needed. Any business man can get the money he needs, at the times and in the exact form that he needs it, provided his banker will discount his notes. The only limit to the increase of bank currency, therefore, is the capacity of banks to discount mercantile securities, and within that limit its increase is in direct response to business needs.

Besides the capacity to increase at the right time and place, an elastic currency must possess the capacity to decrease when the need for it has passed away. This quality also bank money possesses in a high degree. Credit balances, which by means of checks are made to serve the purposes of a medium of exchange, diminish in magnitude when discounted notes fall due and are not renewed, customers meeting their obligations to the bank by checking

against their accounts or by transferring to it the ownership of cash which has been left on deposit elsewhere. Suppose, for example, that a merchant has for three months been using a credit balance obtained by the discount of his own notes. The date of their maturity having arrived, he must pay them. In case he no longer needs the use of the bank's credit, he will do this by drawing a check against his account in favor of the bank, having previously made preparation for this by allowing a sufficiently large balance to accumulate. In case, however, he still needs more money than he possesses, he will probably meet the matured note by discounting a new one or by securing the renewal of the old one. It would, of course, be possible for him to accumulate cash in his own tills to an amount sufficient to pay his notes, but in that case the money would probably have been taken from banks by checks drawn against the accounts of his customers. The almost universal custom of depositing each day the money received, however, prevents the general adoption of this method of payment. It is thus evident that a decrease in the need for money in any community will result in the decrease of customers' balances by the payment of matured discounts, no business man being willing to continue the payment of interest to a bank for the use of funds which he no longer needs.

The process by which bank-notes are withdrawn from circulation, when they are no longer needed, is similar to the one just indicated. Like other forms of money, they are deposited in the banks, and cannot again be circulated until some one of the bank's customers is willing to take them in satisfaction of the whole or a part of his credit balance, or as a loan against a discounted note. In the former case they are substituted for another form of bank money, and in the latter they constitute a real addition to the currency. When, therefore, they are transferred to

the bank in final payment of discounted notes, they effect as real a diminution of the volume of the currency as the final extinguishment of an equivalent amount of credit balances, and when they accumulate in the tills of the banks they are ultimately redeemed and destroyed.

REFERENCES

Most of the topics discussed in this and the following chapters on banking are treated in the following standard works: Bagehot, *Lombard Street;* Macleod, *Theory and Practice of Banking;* Gilbart, *History and Principles of Banking;* Hankey, *Principles of Banking;* Dunbar, *History and Theory of Banking;* Wagner, *Beiträge zur Lehre von den Banken,* and *Der Kredit und das Bankwesen;* Scharling, *Bankpolitik;* Courcelle-Seneuil, *Traité Théoretique et Pratique des Opérations de Banque;* and Wolowski, *La Question des Banques.*

The following more recent books, some of them widely used as texts, should also be consulted: White, *Money and Banking;* Fiske, *The Modern Bank;* Conant, *Principles of Money and Banking;* Bolles, *Money and Banking, and Finance;* Sayous, *Les Banques de Dépot, les Banques de Crédit et les Sociétés Financières;* and Obst, *Geld-Bank-, und Börsenwesen.*

On the origin and development of banking institutions see especially Macleod, v. I, ch. iv. sec. i; Bagehot, ch. iii; Gilbart, v. I. chs. i and ii; Conant, *Principles,* bk. v, chs. I and ii; and Jäger, *Die älteste Banken und der Ursprung des Wechsels.*. On the details of the various banking operations see Fiske and Bolles for the United States; Sayous for France; Macleod v. I, chs. vi. and vii, and v. II, ch. xvii, secs. 12-19; and Gilbart, v. I, chs. xv and xx, for England; Buchwald, *Die Technik des Bankbetriebes* and Wagner, *Lehre,* chs. ii and iii, and his *Kredit,* ch. ii, for Germany. See also Scharling, ch. i, sec. I, and ch. ii sec. 2; and Courcelle-Seneuil, bks. II and III.

CHAPTER VIII

CLEARINGS AND THE EXCHANGES

ONE of the chief functions of modern commercial banks in the conduct of exchanges is the making of payments between persons residing in the same or in different towns. This branch of their business requires a more detailed description than could be presented in the preceding chapter. In this connection the word *exchange* has acquired a technical meaning, being applied to documents like checks, drafts and bills of exchange which are used for the making of payments between different places. Business men thus speak of the purchase and sale of *exchange,* meaning thereby the negotiation of such credit instruments as are required in the making of the necessary transfers of cash or credit.

1. **Local Exchanges.**—Exchanges between persons residing in the same place, or local exchanges, as we may call them are for the most part conducted by local banks. The hand-to-hand money used is deposited in these institutions from time to time to be drawn out as needed, and other payments are made through checks against customers' balances. Checks, drafts and other credit instruments received from outside are either directly deposited to the credit of customers or discounted and the proceeds credited.

Checks, drafts, bills of exchange, and similar instruments received by one bank and drawn upon others must be collected. In the case of those drawn upon local institutions ***in small places*** this is done by the direct presentation of the paper to the bank on which it is drawn and

the receipt of the amount due in current funds. *In larger places,* especially in big cities, this method of procedure being dangerous and expensive, an institution called the *clearing-house* has been devised to take its place. The essential feature of this is a room conveniently situated, in which certain bank clerks meet every day at a specified hour. This room is usually furnished with desks, one for each bank, arranged in a semicircular or circular form. At a specified time the clerks deposit the checks belonging to each bank at the proper desks, and receive those drawn against the institutions they represent. The clerk at each desk then prepares a balance-sheet by entering in debit and credit columns respectively the aggregate of the checks, drafts and bills of exchange which his bank holds against each of the others and the amount which it owes to each. By footing up these aggregates he is able to determine the total amount due by or to his bank, as the case may be. These balance-sheets are then sent up to the central desk, presided over by the master of the clearing-house, and accounts between the various banks are there settled, it being necessary simply for those from whom payments are due to pay the amount in one form or another to the master of the clearing-house, and for those to whom sums are due to receive the amounts from him.

The balances are paid now in one way and now in another. In some clearing-houses banks are required to pay in cash; in others they are permitted to carry accounts with the clearing-house; and in still others the balances are paid in drafts on some large institution which has extensive connections with all the banks in question, and which sometimes is the manager of the clearing system.

2. **Out-of-town Exchanges.**—Banks are also the chief agencies for the conduct of exchanges between persons who do not reside in the same place. If a person buys goods

beyond the limits of his home town he often pays for them by sending a draft purchased from a local bank and drawn either upon a bank in the place in which the goods were purchased or upon a bank in some other place which has frequent business relations with this one. In order to render this service to their customers banks are obliged to keep funds on deposit in other cities, not necessarily in every city in which the customers may desire to do business, but in certain commercial centers through the banks of which arrangements may be made for the conduct of exchanges with any place desired. The banks selected for this purpose in this country are usually called *correspondents.* In countries in which branch banking is practiced a great deal of business of this kind is conducted between the central institution and its various branches.

By way of illustration let us consider the way in which a small city in Wisconsin conducts its exchanges with the outside world. We may assume that its banks have correspondents in Milwaukee, Chicago, and New York. Its out-of-town business results from the purchase and sale of goods and the adjustment of credit relations between its inhabitants and outsiders. Purchasers of outside goods will pay for them by sending checks on a local banker, by buying drafts on Milwaukee, Chicago or New York, provided exchange on these places is acceptable to their customers, or, if not acceptable, on other places, such drafts being furnished by the correspondents of the local bank. These payments do not necessarily correspond in time with the purchases. Some are deferred. On a particular date the demand for exchange due to purchases comes from those made on time in the past, the payment for which falls due on that date and from those made on a cash basis. To this demand must be added that arising from the adjustment of credit relations with outsiders. Under this head belong

troller of the Currency, *ex officio,* and five other persons appointed by the President of the United States. This board has supervisory power over all the Federal Reserve Banks and controlling power in such matters as note issues, rates of discount, rediscounting between the Federal Reserve Banks and the formulation of by-laws and regulations for the execution of a large number of provisions purposely stated in general terms or left indefinite in the act.

For each Federal Reserve Bank there is a board of nine directors, of whom six are selected by the member banks and three by the Federal Reserve Board. For the purpose of choosing directors the member banks of each district are arranged in three groups according to the amount of their capital stock, each group containing, so far as possible, the same number of banks. Each group elects two directors and each bank in the group has one vote. One of the three directors selected by the Federal Reserve Board is called the Federal Reserve Agent and a second, the Vice Federal Reserve Agent. The former serves as chairman of the board; devotes all his time to the business of the bank; and serves as the intermediary between the bank and the Federal Reserve Board. The Vice Federal Reserve Agent serves in the place of the Federal Reserve Agent in case of his absence. Subject to the supervisory and controlling powers of the Federal Reserve Board the functions of these boards of directors are in essentials like those of the directors of national banks. Each board also selects one person to serve as a member of a so-called Federal Reserve Council which meets quarterly or oftener to give advice and counsel to the Federal Reserve Board.

The chief functions of the Federal Reserve Banks are: to rediscount commercial paper, serve as reserve agents and conduct clearings for member banks; to issue notes; to operate within restricted limits upon the open money market;

and at the option of the Secretary of the Treasury to serve as depository and disbursing agents for the Federal Government.

The paper eligible for rediscount is defined in the regulations of the Federal Reserve Board as bills "the proceeds of which have been used or are to be used in producing, purchasing, carrying, or marketing goods in one or more of the steps of the process of production, manufacture, and distribution." It *does not include* bills the proceeds of which have been used or are to be used "for permanent or fixed investments of any kind, such as land, buildings, machinery (including therein additions, alterations, or other permanent improvements, except such as are properly to be regarded as costs of operation)," or "for investments of a merely speculative character whether made in goods or otherwise." With the exception of bills drawn for agricultural purposes or based on live stock, which may have a maturity not to exceed six months, the maximum maturity of bills eligible for rediscount is three months. All rediscounted bills must bear the indorsement of the member bank which presents them.

Acceptances based upon the importation or exportation of goods, maturing in not more than three months and indorsed by at least one member bank, are also eligible for rediscount, but the amount of such rediscounts may at no time exceed one-half the paid up capital and surplus of the bank for which the rediscounts are made, except with the consent of the Federal Reserve Board, when it may be increased to 100 per cent. of such capital and surplus. Authority to make acceptances of this kind to the amount above indicated is conferred upon member banks.

The Federal Reserve Act changed both the amount and the composition of the reserves of national banks. For time deposits it fixed a minimum reserve of 5 per cent. for

all banks. For demand deposits it reduced the percentage for banks in the central reserve cities from 25 to 18; for those in reserve cities from 25 to 15; and for those in other places from 15 to 12. After three years from the date of the establishment of the Federal Reserve system these reserves must consist of cash in the vaults and balances with the Federal Reserve Banks in the following proportions: For central reserve banks, six-eighteenths cash and seven-eighteenths balances and the remainder in either form at the option of the banks; for reserve city banks, five-fifteenths cash, six-fifteenths balances and the remainder in either form at the option of the bank; and for other banks, four-twelfths cash, five-twelfths balances and the remainder in either form at the option of the bank. During the above mentioned three years interval a higher percentage of cash in vaults is required and a lower percentage of balances with Federal Reserve Banks is permitted. Balances with banks serving as reserve agents under the old system may also be counted as reserves during this period.

The Federal Reserve Board is authorized by the act to require each Federal Reserve Bank to act as a clearing house for the member banks of its district and to itself exercise the functions of a clearing house for the Federal Reserve Banks or to designate a Federal Reserve Bank to act in that capacity.

An important part of the equipment of the Federal Reserve Banks for the performance of the services they are required to render is the power to issue notes, to conduct certain operations on the open market and to establish branches. They are permitted to issue two kinds of notes, so-called Federal Reserve Notes, and notes in their essential features like existing national bank notes. With the consent of the Federal Reserve Board Federal Reserve Notes may be issued on condition that rediscounted commercial

paper to the amount of the issue applied for be placed in the custody of the local Federal Reserve Agent and that a gold reserve of not less than 40 per cent. of the amount issued be maintained. These notes are redeemable on demand in gold at the Treasury Department in Washington and in gold or lawful money at any Federal Reserve Bank; are receivable for taxes, customs and other public dues and by all member banks and Federal Reserve Banks; and are obligations of the United States. Every Federal Reserve Bank is required to keep with the Treasurer of the United States a fund of gold sufficient to enable him to redeem its notes when presented for that purpose. No Federal Reserve Bank may pay out any Federal Reserve Notes except its own, and, whenever the notes of any other Federal Reserve Bank are received, it must present them to the Treasurer of the United States or to the issuing bank for redemption.

Each Federal Reserve Bank is authorized to buy government bonds, and under certain specified conditions may be compelled by the Federal Reserve Board to buy the bonds national banks have on deposit with the Comptroller of the Currency as security for their note issues. In case such purchases are made by any Federal Reserve Bank it may deposit such bonds as are endowed with the circulation privilege with the Comptroller of the Currency and receive in exchange and issue notes of essentially the same character as national bank notes.

Section 14 of the act confers upon the Federal Reserve Banks the following powers:

(a) "Under rules and regulations prescribed by the Federal Reserve Board (to) purchase and sell in the open market, at home or abroad, either from or to domestic or foreign banks, firms, corporations, or individuals, cable transfers and bankers' acceptances and bills of exchange of the kinds and maturities by this act made eligible for redis-

count, with or without the indorsement of a member bank";

(b) "To buy and sell, at home or abroad, bonds and notes of the United States, and bills, notes, revenue bonds, and warrants with a maturity from date of purchase of not exceeding six months, issued in anticipation of the collection of taxes or in anticipation of the receipt of assured revenues by any State, county, district, political subdivision, or municipality in the continental United States, including irrigation, drainage and reclamation districts, such purchases to be made in accordance with the rules and regulations prescribed by the Federal Reserve Board";

(c) "To purchase from member banks and to sell, with or without its indorsement, bills of exchange arising out of commercial transactions, as hereinbefore defined";

(d) "To establish from time to time, subject to review and determination of the Federal Reserve Board, rates of discount to be charged by the Federal Reserve Bank for each class of paper, which shall be fixed with a view of accommodating commerce and business."

It should be noted that cable transfers, bankers' acceptances, and bills of exchange are the only forms of commercial paper in which the Federal Reserve Banks are permitted to deal on the open market. Promissory notes, which form the chief content of the portfolios of American bankers and are at the present time the most widely used documents in the credit transactions between banks and their customers, are not included in any of the items enumerated above. It should also be noted that, with the exception of the above mentioned forms of commercial paper and bonds and notes of the United States, the only securities in which Federal Reserve Banks are permitted to deal on the open market are those of public bodies "issued in anticipation of the collection of taxes or in anticipation of assured revenues" and maturing in "not exceeding six months" from the date

of purchase. These limitations restrict this class of their operations within narrow limits, limits, however, which may be greatly extended by the wider use of the bill of exchange in the regular credit transactions of banks with their customers.

Section 15 of the act authorizes the Secretary of the Treasury at his discretion to deposit with Federal Reserve Banks "the moneys held in the general fund of the Treasury, except the five per centum fund for the redemption of outstanding national bank notes and the funds provided in this Act for the redemption of Federal Reserve Notes," and "the revenues of the Government or any part thereof" and to make disbursements "by checks drawn against such deposits." The noteworthy features of this section are the fact that it provides a means for the practical abolition of our independent treasury system, but leaves the employment of these means to the discretion of the Secretary of the Treasury. He may continue the old practices, retain them in part or entirely abandon them, as he chooses.

Other important provisions of the Federal Reserve Act authorize Federal Reserve Banks to establish branches in their respective districts, or in any other district in which the Federal Reserve Bank may have suspended operations, and agencies in foreign countries for the purchase, sale, and collection of the bills of exchange in which they are permitted to deal on the open market, and enlarge the powers of national banks in the following particulars: Those not situated in a central reserve city "may make loans secured by improved and unincumbered farm land" situated in the Federal Reserve District in which they are located, maturing in five years or less and not exceeding in amount "fifty per centum of the actual value of the property offered as security; with the permission of the Federal Reserve Board any national bank may "act as trustee, executor,

administrator or registrar of stocks and bonds under such rules and regulations as the said board may prescribe"; and with the permission and under regulations prescribed by the Federal Reserve Board national banks with a combined capital and surplus of $1,000,000 or more may establish branches in foreign countries or dependencies of the United States, "for the furtherance of the foreign commerce of the United States, and to act, if required so to do, as fiscal agents of the United States."

The above described provisions of the Federal Reserve Act were intended to supply remedies for the chief defects in our banking system. Precisely how they are likely to operate towards the accomplishment of this end may now be indicated.

The power of the Federal Reserve Banks to rediscount commercial paper makes possible in the first place the creation of a regular national market for such paper. Since, at the counters of the Federal Reserve Bank of their district, member banks can always turn commercial paper into means of meeting their obligations, they should never hesitate to purchase such paper from their customers, and these in turn should not fear a clogging of the wheels of commerce through lack of adequate credit facilities. Since bank acceptances are also eligible for rediscount and the power to make such acceptances, when based on imports or exports, is conferred upon member banks, the foundation for an international market for our commercial paper is laid, this form of paper being regularly bought and sold on foreign markets.

The establishment of a regular national market for commercial paper and of an international market for acceptances, combined with provision for the more extended use of the latter in our commercial operations, offers inducements to banks to increase their investments in this kind of paper and to business men to offer such paper for sale. If this

inducement is adequate, such a modification in the practices of both banks and business men may gradually take place, that the unconscious issue of demand obligations against investment securities, which now occurs periodically with great regularity, will cease, and with it will disappear one of the chief causes of the overexpansion of credit operations.

The significance of this achievement becomes more apparent when it is considered in connection with the probable effects of the changes which have been made in reserve requirements. These are the transfer of the central cash reservoir of the country from the associated banks of New York to the Federal Reserve banks, the elimination of the necessity for investing reserve funds in call loans on the New York Stock Exchange, and the diminution of the amount of money hoarded in bank vaults and withdrawn from active commercial service. The combined result is such an administration of our cash resources as makes possible their easy transfer from one part of the country to another and from one bank to another in response to the needs for them, a considerable increase in the volume of such funds available for use and the establishment of a regular and sure means through which the legitimate cash needs of both banks and business men may be met, namely the discount and rediscount of commercial paper. Under these conditions financial panics ought to disappear and commercial crises to become less frequent and less severe.

The power to issue Federal Reserve Notes supplies the means for adding to our currency the elastic element it has lacked since the establishment of the national banking system. Since these notes can only be issued against commercial paper and must be presented for redemption as soon as the need for them has passed, their automatic increase and decrease in correspondence with the fluctuating needs of the

country for hand-to-hand currency is rendered possible. The remedy of the defect in our currency system here contemplated, as well as those described in the preceding paragraphs, is conditioned upon the extension of the use of rediscountable commercial paper in our credit operations.

Until the Federal Reserve Act is amended, the elimination of the defects of our independent treasury system depends upon the wisdom of the men who are appointed to serve as Secretaries of the Treasury. Possibly the endowment of this official with such power may be justified as a temporary expedient to render easy the transition from the old system to the new, but in the near future the use of the Federal Reserve Banks as depositories and disbursing agents of the Federal Government should be made mandatory.

Noteworthy progress has been made by this act towards the removal of the conflicts between the functions of national and state banks and trust companies and the laws which govern them. The granting to national banks of the right under specified restrictions to loan on real estate security and to execute certain forms of trusts removes in part the disadvantages in competition with state banks and trust companies under which they previously labored. The permission accorded to state banks and trust companies to enter the Federal Reserve system by complying with substantially the same regulations as those to which the national banks are subject tends also in the same direction.

Nearly a year elapsed after the passage of the Federal Reserve Act before the new banks were ready for operation, November 16, 1914 being the date on which they were ordered by the Federal Reserve Board to begin business. In the meantime the organization committee had selected Boston, New York, Philadelphia, Richmond, Atlanta, Cleveland, Chicago, St. Louis, Dallas, Kansas City, Minneapolis

and San Francisco as the Federal Reserve Cities and had divided the country into twelve districts;* the President had appointed five men to serve with the Secretary of the Treasury and the Comptroller of the Currency as the Federal Reserve Board; the directorates and other officers of the banks had been selected; the first installment on the capital subscriptions had been paid; a beginning had been made in the transfer of reserves; and places of business for the respective banks had been procured and equipped.

Noteworthy features of this preliminary work of organization are: the selection of the maximum, twelve, instead of the minimum, eight, or some intermediate number, of federal reserve cities; great rivalry between certain cities for the honor of such appointment and consequent disappointment and dissatisfaction over the selections made;† difficulty in drawing the boundary lines of districts so as to meet the minimum capital requirement ($4,000,000) and

*Each district was given a number and the boundaries were so drawn that No. 1, *the Boston district,* included Maine, New Hampshire, Rhode Island, Connecticut, Vermont and Massachusetts; No. 2, *the New York district,* the state of New York; No. 3, *the Philadelphia district,* New Jersey, Delaware and eastern Pennsylvania; No. 4, *the Cleveland district,* Ohio, western Pennsylvania, northwestern West Virginia and eastern Kentucky; No. 5, *the Richmond district,* the District of Columbia, Maryland, Virginia, the remainder of West Virginia, North Carolina and South Carolina; No. 6, *the Atlanta district,* Alabama, Georgia, Florida, eastern Tennessee, southern Mississippi, southeastern Louisiana; No. 7, *the Chicago district,* Iowa, southern Wisconsin, southern peninsula of Michigan, northern Illinois and northern Indiana; No. 8, *the St. Louis district,* Arkansas, Missouri, except the extreme western part, southern Illinois, southern Indiana, western Kentucky, western Tennessee and northern Mississippi; No. 9, *the Minneapolis district,* Montana, North Dakota, South Dakota, Minnesota, northern Wisconsin and the northern peninsula of Michigan; No. 10, *the Kansas City district,* Kansas, Nebraska, Colorado, Wyoming, the extreme western part of Missouri, northern Oklahoma and the extreme northern part of New Mexico; No. 11, *the Dallas district,* Texas, the remainder of New Mexico, southern Oklahoma, the remainder of Louisiana and southeastern Arizona; and No. 12, *the San Francisco district,* California, Oregon, Washington, Idaho, Nevada, Utah and the remainder of Arizona.

†Probably the keenest disappointment was felt by Baltimore, New Orleans and Denver.

at the same time to satisfy the member banks and to interfere as little as possible with the most efficient conduct of their business; in most cases the failure of the member banks belonging to the groups of small and intermediate capitalization to select members of their own groups as their representatives on the directorate of the Federal Reserve Banks of their respective districts, and the consequent predominance in such directorates of men whose interests and associations are with the larger banks of the country; and the difficulty experienced by the President in selecting men to serve on the Federal Reserve Board on account of the fact that no appointee to this position may "be an officer or director of any bank, banking institution, trust company, or Federal Reserve Bank nor hold stock in any bank, banking institution or trust company," nor "hold any office, position, or employment in any member bank" for a period of two years after he ceases to be a member of the Federal Reserve Board.

The Federal Reserve Banks began to rediscount commercial paper, purchase bankers' acceptances and engage in other open market operations as soon as the necessary permission had been granted and regulations made by the Federal Reserve Board. The following table compiled from the balance sheets published weekly since Nov. 27, 1914, indicates the rapidity with which the chief branches of their business have developed and the volume attained at the end of the first year of their history:

(IN THOUSANDS OF DOLLARS)

			Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco	Total for System
Total Reserves	November 27	1914	15,817	107,615	19,836	17,853	8,273	4,797	39,988	11,492	8,539	8,946	6,218	13,606	262,470
	December 31	.....	13,854	99,009	19,208	18,691	8,800	5,326	38,707	10,045	9,925	10,818	6,636	14,363	255,647
	January 29	1915	17,455	92,286	21,217	18,583	8,893	5,897	37,120	10,360	10,156	11,036	7,258	16,196	256,787
	February 26	.....	18,604	114,325	20,829	19,135	8,895	5,527	33,163	11,116	10,230	11,200	8,107	16,383	277,964
	March 26	.....	16,867	109,581	18,873	17,015	8,790	5,911	33,897	11,077	8,521	11,459	8,286	14,989	265,266
	April 30	.....	17,204	107,261	20,809	16,899	8,452	5,217	36,805	11,596	7,542	11,232	8,586	13,955	264,746
	May 28	.....	15,225	124,687	21,944	17,936	7,487	5,949	38,366	10,334	8,547	9,637	6,585	8,952	275,629
	June 25	.....	16,591	150,082	20,876	17,966	7,637	5,638	37,589	11,309	8,185	10,300	6,741	10,141	303,635
	July 30	.....	16,365	140,850	17,236	18,630	7,966	5,537	37,149	9,451	7,189	10,406	7,687	9,818	288,284
	August 27	.....	17,343	140,116	16,140	18,112	8,956	5,576	39,020	10,604	8,040	9,405	7,540	8,305	288,057
	September 24	.....	18,164	150,865	18,284	17,777	12,652	8,883	42,717	11,260	6,450	8,114	9,626	8,402	313,144
	October 29	.....	19,688	164,872	14,134	16,544	13,532	8,792	39,808	7,677	4,638	7,191	11,660	9,628	318,464
Discounts and Loans[1]	November 27	1914	217	2,715	880	.....	213	25	1,509	1,073	175	392	173	11	7,383
	December 31	.....	154	279	786	506	2,022	1,079	2,017	288	1,104	79	927	752	10,593
	January 29	1915	177	1,014	317	425	3,720	3,180	1,623	476	216	143	1,449	1,215	13,955
	February 26	.....	308	2,230	511	772	5,550	5,289	831	647	319	350	2,576	1,079	20,469
	March 26	.....	1,037	5,080	2,032	1,944	6,608	5,787	2,112	616	705	522	3,516	1,724	31,683
	April 30	.....	2,213	6,118	2,104	1,934	6,943	4,780	2,297	730	814	981	5,229	2,443	36,586
	May 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	June 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	July 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	August 27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	September 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	October 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Investments[2]	November 27	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	December 31	.....	.....	50	.....	.....	.....	.....	205	.....	.....	.....	.....	.....	255
	January 29	1915	556	5,261	1,525	820	.....	.....	2,550	.....	1,077	401	.....	990	13,180
	February 26	.....	626	6,903	1,565	920	37	.....	4,755	55	1,050	515	.....	991	17,417
	March 26	.....	1,061	7,256	1,987	1,254	14	.....	5,039	772	1,385	866	.....	1,045	20,579
	April 30	.....	1,899	8,138	2,129	1,980	1	.....	6,457	953	1,659	1,041	.....	1,211	25,469
	May 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	June 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	July 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	August 27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	September 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	October 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Includes commercial paper and acceptances which were not separately reported until May 28.

[2] Includes government bonds and municipal warrants which were not separately reported until May 28.

(IN THOUSANDS OF DOLLARS)—*Continued.*

			Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco	Total for System
Commercial Paper	November 27	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	December 31		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	January 29	1915	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	February 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	March 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	April 30		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	May 28		319	425	638	759	7,412	4,469	920	724	591	604	6,148	1,738	24,747
	June 25		296	540	653	784	7,378	4,399	1,187	744	1,082	611	6,455	1,867	25,996
	July 30		306	587	591	681	8,361	4,805	1,485	992	1,714	1,161	6,648	1,771	29,102
	August 27		204	445	512	421	8,052	4,920	1,226	1,185	1,934	1,418	6,880	1,469	29,275
	September 24		180	501	385	748	8,404	6,046	1,410	1,397	1,625	1,029	7,493	1,255	31,373
	October 29		151	403	196	587	6,814	6,600	2,333	1,667	1,617	2,876	6,187	1,017	30,448
Bank Acceptances	November 27	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	December 31		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	January 29	1915	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	February 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	March 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	April 30		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	May 28		1,908	3,172	857	265	.....	.....	729	343	175	653	.....	1,102	9,204
	June 25		2,041	4,631	975	213	.....	.....	475	342	168	632	.....	902	10,379
	July 30		2,223	5,537	1,411	362	.....	.....	607	362	221	395	.....	501	11,625
	August 27		2,574	6,066	1,529	484	.....	.....	1,144	456	304	452	.....	555	13,564
	September 24		2,435	4,919	1,959	514	100	.....	1,421	494	316	495	.....	605	13,058
	October 29		3,176	4,880	1,528	558	100	.....	1,571	471	341	433	.....	561	13,619
United States Bonds	November 27	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	December 31		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	January 29	1915	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	February 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	March 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	April 30		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	May 28		.....	.....	.....	175	.....	.....	3,575	242	1,025	930	.....	1,000	6,947
	June 25		.....	.....	191	485	.....	.....	3,725	242	1,025	930	.....	1,000	7,601
	July 30		.....	.....	340	660	.....	.....	3,725	242	1,025	930	.....	1,001	7,923
	August 27		.....	491	.....	340	852	.....	3,951	244	1,027	931	.....	1,000	8,834
	September 24		.....	491	.....	340	887	.....	3,986	242	1,027	1,355	.....	1,000	9,328
	October 29		.....	491	.....	491	932	.....	4,031	952	1,082	1,526	.....	1,000	10,505

(IN THOUSANDS OF DOLLARS)—*Continued.*

			Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco	Total for System
Municipal Warrants	November 27	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	December 31	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	January 29	1915	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	February 26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	March 26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	April 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	May 28	.....	2,338	9,595	2,703	2,474	1	.....	3,281	777	689	156	.....	1,080	23,094
	June 25	.....	2,228	3,246	1,291	1,507	1	.....	1,515	387	468	230	.....	636	11,509
	July 30	.....	2,494	5,688	1,843	1,512	.....	.....	1,873	638	488	446	.....	1,125	16,107
	August 27	.....	3,407	10,802	2,747	2,422	.....	.....	3,502	696	559	580	.....	1,093	25,808
	September 24	.....	3,731	9,305	3,049	1,736	.....	5	2,949	1,047	745	798	.....	1,580	24,945
	October 29	.....	3,274	8,390	2,866	3,638	.....	5	2,750	1,095	793	824	.....	1,379	25,014
Reserve Deposits, Net	November 27	1914	14,383	106,350	18,265	15,845	7,361	4,025	38,275	11,645	7,742	8,115	5,442	11,820	249,268
	December 31	.....	12,457	101,563	19,415	17,344	9,161	6,155	38,495	10,372	10,486	9,942	6,909	13,719	256,018
	January 29	1915	17,091	117,345	19,367	16,877	7,645	5,917	42,344	14,133	8,902	9,670	6,756	13,469	279,516
	February 26	.....	16,093	126,096	19,730	17,048	8,362	5,400	43,172	15,715	8,793	9,559	7,434	12,934	290,336
	March 26	.....	16,788	125,493	19,529	17,042	8,045	5,724	43,197	14,127	8,962	9,977	6,961	12,372	288,217
	April 30	.....	16,105	130,472	21,410	17,102	7,947	5,742	43,280	13,726	8,951	9,379	7,618	12,120	294,832
	May 28	.....	18,018	127,474	19,829	17,062	8,106	5,662	44,933	13,963	8,894	9,128	6,702	12,279	292,050
	June 25	.....	18,588	141,844	20,616	16,952	7,957	5,253	47,998	13,688	9,004	10,475	6,571	12,403	311,349
	July 30	.....	19,221	142,411	17,743	17,130	7,839	5,164	46,331	12,074	8,979	10,779	6,114	12,398	306,183
	August 27	.....	19,481	150,128	18,022	17,443	7,764	5,420	48,032	13,375	8,797	9,989	6,059	12,479	316,989
	September 24	.....	20,041	154,172	23,687	17,303	7,386	5,236	52,649	13,068	9,046	9,179	5,661	12,513	329,041
	October 29	.....	21,095	174,443	18,931	17,522	7,768	5,395	48,820	11,050	9,390	9,687	6,515	12,938	343,554
Fed. Res've Notes, Net	November 27	1914	55	678	384	.....	45	20	1,057	.....	172	289	.....	.....	2,700
	December 31	.....	.....	.....	.....	140	780	434	1,717	39	.....	72	410	183	3,775
	January 29	1915	.....	.....	.....	119	840	797	.....	.....	.....	74	451	.....	2,278
	February 26	.....	.....	.....	.....	177	2,513	1,966	.....	.....	.....	.....	672	.....	5,328
	March 26	.....	.....	.....	.....	.....	3,877	3,880	.....	.....	.....	.....	1,132	.....	8,889
	April 30	.....	.....	.....	.....	.....	5,077	3,647	.....	.....	.....	37	2,277	.....	11,038
	May 28	.....	.....	.....	.....	.....	4,596	2,877	.....	.....	.....	193	3,255	.....	10,921
	June 25	.....	.....	.....	.....	.....	5,001	2,803	.....	.....	.....	4,472	4,341	.....	12,617
	July 30	.....	.....	.....	.....	.....	5,855	2,828	.....	.....	.....	550	5,732	.....	14,965
	August 27	.....	.....	.....	.....	.....	6,865	3,001	.....	19	157	842	5,854	.....	16,738
	September 24	.....	.....	.....	.....	.....	6,445	3,030	.....	.....	.....	903	4,880	.....	15,348
	October 29	.....	.....	.....	.....	.....	4,874	3,622	.....	.....	.....	1,377	4,045	.....	13,918

On pages 214 and 215 is shown a copy of the balance sheet for October 29, 1915, as published by the authority of the Federal Reserve Board.

Noteworthy features of this exhibit are the following:

(a) The development of the rediscount business has been slow and has attained considerable proportions in the Richmond, Atlanta and Dallas banks only. The number of banks which to the present time (November, 1915) have availed themselves of this privilege has been small and of these the majority have belonged to the three southern districts. Substantially the same statement will apply to the issue of Federal Reserve Notes. The small issues made by the other banks during the first or second months of their operations were speedily retired.

(b) Open market operations have so far been confined to the purchase of bankers' acceptances, municipal warrants and government bonds. In all except the three southern banks these have attained considerable relative importance, amounting in the aggregate to more than the rediscounts of commercial paper.

(c) The item "gold settlement fund" refers to a gold clearance fund established at Washington for the purpose of effecting settlements between Federal Reserve Banks with a minimum of delay and cost.

As early as December, 1914, some of the Federal Reserve Banks took the first steps towards the establishment of a clearing system for the member banks of their districts, and on March 4, 1915, the Federal Reserve Board announced "that it had determined to direct the introduction of a voluntary reciprocal plan for immediate clearance at Federal Reserve banks where a clearing plan was not already in operation." As a result intradistrict clearing systems were put into operation in all the districts, which on November 1, 1915, included 2,456 member banks, distributed

Federal Reserve Board

(IN THOUSANDS OF DOLLARS)

RESOURCES

	Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta
Gold Coin and Certificates in Vault	13,738	129,981	7,867	10,618	5,898	5,672
Gold Settlement Fund	5,264	4,492	3,163	4,934	7,159	2,745
Gold Redemption Fund	6	55	37	.....	375	225
Legal Tender Notes, Silver, etc	680	30,344	3,067	992	100	150
Total Reserve	19,688	164,872	14,134	16,544	13,532	8,792
Commercial Paper	151	403	196	587	6,814	6,6c9
Bank Acceptances	3,176	4,880	1,528	558	100	.....
U. S. Bonds	491	491	932	.....	.....	.....
Municipal Warrants	3,274	8,390	2,866	3,638	.....	5
Federal Reserve Notes, Net	745	11,376	805	385	.....	.....
Due from other Federal Reserve Banks, Net	.....	.....	3,512	704	640	820
All other Resources	245	383	668	119	51	296
Total Resources	27,770	190,304	24,200	23,467	21,137	16,513

LIABILITIES

Capital paid in	5,181	11,047	5,269	5,945	3,349	2,417
Government Deposits	.....	.....	.....	.....	5,000	5,000
Reserve Deposits, Net	21,095	174,443	18,931	17,522	7,768	5,395
Federal Reserve Notes, Net	.....	.....	.....	.....	4,874	3,622
Due to other Federal Reserve Banks, Net	1,494	2,398	.....	.....	.....	.....
All other Liabilities	.....	2,416	.....	.....	146	79
Total Liabilities	27,770	190,304	20,200	23,467	21,137	16,513

dates of maturity, and ready saleability are prime considerations with a commercial bank. In order to meet its daily obligations, it must be able to command cash or funds in the form of checks or drafts on other institutions. The latter are available for building up credit balances with correspondents, and the former may be used for this purpose and also as a reserve. Occasionally also a bank must be able to command extraordinary amounts on short notice.

These funds come to the bank from three main sources, namely, the daily deposits of its customers, the payment of their maturing notes, and the sale of securities upon the open market or to some special institution, such as, in Europe, the great central banks. Of these three resources, the second should be chiefly relied upon. It is the only one completely under the bank's control. When a note or bill falls due the bank has a legal right to demand its payment in current funds, and it is also free at such a time to grant or to refuse a new loan. The amount of the daily deposits depends upon business conditions and the will of customers, and is therefore uncertain, as is also the ability of the bank to rediscount with another institution or to sell securities on the open market.

It is, therefore, a matter of prime importance to a commercial bank that it should carry a large portfolio of notes and bills so arranged as to maturity that it is able each day to command such funds as it needs with a large margin for contingencies, and rapidly to change the direction and the amount of its investments as circumstances dictate. Of these notes and bills those are greatly to be preferred which originate in the regular processes of everyday commerce, since the payment of these follows the completion of these processes. Those which represent permanent investments, or fixed rather than circulating capital, on the other hand, depend for their payment on profits

which are contingent on the successful management of an entire business and are therefore uncertain. Notes and bills based on certain forms of commerce, even though regular, such as speculation on stock and produce exchanges, are also objectionable, except when protected by wide margins and held in comparatively small quantities. The element of risk in these forms of commerce is very great and they are liable to sudden interruptions and fluctuations, which render the payment at maturity of the paper based upon them much more uncertain than that of paper based upon the more stable forms.

It is impossible to lay down any fixed rule regarding the proportion of a bank's total investments that should take the form of bills and notes of the kind above indicated. A safe one to follow, however, is that these together with the holdings of cash and cash items should at least equal the total deposits. The investment of the capital and surplus may safely take the form of high class bonds, since these funds exist for the ultimate protection of customers and for contingencies of rare rather than of everyday occurrence. Such bonds may also be quickly sold for cash at times when good policy dictates the renewal of notes falling due or the extension of this form of investment. As a main reliance for banks, however, bonds or any form of security representing fixed capital are impossible. The main function of commercial banks is the balancing of debits and credits which arise in the ordinary everyday forms of commerce, and bills and notes are the form which these debits and credits assume. Their absorption by the banks is, therefore, necessary. Bonds and stocks, on the other hand, represent savings or exchanges one part of which is completed only after the lapse of years. If banks generally opened deposit accounts in exchange for these, they would be assuming obligations which they could not

possibly meet, since the only debits which would normally come from these investments are interest and dividend payments, and these accumulate too slowly to enable a bank to meet the demands of its depositors.

The regulation of bank investments by law is a difficult matter and only possible to a very limited extent. The discretion and skill of bank officers must be chiefly relied upon. In this country legislative attempts along this line have taken the form chiefly of defining the business of banking in such a way as to prohibit dealings in ordinary merchandise, of limiting real estate investments and loans on real estate security, and of requiring the investment of a certain portion of the capital in public securities. Our national banking act, for example, describes the business permitted to national banks as that of discounting and negotiating promissory notes, drafts, bills of exchange, and other evidences of debt; of receiving deposits; of buying and selling exchange, coin and bullion; of loaning money on personal security; and of obtaining, issuing and circulating notes. (Sec. 5136). By exclusion this section prohibits dealings in ordinary merchandise and loans on real estate security. Another section (5137) permits the purchase, holding and conveying of real estate for the following purposes only: "First, such as shall be necessary for its immediate accommodation in the transaction of its business; second, such as shall be mortgaged to it in good faith by way of security for debts previously contracted; third, such as shall be conveyed to it in satisfaction of debts previously contracted in the course of its dealings; fourth, such as it shall purchase at sales under judgments, decrees, or mortagages held by the association, or shall purchase to secure debts due to it.

"But no such association shall hold the possession of any real estate under mortgage, or the title and possession of any

real estate purchased to secure any debts due to it for a longer period than five years." (Sec. 5137.)

As previously noted, the act also requires the investment of a portion of the capital of national banking associations in government bonds.

A further restriction is imposed in Sec. 5200 by the provision that no association shall loan to any person, firm or corporation an amount to exceed ten per cent. of its unimpaired capital and surplus and in no case to exceed 30 per cent. of its capital.

The above provisions regarding real estate investments have been generally incorporated in our state banking acts, but as a rule these acts permit, within limits, loans on real estate security, and much larger loans to single persons, firms or corporations, and do not require investments in government or any other bonds.

In the laws of foreign countries different provisions may be found. In Germany, for example, banks of issue are required to cover the circulating notes one-third by cash and two-thirds by bills of exchange maturing in not more than ninety days and bearing at least two solvent names. The laws regulating the Bank of France prohibit its investment in bills of exchange secured by less than three names and maturing in more than ninety days and prescribes the classes of other securities in which it is permitted to invest. The banking laws of Canada are carefully drawn in this particular.

5. **Regulation of reserves.**—The amount of cash required by a bank varies from time to time and the needs of different banks at the same time are not the same. The chief source of the demand upon a bank for this form of currency is the need of customers for hand-to-hand money, and this depends in part upon the kinds and volume of the transactions in which they are engaged, and in part upon the

habits of the community. It, therefore, varies with the seasons and is greater at times when certain kinds of payments, like those for dividends, interest, rents, wages, etc., fall due than at others. In this and most other countries the spring and fall are seasons of large demand, the former because agricultural activities are then starting, and the latter on account of the movement of the crops. At the beginnings of the quarters, especially of the first and the third, this demand is also great. Interest on enormous issues of government and corporation bonds then fall due and dividends are most apt to be paid at those times. In Scotland half-yearly payments, such as rent, interest on loans and mortgages, wages of farm servants, etc., customarily fall due in May and November, thus causing an unusual demand for cash at those times.

The extent to which people use hand-to-hand money instead of checks is also partly a matter of habit and of the enterprise of the banks. Until considerably after the first quarter of the nineteenth century the banks of England catered chiefly to the government and its employees, the nobility and the great merchants. The joint stock bank of discount which appeared in the thirties gradually changed this custom, however, and made banks popular among all classes, thus enormously increasing the proportion of bank currency to cash used in the ordinary transactions of the people. In this country banks have been popular almost from the beginning of their history, and bank currency, at first in the form of notes and later in the form of deposits, has constituted the larger part of our currency for nearly a century. With the multiplication of banking institutions, however, and their easier accessibility to people in small towns and country districts, the use of bank currency is constantly increasing. The people of the continent of Europe have been more backward in this particular than the Eng-

lish and the American, but the use of the deposit account is yearly becoming more and more popular there and bank-notes for many years have been widely used.

For the cash which it needs the ordinary bank depends upon the deposits of its customers and upon drafts on its correspondents. Any excess coming from the former source is usually shipped to correspondents and any deficit supplied by them. The task of supplying the entire country with hand-to-hand money is thus transferred to the great financial centers in which are located the institutions that act as final correspondents for all other banks,—in this country to New York, in England to London, in France to Paris, in Germany to Berlin, etc. How this problem is solved in this and certain other countries will be discussed in a subsequent chapter. Here it is sufficient to say that the regulation of the reserves cannot be disassociated from the regulation of loans and discounts and note-issues. The volume of the former must be so arranged as to keep the deposits within such limits that the cash available will be adequate to meet the demands of depositors. To meet these demands, however, properly secured bank notes are nearly as efficient as coin or any other form of hand-to-hand money, and hence the method by which they are supplied and regulated is vital to this discussion.

In most countries no attempt is made directly to regulate the amount of the reserves by law. To this rule, however, the United States has been a prominent exception. Formerly our national banking act required that banks in country towns should keep a reserve of 15 per cent. of their deposits, of which at least two-fifths should be in cash in their own vaults and the remainder, at their option, on deposit with approved national banks in the reserve cities. Banks in these cities were required to keep a reserve of 25 per cent. of their deposits, of which at least one-half had to be cash in their

own vaults and the remainder might be on deposit with approved national banks in the so-called central reserve cities. Banks in these cities had to keep 25 per cent. of their deposits in cash in their own vaults. Similar requirements are imposed upon other banks by the laws of the various states.

The efficiency and desirability of such laws are open to question. That they are not essential to sound banking is demonstrated by the experience of other countries. As an objection to them may be urged the impossibility of classifying banks according to their real needs for cash. Different localities make very different demands upon their banking institutions, much depending in this respect upon the nature of the business carried on and something upon the customs of the region. Hence, when all banks are placed in three classes, one of two results is quite certain to follow. Either the limit set by law will be so low as to afford no real protection, or it will be in some cases so high as to seriously interfere with the accommodation which the banks ought to be able to render to the business of the community. The weight of this objection becomes more apparent when we consider the effects of the clause requiring banks to stop discounting as soon as their cash reserves fall below the legal limit. This regulation makes these reserves practically useless at the time when they are most needed. Cash reserves are most apt to be infringed upon in times of incipient or actual crisis, and it is precisely on such occasions that banks should be able to accommodate business men to the greatest extent possible, that they should be able indeed to discount first-class securities in even greater amounts than in ordinary times. The provision in question, however, absolutely prevents this, and thus is apt to exaggerate the conditions which characterize such periods of industrial unrest.

6. Regulation of note issues.—In the legal regulation of

the banking business most states have distinguished between depositors and noteholders and have granted special protection to the latter. The chief reasons for this practice consist in the peculiarities of bank-notes to which reference has already been made and for present purposes may be summarized as follows:

(1) Notes circulate freely from hand to hand without endorsement, and, if issued in the proper denominations may answer nearly all the purposes of currency, even taking the place of coin. They are, therefore, less liable to be presented for redemption than other forms of bank currency, and in consequence make fewer demands upon the cash reserve. If unrestricted in their operations, bankers are thus tempted to neglect their reserves and unduly to extend their loans. Long and bitter experience has shown that bankers are unable to resist such temptation, and that unrestricted and unregulated note issues are a fruitful source of bad banking and commercial disaster.

(2) In order that bank-notes may perform their legitimate functions they must be rendered absolutely safe. They are the only form of bank currency which can serve as hand-to-hand money, but unless they are perfectly safe their circulation at par is sure to be restricted to the immediate locality in which they are issued, and consequently their general use as a medium of exchange obstructed.

Among the various means employed for the special protection of noteholders may be mentioned the prior lien upon assets, the safety fund, the mortgaging of special assets, the government guarantee, and the limitation of the total issues. By the prior lien is meant the requirement by law that in case of insolvency the claims of noteholders shall be satisfied out of the assets before those of any other creditors. The safety fund method is best illustrated at the present time in Canada. The banking laws of that country require

each bank of issue to contribute five per cent. of the amount of its issues to a fund kept and administered by a public official. In case of the failure of any bank its notes may be paid at once out of this fund, in which case the amount thus abstracted is replaced from the assets of the bank. If they are insufficient, the deficiency in the amount necessary to bring the fund to five per cent. of the remaining issues is made up by an assessment on the other banks. In this case the prior lien and the safety-fund systems are combined.

By the mortgaging of special assets is meant the requirement that banks of issue shall hold certain specified securities, the proceeds of the sale or of the collection of which, in case of insolvency, shall be used for the satisfaction of noteholders' claims. This is the method employed in this country. When they wish to issue notes, national banks are required to deposit government bonds with the Comptroller of the Currency, who then prepares and sends to each bank notes to the par value but not to exceed the market value of the bonds deposited. The government guarantees the payment of the notes, and in case of the failure of the bank with inadequate resources uses the bonds as a means of indemnifying itself for the expense involved. This method was also employed by many of our states during the period in which state banks were issuing notes. Usually national bonds, the bonds of the state in question, and other specially designated bonds, and sometimes real estate mortgages, were accepted as security.

The guarantee of the ultimate payment of the notes by the state does not necessarily accompany the mortgaging of special assets, and it might easily be used independently or in connection with other methods. It cannot be recommended, however, in any case in which adequate provision

for indemnifying the state against possible loss is not made.

Some limitation on the total amount of issues is common even when other methods of protecting noteholders are also employed. National banks in this country and the banks of Canada are not allowed in any case to extend their issues beyond the amount of their paid-up capital stock. In France the law sets a definite limit beyond which the issues of the Bank of France are not permitted to go, but from time to time this limit has been raised. The Bank of England is permitted to issue £18,450,000 in notes on the deposit of securities to that amount with the issue department of the bank and any amount beyond this figure in exchange pound for pound for gold coin or bullion. Banks of issue in Germany are assigned a fixed quota which they must secure by means of first-class bills of exchange and cash in the proportion of not less than one-third of the latter. Beyond this quota they must secure their issues either by 100 per cent. of cash or pay a tax of five per cent. to the government.

The relative advantages and disadvantages of these methods of protecting noteholders must be judged from the standpoint of their influence on the elasticity of the issues, as well as from that of safety. From this point of view the plan of mortgaging special assets in the form used in this country is defective. The requirement that government or other bonds must be purchased and deposited with a public official before notes may be issued, and the surrender of the notes, or of an equivalent amount of cash, in exchange for the bonds before notes can be retired renders their volume entirely independent of the needs of commerce, since those needs bear no relation to the profitableness or unprofitableness of investments in bonds or to the desirability of holding or selling such bonds once in

the bank's possession. In order to render the quantity of the issues responsive to the varying needs of the community for hand-to-hand money, banks must be able to issue notes freely in the discounting of bills and the payment of depositors, and to retire them freely when the need for them has passed. The only protection to noteholders not inconsistent with such freedom must therefore be based upon such assets as normally come into the possession of commercial banks in the performance of their daily duties. All the other methods above described are free from this objection, and it is possible by combining two or more of them also to render the security to the noteholders perfect from the standpoint of safety.

7. **Public inspection and supervision.**—Publicity is an important safeguard against unsound banking, and it also assists banks in obtaining the confidence of the public. So important to a bank is it that the people generally should believe in its soundness and stability that it is probable that self-interest would lead them to publish their accounts or in some other way keep the community informed regarding the nature of their business. In most states, however, it has been found best to enforce publicity in one form or another, the most common method being to require the publication of banks' statements. In the United States national banks are required annually to make to the Comptroller of the Currency at least five reports of their resources and liabilities. The dates for these are not specified in advance, the Comptroller being permitted to call for them whenever he sees fit. When submitted they must be published in a newspaper in the place where the banking association is established. In Germany banks of issue are required to make weekly reports which are published in the periodicals. The Bank of France is compelled by law to furnish to the government every six months

a full statement of its operations, and a balance-sheet of the bank is published in the official journal every Friday. The accounts of the Bank of England are also regularly published in the financial journals of the kingdom.

In addition to the requirement that bank accounts must from time to time be submitted to public inspection, some provision for supervision and examination by public officials is common. The Comptroller of the Currency in the United States is authorized, and indeed directed by law, to inspect the national banks at frequent intervals. He has full authority to call for all books and securities, and to make as full and complete an examination as he desires. In the great state banks of Europe provisions for special inspection are rendered unnecessary by the appointment of public officials to the immediate control of these institutions. The governor and two sub-governors of the Bank of France are appointed by the ministry. The Imperial Bank of Germany is under the direct control of a board of curators composed of the Chancellor of the Empire, who is president, and four other members, one named by the Emperor and the other three by the federal council. This body meets every three months and examines reports regarding the bank's condition and the operations which are being carried on. The immediate administration of the Imperial Bank is confided to a board of directors appointed directly by the Imperial Government from a list nominated by the federal council. The Bank of England in form is a purely private institution, its directors being appointed by the stockholders, but on account of its intimate connection with the English government it is practically under the direct supervision of government officials.

The efficiency of the practice of publishing statements as a safeguard against unsound banking depends largely upon the ability of the public to interpret these statements when

they appear. It is desirable, therefore, that we should examine a typical bank statement and note the manner in which the chief operations of banking are revealed in its items. The following has not been copied from any report, but contains the essential items, and may be regarded as typical:

Liabilities.		Resources.	
Capital	$100,000	Loans	$265,750
Surplus	20,000	Bonds and Stocks	10,000
Undivided Profits	2,750	Real Estate	15,000
Deposits	264,000	Other Assets	8,000
		Cash Reserve	88,000
	$386,750		$386,750

The most important items in this account have already been explained. By *capital* is meant the funds originally contributed by the stockholders and it stands here under the head of liabilities because the officers of the bank are responsible to them for its use and must distribute the dividends on the basis of it. It should be noted, however, that capital stock is not payable on demand, and is thus a very different sort of liability from deposits and notes. By *surplus,* is meant the profits which have been earned, but which are not distributed in the form of dividends, but left with the bank in order to strengthen its resources. The accumulation of a surplus amounts to an increase of the bank's capital. The *undivided profits* are the profits not yet distributed but which are available for distribution either to stockholders or to surplus funds or to meet losses. The *deposits,* as was explained in a previous chapter, are the sum total of the credit balances on the books of the bank in favor of its customers, some of which have originated in loans and others in the deposit of actual cash. Turning now to resources, we note that the item

loans is represented in the bank's safes and portfolios by the notes of business men and corporations, falling due, some perhaps in thirty, some in sixty, and some in ninety days, and by the bills of exchange it has purchased. The term *bonds and stocks and real estate* are self-explanatory, the latter being represented chiefly by the building and grounds occupied by the bank. Under the head *other assets* are included the various items of miscellaneous property which in one way and another have come into the possession of the bank, possibly through the foreclosure of mortgages or other means not necessarily involved in the prosecution of the bank's peculiar business. The *cash reserve* is the cash on hand available for the payment of depositors and the meeting of other cash obligations.

As variations of this typical account it should be noted that banks of issue add to the items falling under the head Liabilities that of *notes* or *issues;* that instead of the term *loans* we often meet the term *discounts;* and that under the general head Deposits may be distinguished *current accounts* and *time deposits,* and sometimes *deposits of other banks* and *private deposits.* The Bank of England uses the term *rest* instead of *surplus.*

The relation between these various items may best be revealed by considering the effects upon this account of the most important daily operations of the bank. Suppose that new loans to the extent of $3000 are made, which are to mature on the average in sixty days and to bear interest at six per cent. Three items of the account must then be changed. The *loans* will be increased to $268,750 the *deposits* to $266,970 ($264,000+$2,970, which is $3000-$30, the discount for sixty days), and the *undivided profits* to $2,780. It should be noted that the cash reserve now bears a smaller proportion to the demand liabilities than before.

Suppose next that depositors draw upon their accounts to the extent of $10,000, receiving their pay in cash. The item *deposits* will then stand at $256,970 and the reserve at $78,000. This again reduces the proportion of the reserve to demand liabilities. If these depositors had accepted bank-notes instead of cash, the result would have been different. The reserve would have remained as before; the deposits would have been diminished to the extent of $10,000, and a new item of $10,000, namely notes, constituting also a demand liability, would have been introduced on the side of liabilities. In this case, the proportion between reserve and demand liabilities remains unchanged.

Let us suppose next that loans to the extent of $10,000 fall due and are paid in cash. The item *loans* will then stand at $258,750, having been reduced to the extent of $10,000, and the cash reserve will have been increased to the same extent. The payment of these loans might equally well have been accomplished by a corresponding diminution of the item *deposits*. If the persons whose notes have fallen due are also depositors, they may hand to the cashier of the bank their checks for the amount. It is noteworthy that in either case the proportion of reserve to demand liabilities is increased.

A fourth supposition will enable us to appreciate the effect of investments in long-time securities. When the accounts of the bank were in the condition represented by the statement on p. 147, suppose that $50,000 had been invested in *bonds and stocks*. The cash reserve would have been reduced to $38,000, thus enormously diminishing its proportion to the demand liabilities, and in no respect increasing the bank's ability to command cash on short notice, except through the plan of throwing its bonds and stocks upon the market for sale.

It thus becomes evident that many of the essential fea-

tures of the banking business are revealed in such simple statements of aggregated items as have been described. The proportion of the capital and the cash reserve to the other liabilities, the extent of the bank's ability to meet cash demands made upon it and the aggregate of such liabilities, the amount of the total resources invested in mercantile securities as distinguished from stocks, bonds, etc., the extent of liabilities to other banks as well as of the claims upon them, ought all to become clear upon the examination of such an account. Adequate provision for supervision and examination by public officials ought to guarantee the correctness of the accounts, and make bank officials careful regarding the character and soundness of the men whose paper they discount.

8. Importance of honesty, wisdom, and discretion in bank officials.—Since the chief reliance of a bank, beyond its actual reserve, must be placed upon the short-time business paper which it holds, it follows that the best security for its safety must be the honesty, wisdom, and discretion of its officers. Upon these rests the responsibility of selecting the bank's creditors. If these are reliable, if they always meet their obligations when they fall due, and if their business is sound, the bank will be safe, provided a proper proportion between the demand liabilities and the cash reserve is maintained. What this proportion should be is a matter which, as we have shown, must be left to the discretion of bank officials.

In this connection it is interesting to note that the interest of bankers as a class is in the maintenance of sound rather than loose methods. To no group of business men is an unimpeachable reputation for financial soundness and reliability more vital. The banker's stock in trade is his credit. If that goes, his business is ruined. Under these circumstances he is like a retail merchant with no goods

upon his shelves. He has nothing to sell. He is really much worse off than the merchant, since the latter can stock up his store with fresh goods which will tempt the public to buy, while the banker can rarely buy back his lost or shattered credit. There is no such thing in the market for sale, and if he ever recovers it, it will be by the slow process of a life of business integrity, thus convincing the public that he is worthy of confidence. In view of this fact, bankers are apt to be conservative and to constitute a check each upon the other.

REFERENCES

For the methods actually employed in the regulation of commercial banking in this country the federal reserve act, the national banking act, and the banking laws of the various states should be consulted. An excellent digest of the latter, compiled by Mr. Samuel A. Welldon, was published by the National Monetary Commission. The annual reports of the Comptroller of the Currency and of the banking departments of the various states are also valuable. For foreign countries consult the publications of the National Monetary Commission, especially Koch, *German Imperial Banking Laws;* Flux, *The Swedish Banking System;* Conant, *The National Bank of Belgium,* and the *Banking System of Mexico;* Landmann, *The Swiss Banking Law; The Reichsbank,* 1876-1900; and *Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland, and Italy.*

Consult also Macleod, v. II, chs. xviii and xix; Dunbar, *History and Theory of Banking,* chs. vi-xi; *Report of the Monetary Commission of the Indianapolis Convention,* pp. 244-246; Gilbart, *The History and Principles of Banking,* v. I, ch. xxi; Wagner, *Zettelbankgesetzgebung,* ch. ii, sec. 3, and ch. iii, secs. 2 and 4, and his *Kredit und Bankwesen,* ch. ii, sec. 2; Scharling, *Bankpolitik;* Hague, *Bank Reserves,* and Stewart, *A Composite Bank Statement,* in Journal of the Canadian Bankers' Assn., v. I, p. 107, and v. XI, p. 40, respectively.

CHAPTER X

BANKING IN THE UNITED STATES

DURING the early years of the history of this country every community suffered from the lack of an adequate medium of exchange and from an insufficiency of capital. The degree of the need felt for these two essentials of industrial progress was greatest on the frontier, but it was everywhere present, even in the largest towns. Before the adoption of our present constitution, and for many years thereafter, our supply of specie came from foreign countries as the result of the operation of our foreign commerce, and what we obtained in this way was chiefly used in the operations of the government and in the purchase of foreign commodities. The supply was almost always short of the demand and in frontier communities frequently nil. As for capital, the majority of the settlers on the frontier had little more than the bare necessities for a farming establishment in the wilderness. The accumulation of anything more was a slow process on account of the lack of adequate markets for their produce, a situation the remedy for which had to wait for the development of means of transportation adequate to connect scattered communities with each other and with the older countries beyond the seas.

The colonial governments put forth their best endeavors to supply these needs, and the people attempted to help themselves. Unfortunately both confused the need for a currency with that for capital with the result of attempting to make the same instrumentality answer both purposes. The most commonly employed expedient was bills of credit

issued in a form suitable for circulation as money. The colonial governments frequently made such issues on their own credit, using the notes in the payment of their expenses or loaning them to people on mortgage or personal security. Private individuals and associations often did the same thing. The notes thus issued circulated within a limited territory only and at a depreciated value, thus performing very imperfectly the functions of a medium of exchange, but they were considered so much better than nothing that the people resented attempts made by the English government to interfere with their right to use them. During its early years the Revolutionary war was chiefly financed by similar notes issued by the Continental Congress.

In spite of the extended use of these notes and the sensitiveness of the public regarding interference with their right to use them, their imperfections as a circulating medium were so well understood by well informed people at the time of the adoption of our constitution that the convention which framed that document incorporated in it a clause prohibiting the states in the future to emit bills of credit or to make anything except gold and silver coin legal tender in payment of debts. It also gave to the federal government the exclusive right to manufacture such coins. However, the needs which were primarily responsible for the issue of these bills of credit remained and clamored for satisfaction for many years after the new government went into operation, and the means devised for their satisfaction were banks of issue chartered by the federal government and by the states, or established by private individuals under authority of the common law.

1. **The earliest banks.**—The pioneer institution of this type was incorporated by the Continental Congress Dec. 31, 1781, under the name of the Bank of North America. The plan for it was devised by Gouverneur Morris, but its pro-

motion was chiefly the work of Robert Morris, then Superintendent of Finance. Feb. 7, 1784, the legislature of Massachusetts chartered a similar institution under the name of the Bank of Massachusetts, and later in the same year the bank of the State of New York was started in New York City by Alexander Hamilton and others, which, however, did not obtain a charter from the state until 1791. In 1790 the legislature of Maryland chartered the Bank of Maryland; in 1791 the Bank of Providence was chartered in Rhode Island; and on Feb. 25 of the same year Congress chartered the Bank of the United States.

In the details of their organization and of their business these and other banks subsequently formed differed considerably and sometimes widely, but in general characteristics they were alike. Their principal business consisted in the exchange of their own non-interest-bearing notes, payable on demand, for the interest-bearing notes of merchants, farmers and others payable at future dates, and frequently for the securities of the United States, the various states and the private corporations of the time. They also received deposits and conducted checking accounts for customers and bought and sold domestic and foreign exchange. On account of the great and almost universal need for capital, deposits were very small, nearly every person wanting more than he possessed and desiring from banks loans rather than a place of safe-keeping for surplus funds. The notes issued by the banks circulated as money, and, though they were supposed to be payable on demand in specie, and usually required by their charters or by general laws so to be paid, they were not expected to be presented for payment unless the need for specie was very urgent. This expectation was based partly upon experience, and partly upon public sentiment, which was wide-spread to at least the middle of the last century, that it was unfair, if not

dishonorable, to demand specie of a bank except under special circumstances. The charters of these banks uniformly provided for the accumulation of a capital fund by contributions from the proprietors, a portion of which was required to be paid, generally in part at least in specie, before the bank should be permitted to do business with the public.

2. **The first United States Bank.**—The Bank of the United States was the greatest of these early institutions and served as a model for many others. In addition to the fundamental needs already described, special ones peculiar to the time and to the United States government, account for its establishment. These were strongly and convincingly urged by Alexander Hamilton in a report on the subject presented to Congress Dec. 13, 1790. On account of the scarcity of specie and the local character of the circulation of the banks chartered by the states there was great need of currency that would be uniform in value and equally acceptable in all parts of the country. The government also needed safe places for the deposit of its revenues as they were collected at the various seaports and interior towns, means of transferring funds from one part of the country to another, and facilities for obtaining loans to meet temporary exigencies. Hamilton showed that a national bank would satisfy these and other needs, and that without one they were likely to remain either in whole or in part unsatisfied. There was great opposition to his plan on account of the belief of many that the constitution did not confer upon Congress the right to grant charters of incorporation and on account of the monopolistic character of the proposed institution and for various other reasons, but Hamilton's arguments finally prevailed to the extent of inducing a majority of Congressmen to vote for the charter and President Washington to sign it in opposition to

the advice of the Attorney General and the Secretary of State. The chief features of the institution authorized by this charter were the following:

A capital stock of $10,000,000 of which $8,000,000 was to be subscribed by private individuals, paid one-fourth in specie and three-fourths in evidences of the public debt, and $2,000,000 by the federal government; a directorate of twenty-five persons who should be citizens of the United States, and should be elected by the stockholders according to a plan which gave small holders relatively more votes in proportion to their shares of stock than large ones; foreign stockholders were handicapped by not being eligible as directors and by not being allowed to vote by proxy; the total indebtedness of the bank, including its note-issues, were not to exceed $10,000,000 over and above the deposits; it was permitted to sell but not to buy public stock, and was prohibited from dealing in anything "except bills of exchange, gold or silver bullion, or in the sale of goods really and truly pledged for money lent, and not redeemed in due time, or of goods which shall be the produce of its lands;" it was prohibited from loaning to the federal government more than $100,000 or to any state more than $50,000 without being previously authorized so to do by law, and from loaning any sum to any foreign prince or state; it was required to make statements of its condition to the head of the treasury department when required but not oftener than once a week, and to submit to his inspection such books and accounts as were necessary for the verification of such statements, provided, that he should not have access to the accounts of the bank with private persons; its notes payable on demand in gold and silver were to be receivable for all payments to the United States; its main office was to be located in the city of Philadelphia, but the directors were authorized to establish offices of

discount and deposit wheresoever they might think fit; the life of the corporation was to continue until March 4, 1811, and during that time no other bank was to be chartered by Congress.

In pursuance of authority conferred by the charter, the directors established branches at Boston, New York, Baltimore, Washington, Norfolk, Va., Charleston, Savannah and New Orleans. The government used the bank as a depository for its funds and frequently borrowed from it, at times, under authority conferred by law, in amounts greatly in excess of the $100,000 mentioned in the charter. The government received dividends on its stock in excess of eight per cent. per annum and finally sold it at a good premium. Throughout its history the bank redeemed its notes on demand in specie and supplied the country with a much needed uniform currency. That its services to commerce in general were great and all that its promoters expected, is probable, though the data which has come down to us concerning its career is insufficient to form the basis of a positive judgment regarding the matter.

3. State banks in the period 1791 to 1811.—State banks steadily increased in numbers throughout this period. There were more than thirty in existence in 1800, and more than eighty in 1810. Most of them were in New England, New York and Pennsylvania, but no state was without them. They furnished banking facilities to communities not reached by the United States bank and its branches, and supplemented and even competed with that institution in the cities in which these branches were located. The growth of these institutions was fostered by the state governments which frequently contributed a portion of their capital stock, and by the spirit of speculation which was widespread. Many, possibly all, of them attempted to perform functions for which they were unfitted, namely,

that of furnishing fixed capital to farmers, manufacturers, merchants and others interested in the transportation and other enterprises of the time. To this end they issued notes in exchange for investment securities maturing after long periods of time, the ultimate payment of many of which depended upon the increase of enterprises only just started or merely planned at the time and which could not possibly become income-producing before the lapse of years. For the redemption of notes thus issued the banks made no adequate provision in the capital fund collected from their stockholders and none was forthcoming from the individuals and corporations whose names were on the securities held, or from the stock markets of the time. They were, therefore, forced to resort to devices to prevent their notes being returned for payment, such as the putting of them into circulation in distant states or cities, the location of the issuing offices in inaccessible places and the invention of obstacles of one kind or another to prevent or delay the payment of the notes when they were presented.

Fraud was also practiced. Many banks were established merely for the purpose of launching some enterprise in which the promoters were interested and without any equipment for serving the public or any purpose of rendering such service. In such cases the capital subscribed was frequently represented simply by stock notes and the note issues by the securities of the enterprise or enterprises in which the promoters were interested. These notes were paid to the people who furnished the materials and labor required and through them entered into general circulation. Having practically nothing at stake, the promoters made large profits so long as the notes were not returned for redemption and had nothing to lose from refusal to redeem them when they were so presented.

4. The period 1811 to 1816.—The charter of the First United States Bank expired in 1811 and a bill authorizing the continuation of its existence for another twenty years failed to pass Congress. The objections to the bank urged in 1790 were revived and the state banking interests were in strong opposition. Some of Hamilton's arguments in its favor, presented in 1790, did not apply with equal force in 1811 on account of the multiplication of state banks, and the fact that a large part of its stock was owned by foreigners, operated powerfully against it at this particular time because of our strained relations with England.

The prospective and actual removal of the competition of this powerful institution resulted in a rapid increase in the number of state banks. One authority * estimates the number established between Jan. 1, 1811, and Jan. 1, 1815, at one hundred and twenty. "The state of Pennsylvania alone, by a single act of the 21st of March, 1814, created forty-one banks with a capital of about $17,000,000, thirty-seven of which went into operation" (Ibid.). In 1812 war was declared against England and the struggle on land and sea thus inaugurated and continued for two years nearly destroyed our foreign commerce, financially embarrassed the federal treasury and, combined with other influences, in 1814, caused the suspension of specie payments in all parts of the country except New England. In the middle states, the south and the west, bank-notes fell to a discount varying according to the reputation for soundness of the issuing institution and its distance from the commercial centers; specie disappeared from circulation; prices rose; and speculation became rampant. The embarrassment of the Treasury was greatly increased by the necessity of receiving its revenues in depreciated notes of local currency

* Pitkin's Statistics, p. 429.

only and by the necessity of depositing its funds in non-specie-paying state banks.

5. **The second United States Bank.**—The remedy for these unfortunate financial conditions, proposed and ultimately adopted, was a second United States Bank, the charter for which was enacted into law in 1816. It was modeled after that of the first bank differing from it in the following particulars chiefly: its capital was fixed at $35,000,000 that of the first bank being $10,000,000; of the twenty-five directors the President was authorized to select five, whereas in the case of the first bank the government voted its stock like any other stockholder; the section providing for the establishment of branches was much more specific and elaborate in the second than in the first charter, the bank being *required* to establish a branch in the District of Columbia when Congress should demand it and one in any state upon application of its legislature and on condition that at least two thousand shares of its stock be held in said state; a penalty for the suspension of specie payments was imposed, the amount being fixed at 12 per cent. interest per annum on the obligations of the bank; there was no such penalty specified in the first charter; the funds of the United States were to be deposited in the bank, unless the Secretary of the Treasury should direct otherwise, in which case he was obliged to lay before Congress his reasons for such action. No provision regarding this matter appeared in the first charter. The amount which might be loaned to the United States Government without further authorization from Congress was fixed at $500,000, this amount in the first charter having been $100,000. Congress reserved the right to inspect the books and to examine into the proceedings of the bank through committees appointed by either house for that purpose. No such clause appeared in the first charter.

The organization of this bank was completed during the last half of 1816 and by the end of 1817 branch offices had been established at New York, New Orleans, Boston, Portsmouth, N. H., Providence, R. I., Pittsburg, Pa., Baltimore, Washington, Richmond and Norfolk, Va., Fayetteville, N. C., Charleston, S. C., Savannah, Ga., Louisville and Lexington, Ky., Cincinnati and Chillicothe, O., and Middletown, Conn. Subsequently branches were opened at Hartford, Conn., Mobile, Ala., Nashville, Tenn., Portland, Me., St. Louis, Mo., Buffalo and Utica, N. Y., Burlington, Vt., and Natchez, Miss. One of the first tasks imposed on the bank was the securing of the resumption of specie payments throughout the country. This it ultimately accomplished aided by an agreement with the state banks by which the transfer of the public deposits was facilitated. During the years 1818 and 1819 the management of the bank was bad and the commercial crisis through which the country passed in those years created conditions unfavorable to its development and reputation. Under the able administration of Nicholas Biddle, however, who became its president in 1823, the bank became a strong and highly useful institution, checking the tendencies of the state banks toward overtrading and other unsafe practices, aiding the government in the conduct of its financial affairs and furnishing commerce with a uniform currency convertible on demand into specie and with better facilities for loans and for domestic and foreign exchange than it ever before enjoyed.

Because of the bad management of early years, mistakes of judgment and policy occasionally made subsequently and various circumstances over which its officers had no control, the bank made many enemies who became strong enough in 1834 to defeat a bill introduced into Congress providing for its recharter. The most formidable of these enemies were the state banks, the people, principally poli-

ticians, whose personal interests and feelings had been injured from time to time by the measures Biddle and his associates had found it necessary or desirable to execute in the interests of the bank, and President Jackson. The latter was possessed of a deep seated antipathy against and a fear of all banks and some of his party associates and advisors, who were violent enemies of this particular institution used their influence to convince him that it not only ought not to be rechartered, but that it was an unsafe place for the government deposits. The war against the bank began in earnest in 1832 during the campaign for Jackson's election to the Presidency for a second term and resulted in the removal of the public deposits in the autumn of 1833 and a defeat of the bill for recharter in 1834. After the expiration of its charter the bank continued to operate for a time as a state institution under a charter granted by the legislature of Pennsylvania.

6. The establishment of the Independent Treasury System.—After the withdrawal of the government deposits from the second United States Bank the public funds were placed in selected state banks conveniently located in different parts of the Union. The crisis of 1837 brought most of these into a state of suspended specie payments and many of them into bankruptcy. The public deposits were thus rendered either unavailable or payable only in depreciated state bank notes, and the government suffered greatly from the resulting financial embarrassment. Out of the agitation which followed sprang our Independent Treasury System.

The act for the establishment of this system was passed in 1840, repealed in 1841, and reënacted in 1846. The main provisions of the latter act were as follows: So-called subtreasuries were to be established at Philadelphia, New York, Boston, Charleston, St. Louis, New Orleans, San Francisco,

Denver, Carson City and Boise City * to be presided over by assistant treasurers. In the safes and vaults to be provided at these places and at the main treasury at Washington were to be kept the funds of the government, receiving and distributing officers being required to deposit therein, instead of in banks, whatever funds should come into their hands after Apr. 1, 1847. All payments to and from the government were to be made in coin. Provision was made for the transfer of funds from one sub-treasury to another and for the other necessary details of the system. This method of managing the public funds subsequently modified in important particulars has continued to the present day.

7. **The growth and reputation of state banks.**—State banks increased rapidly in numbers throughout the period of the life of the second United States bank and down to the outbreak of the Civil War. Their distribution among the various states and territories varied considerably in different years, but every state was fairly well supplied at most times.

To the student the most interesting and important phase of the history of these institutions not yet considered is the effort of the various states or of the banks themselves to provide safeguards and suitable regulations for the business. In this work the states of Massachusetts and New York were leaders. In the former legislation with this end in view began as early as 1792 and has continued at intervals down to the present day. It was not always consistent and was frequently ineffective, but it improved with time and on the whole does credit to the state. This legislation was incorporated in charters granted to banking institutions and in general laws of which the most important were passed in 1805, 1806, 1809, 1829, 1835, and 1860. Charters were

*By subsequent acts the sub-treasuries at Charleston, Denver, Carson City, and Boise City were discontinued, and others established at Baltimore, Cincinnati, and Chicago.

granted by nearly every legislature during the early years, and while they had many features in common there was diversity in many particulars.

Among the most instructive portions of this legislation were those which aimed at compelling banks to secure from their proprietors a stock of capital and to regulate the magnitude of their business in accordance therewith. It was easy to induce people to subscribe for bank stock, but quite another matter to compel them actually to pay the amounts subscribed. A very common practice with bank proprietors in Massachusetts and elsewhere throughout the union was to give to the bank their notes for the whole or a large part of their stock subscriptions, expecting to pay the interest out of profits and never to pay the principal. Banks thus started had to depend wholly or largely upon deposits for their stock of cash and, if these were meager, and they usually were in the early days, they did business almost exclusively with their own notes, which were forced into circulation in as large quantities as possible and their payment evaded by every possible device.

In a charter of the Union Bank incorporated in 1792 it was prescribed that the capital stock should be paid in three instalments and that any subscriber who did not pay at the times designated should forfeit previous payments and his right to subscribe. In another charter granted in 1795 a less stringent provision was incorporated to the effect that after any instalment had become due no stockholder should be allowed to borrow at the bank until his share had been paid. Such provisions being easily and frequently, if not commonly, evaded or actually violated, in many charters granted later it was provided that the bank should make no loans whatever until satisfactory evidence had been presented to the Governor and Council that the entire capital stock had been actually paid in coin and

was actually present in the vaults of the bank. This regulation was sufficiently stringent, but its enforcement had to be provided for. To this end oaths of directors to the effect that the requirements of the law had been met were required in the charter of the State Bank granted in 1811 and in that of the New England Bank granted in 1813 it was provided that commissioners appointed by the Governor should actually count the cash as well as take the affidavits of directors that the cash on hand belonged to the bank and was intended to be used in its business. Such regulations were at times violated with impunity by false oaths and by the borrowing of coin for the commissioners to count. The proper enforcement of these and other laws had to wait for the development of a better and stronger public sentiment and for an all-round improvement in the efficiency of the state government.

Logically connected with the legislation just described is that which aimed at limiting the liabilities of banks to some proportion of the capital stock. In the act of 1792 amending the charter of the Bank of Massachusetts it was provided that note issues and money loaned by a credit on the books or otherwise should not exceed double the amount of the gold and silver actually deposited in the bank and held to answer demands against the same. The charter of the Boston Bank incorporated in 1803 provided that debts to or from the bank should not exceed double the amount of the capital stock paid in, a provision incorporated in many other charters granted before 1811. After that date, and previous to 1829, the limit on note-issues most often imposed was 150 per cent. of the paid up capital. In some cases, however, it was 100 per cent. and in a few 50 per cent.* The general law relative to banking passed in 1829 fixed it at 125 per cent.

*Sound Currency, v. II, No. 13, p. 256.

A further means of limiting note issues as well as of compelling banks to keep on hand a stock of specie was a provision first incorporated in the charter of the Union Bank granted in 1811 imposing a payment of 24 per cent. per annum on the notes of a bank in case of its failure to redeem them on demand. Most charters subsequently granted also contained this provision.

Scarcity of specie was an obstacle to the enforcement of this provision and was to a considerable extent responsible for another group of laws regulative of the denominations of bank-notes. The act of 1792, to which reference has already been frequently made, prohibited the issue of notes below the denomination of $5. The charters of the Nantucket and Merrimac banks granted three years later, however, authorized the issue of notes of denominations as low as $2. In 1805 the law was modified so as to permit the issue of $1, $2 and $3 notes to the extent of five per cent. of the paid up capital. In 1809 the amount of such notes permissible was raised to 15 per cent. of the paid up capital. It was reduced to ten per cent. in 1812 and again raised in 1818 to 25 per cent., at which point it remained so long as state banks continued to issue notes. In the absence of a sufficient amount of specie in circulation notes of low denominations were needed for small change, and legislation yielded to the demand thus created, but it is probable that the satiation of the popular need for small change by such notes tended to prevent the importation and maintenance in the circulation of a sufficient amount of specie. Indeed the chief argument urged in favor of the prohibition of notes of low denominations is the inducement thereby of a large circulation of specie, a portion of which being normally kept on deposit with the banks enables them to redeem their notes on demand, provided the volume put out be kept within proper limits.

Other important legislative provisions related to the publicity of bank operations. The act of 1792 required that a statement of the banks' affairs be made to the Governor and council every six months; that of 1805 provided that bank statements be made under oath, and that of 1806 mentioned the items of information which such statements must contain. The responsibility of directors for the enforcement of laws in the cases of their respective banks also received the attention of the Massachusetts legislators. In the charter of the Massachusetts bank, as amended in 1792, they were held personally liable for the debts of the bank in cases of violation of the laws unless they had been absent at the time, or had protested and given notice thereof to the Governor of the state. The general bank act of 1829 made the directors liable in their individual capacities for debts of the bank in excess of the limit fixed by law.

These and a large number of other legislative provisions represent the efforts of the legislature to throw proper safeguards about the banking business. Private effort was also efficient in this direction, probably more so than public. Its most conspicuous success was the so-called Suffolk system for the clearing and redemption of bank-notes, developed by the Suffolk bank of Boston which was chartered in 1818. Up to that time the notes of country banks had been at a discount in Boston varying with the distance of the issuing bank and the difficulty of collection. The notes of the Boston banks passing everywhere at par were kept out of circulation by these depreciated notes, being collected by the country banks and returned to Boston as deposits. To such an extent had this substitution of local for Boston notes proceeded that in 1818 the circulation of the Boston banks was only about one-twenty-fifth of the total for New England, while their capital was more than

one-half of that of all the other banks in the same region.

In order to attract to itself the business of the country banks the New England Bank in 1813 offered to redeem country bank-notes at a discount represented by the actual cost of returning them to the place of issue for collection, a charge considerably less than that frequently exacted. The Suffolk bank entered into competition for this business by offering to redeem *at par* the notes of any bank that would keep with it a fixed deposit of five thousand dollars plus a sum sufficient to redeem such of its notes as might be presented. This plan promising, if generally adopted, to maintain the circulation of the country bank-notes at par, interested the other Boston banks as well as the Suffolk, and resulted in their combining with it to force reluctant banks to accept the Suffolk's offer. The means employed was the contribution of a fund for the purchase of the notes of such banks and for their speedy return to the issuing bank for collection. Subsequently the forcing process was aided by legislation in Massachusetts and some of the other New England states.*

By these methods and their own interests most of the banks in the New England states were ultimately induced to accept the Suffolk's offer and this bank thus became a clearing agent for the notes of the entire region. After a time banks in Providence and Newport aided in the work. Under this system the bank-notes of New England were kept at par and redeemable in specie on demand except during, and for a time after, the crisis of 1837. Banks were thus compelled to keep adequate reserves of specie and to this end to restrict their operations in various directions. Withdrawal from the system became a sign of

* See an act of the Massachusetts legislature passed in 1845, providing that no bank should pay over its own counter any notes but its own.

weakness and exposed a bank to the penalty of the return of its notes for redemption in specie at frequent intervals, and sometimes to the refusal of the Suffolk to receive its notes under any conditions, a circumstance which threatened ruin, since it deprived the notes of currency.

The Suffolk system remained a power in New England to the time of the establishment of the national banking system. In 1855 the Bank of Mutual Redemption established by the country banks was chartered as a competitor, and after a time attracted the greater part of the business, but the plan for clearing and redeeming notes established by the Suffolk, persisted as long as the state banks continued to issue notes.

In New York State attempts to safeguard the banking business in the period preceding the Civil War resulted in some contributions to the art well worthy of description in this connection. The first of these in order of time was the so-called safety-fund system for the mutual insurance of bank-notes. In 1829 a law was passed requiring every bank which thereafter should be rechartered or newly chartered, to contribute three per cent. of its capital, one-half of one per cent. to be paid annually, to a fund to be used for the payment of the debts of failed banks. In case of the reduction of the fund by such payments it was to be replenished by fresh contributions paid at the same rate as the original ones. The principle involved in this legislation is the mutual responsibility of each bank for the debts of the others in case of failure.

A free field for the operation of this plan was left open for a few years only. In 1838 a new method of securing the note-issues of banks was authorized by law, a method which proved more popular than the safety-fund system and ultimately took its place. According to this law banks were permitted to secure their notes by the deposit with a

public officer, known as the comptroller, of bonds of the United States, or of the state of New York or of bonds of other states approved by the comptroller and equivalent to five per cent. bonds of the state of New York, or of mortgages on improved, productive and unincumbered real estate worth double the amount of the mortgage, exclusive of the buildings thereon. In case a bank organized under this system should continue in default of the redemption of its notes for a period of ten days, the comptroller was authorized to sell these securities left on deposit and apply the proceeds to such redemption. By an amendment passed in 1840 bonds of other states were removed from the above list, and in 1863 the privilege of depositing real estate mortgages was taken away.

Another important provision of the act of 1838 extended this privilege of issuing circulating notes against the deposit of the above mentioned securities to any person or association of persons who might make application for the same and conform to the regulations prescribed. Heretofore the privilege of banking in New York State had been conferred by special charter only and in 1804 and 1818 laws were passed prohibiting people without such charters from carrying on the business of banking in the state. In the granting of these charters political favoritism, bribery and other forms of corruption and fraud had played a leading rôle, and the free banking principle was introduced as the remedy. It was undoubtedly efficient in this direction, but its immediate effect was a rapid increase in the number of banking institutions, and the undermining of the safety-fund system by the removal of the incentive to new banks to join it and by offering inducements to those already operating under it to withdraw and reorganize under the new law. The constitution granted in 1846 prohibited the granting of special bank charters, thus compelling all

institutions to be established in the future to organize under the free-banking law.

Experience with the safety-fund system was thus confined to the new banks organized and the old ones rechartered in the period 1829 to 1838, and after that date to such of these banks as did not reorganize under the free-banking law. The crisis of 1837 was fatal to banks all over the country. Two operating under the safety-fund system failed in that year, and two others soon after. During the years 1840 to 1842 eleven more failed, the payment of the debts of the first three of which exhausted the fund accumulated in accordance with the act of 1829. The number of banks operating under the system was so small in comparison to the number of failures that the replenishment of the fund was too slow to enable the comptroller to meet the demands made upon it. The amendment of the act in 1842 providing that after the payment of the obligations already incurred, notes should be made a first lien on the fund, and a provision in the constitution of 1846 making note-holders preferred creditors of all failed banks, came too late to give much relief.

The results of the operation of the free-banking act were far from satisfactory during the early years. There were many failures of banks organized under it, and the proceeds of the sales of securities lodged with the comptroller were often insufficient for the redemption of the notes at par.* Many institutions organized under it were not banks in any proper sense since they issued notes only and offered no loan, deposit or exchange facilities to the

*In the pamphlet already referred to Mr. Root states that 26 of these banks had failed previous to 1844, and that their circulation had been redeemed at the average rate of 76 cents on the dollar.

The Superintendent of Banks in 1854 stated that bonds and mortgages sold under the provisions of the free-banking act had not realized more than 75 per cent. of their par value.

public. For example, some persons in New York City and outside of the state purchased on credit the requisite securities, deposited them with the comptroller and used the notes issued to pay for them, redeeming the notes subsequently at a discount of one-half per cent. This proceeding was made possible by a law passed in 1840 requiring all country banks to redeem their notes in New York City or Albany, but permitting such redemption at a discount not to exceed one-half per cent. The persons above mentioned, therefore, had simply to adopt the device of dating their notes at some interior point to enable them to work their profitable scheme. In order to prevent this practice a law was passed in 1844 prohibiting persons from transacting the business of banking in any place except their residences.

In New York as in Massachusetts bank failures, fraudulent practices under the cover of law, and actual violations of law suggested amendments and new legislation. The new state constitution of 1846 contained provisions making stockholders liable for the debts of their banks to the amount of their capital stock in addition to what had already been paid in, making note-holders preferred creditors in cases of insolvency, requiring the registration of circulating notes, and prohibiting the passage of a law authorizing the suspension of specie payments. A law was passed in 1848 requiring all banking associations to receive deposits and to make loans as well as to issue notes. Under the operation of these and other laws, and as a result of experience in administering the laws and in detecting fraudulent practices, conditions gradually improved and became fairly satisfactory before the passage of the national banking act in 1863. The number of failures decreased and the losses from such failures as did occur were greatly reduced.

A comparison between the safety-fund and bond-security systems on the basis of New York's experience does not

furnish conclusive evidence for or against either one. The safety-fund system was not without competitors long enough to enable its merits to be fully demonstrated and it was handicapped by the fact that the amount of the fund was made proportional to the capital instead of to the circulation of the banks and by the fact that all the debts of an insolvent bank instead of simply its outstanding notes were paid out of the fund in case the liabilities were greater than the assets. In spite of these drawbacks, however, the security to note-holders under this system was greater than that rendered by the bond-deposit system during its early years. As afterward amended, the latter system left little to be desired in this direction. This same doubtless could have been said of the safety-fund system had it been given a trial under the conditions suggested above. On account of insufficient data no comparison of the two systems on the basis of costs can be made. From the point of view of elasticity the advantage is with the safety-fund system, the expansion and contraction of note-issues under this system corresponding with the expansion and contraction of business, while under the other there is no connection between the two.*

The free-banking system was popular in the west. It was introduced into Ohio in 1845, into Illinois in 1851, into Indiana in 1852 and into Wisconsin in 1853. It did not flourish in Ohio on account of the competition of a strong bank already in successful possession of the field, but in the other states it was given an extended trial. The results, in the period before and during the Civil War, were far from satisfactory. In Illinois and Indiana this system was accompanied by speculation and fraud on a large scale. A large number of the banks authorized under the acts

* See Mr. Root's pamphlet for a comparison of the results of the two systems.

passed in these states were note-issuing institutions and nothing more, the proprietors profiting from the interest paid on the bonds deposited with the state, said bonds having been directly or indirectly purchased with the notes for the security of which they were deposited. The free-banking laws in these states authorized the issue of notes by any group of persons after the deposit with a designated state officer of certain specified securities. Provided the securities could be purchased from a broker on time, they could be deposited as provided by law, the notes secured and the broker paid with the proceeds. If the broker, as was likely to be the case, did business in New York, Boston, Philadelphia or some other distant place, the notes would enter into circulation at a point far distant from the home of the issuing bank, and would not be likely to return to it for redemption until after the lapse of a considerable period of time. When they did return, the bank either went to the wall without a struggle or redemption was evaded by the location of the office of the bank in some inaccessible place, or by other devices. The final result was the sale of the securities by the state official charged with that duty, usually at a price considerably below the face value of the notes issued, or their direct exchange for the notes which were usually in the hands of brokers who had purchased them at a heavy discount. In any case the innocent public was fleeced to the advantage of the brokers and bank proprietors.

In addition to the fraudulent practices perpetrated under cover of these laws, difficulty was often experienced on account of the overvaluation of the securities deposited and fluctuations in their value. When a bona fide bank failed, the sale of the securities held often did not realize a sum sufficient for the redemption of the notes that had been issued against them. This difficulty was generally experi-

enced at the time of the outbreak of the Civil War the bonds of the southern states having been deposited as security for note-issues in many of the states operating under this system, notably in Wisconsin.

These and other defects of the free-banking system, revealed by early operations under it, especially in the West, were due to defects in the laws themselves and in their administration, and were capable of correction. The principle of free-banking does not necessarily involve the bond or special security system of note-issue and even that system was capable of great improvement as the experience of New York State and later of the United States shows. In frontier communities like Indiana, Illinois and Wisconsin in the fifties, any system under state control was likely to fall into bad hands, to be badly administered and consequently abused, the administration of laws however good in such states being almost necessarily lax, and the art of law-making necessarily imperfect. We must also remember that the principles of sound commercial banking were not well understood by the bankers and legislators of those days. They had to be learned in the hard school of experience.

Previous to the Civil War some thirteen states had experience with banks owned and operated in whole or in part by their respective governments. The history of these banks emphasizes the truth just suggested that our unfortunate early experiences with banking institutions were due more to ignorance of banking principles, bad administration of state laws and regulations devised by the banks themselves than to defects in the systems tried or in the laws designed to regulate and safeguard them. The majority of these state-owned and state-managed banks were bad failures, but a few were great successes. Notable among the former were the Mississippi Union Bank and the State

Bank of Alabama, and among the latter the state banks of Indiana and South Carolina. These banks were to a considerable extent modelled after the United States banks, and in the methods of their organization, and in the laws by which they were to be controlled, differed considerably, but not enough to account for the wide differences in their fates. These differences were chiefly due to the men into whose hands their administration and control fell. The state banks of Indiana and South Carolina were well administered by honest and capable men, the others were badly, and in some cases, dishonestly administered.

8. Origin and development of the national banking system.—The outbreak of our Civil War in 1861 was responsible for the next important step in the development of banking institutions in this country, namely, the establishment of the national banking system. Since 1836 the state banks had had the field entirely to themselves and since 1846 the federal government had managed its own finances through the independent treasury system, using only gold and silver coin in payments and receiving its revenues in that form only. One of the early consequences of the outbreak of hostilities was the partial disorganization of the exchange system of the country by the severing of commercial, including banking, relations between the northern and southern states and a little later by the suspension of specie payments by the banks of most of the states. This was followed by a rapid expansion of note issues and their substitution for coin in the general circulation.

At this time the federal treasury was confronted by a serious problem. Its expenditures, enormously increased by the war, greatly exceeded its revenues from all sources and no adequate plan for meeting past deficits and providing for future needs, either through borrowing or taxation or a combination of both, had been devised and adopted

by Congress. In his annual report of December, 1861, Secretary Chase suggested that a market for government bonds might be created by permitting the issue of bank-notes on the security of such bonds and an adequate provision of specie. His suggestion was incorporated in a bill proposed by Mr. Spaulding, chairman of a sub-committee of the House Committee on Ways and Means, but differences of opinion regarding the wisdom of the measure and its inadequacy to meet the immediate and pressing needs of the Treasury, led to its postponement and to the passage on Feb. 25, 1862, of an act authorizing the issue of $150,000,000 of legal-tender notes in denominations suitable for circulation as money. This act was followed July 11, 1862, Jan. 17, and March 3, 1863, by others authorizing an increase of this class of notes to $450,000,000 in addition to the fractional currency issued to supply the demand for small change. These notes speedily depreciated, became a secondary standard of value, and took the place of coin in bank reserves and as redemption material for bank-notes. The latter, of course, circulated at the same discount as the government notes and fluctuated in value in correspondence with them.

The bill proposed by Mr. Spaulding and embodying the suggestion of Secretary Chase was again brought before Congress in the early part of 1863, and enacted into law Feb. 25th. It authorized the organization of banking associations with a minimum capital of $50,000, of which not less than one-third should be invested in government bonds. Said bonds, when deposited with an officer to be known as the Comptroller of the Currency, authorized the association to secure circulating notes to 90 per cent. of their face, but not to exceed 90 per cent. of their market, value. The total amount of such notes authorized to be issued in the entire country was fixed at $300,000,000 to be distributed

among the states and territories, one-half according to population, and one-half with due regard to existing bank capital and resources. The maximum amount to be issued by any association was limited to the amount of its paid up capital stock. The notes when issued were to be receivable for all government dues except duties on imports and for all government obligations except interest on the public debt and in redemption of the national currency, and were to be accepted at par by all banks in the system. Each bank was required to redeem its circulation on demand in lawful money, and in case of default, the bonds on deposit were to be forfeited to the United States and the notes paid by the Treasurer. These associations were authorized to transact the various kinds of business belonging to a commercial bank under the following limitations: They were not to hold real estate except to the extent necessary for the accommodation of their business or such as may have come into their possession in satisfaction of debts owed them; they were not to loan to any one association or person an amount to exceed one-tenth of their capital stock actually paid in, exclusive of liabilities on bills of exchange and with such liabilities not to exceed one-fifth of their capital stock; they were not to loan on security of their own stock; and they were not to be indebted to an amount exceeding their capital stock actually paid in and unincumbered, except on account of notes in circulation, deposits, bills of exchange or drafts drawn against moneys actually on deposit to their credit and liabilities to stockholders for dividends and reserved profits. They were required to keep a cash reserve of not less than 25 per cent. of their deposits and outstanding notes, three-fifths of which might be deposited with associations in nine principal cities named in the act. At the discretion of the Secretary of the Treasury they might be designated depositories of public

money, except receipts from customs. They were required to furnish the Comptroller with quarterly reports of their condition and to submit to inspection by persons appointed by him. Provision was also made for the conversion of state banks into national associations.

During the first two years of its history the progress of the system was slow, owing chiefly to defects in the law and to the disinclination of state banks to enter it. The first difficulty was partially removed by an act approved June 3, 1864, which contained the following new provisions: A classification of national banks into three groups according to their location in New York City, in any one of nineteen of the principal cities of the country mentioned in the act, generally known thereafter as reserve cities, or in other towns. Banks in New York City and reserve cities were to keep a reserve of 25 per cent. of their deposits and note-issues, one-half of which, in case of the reserve cities, might be kept on deposit in the city of New York. For other banks the reserve was fixed at 15 per cent. of deposits and note-issues, of which three-fifths might be kept on deposit in New York City or in the reserve cities. These banks were also required to select an association in New York City or in some one of the reserve cities through which to redeem their notes at par, the previous act requiring only that the banks should redeem their notes over their own counters. Until specie payments should be resumed this act permitted not more than one-sixth of the notes issued to be of denominations below $5, raised the minimum capital requirement to $50,000 in towns the population of which does not exceed six thousand, to $100,000 in towns of from six to fifty thousand inhabitants, and to $200,000 in towns of over fifty thousand inhabitants, provided for the taxation of shares by state authority, raised the minimum amount of bonds to be deposited with the Comptroller to

$30,000, provided for the accumulation of a surplus equal to 20 per cent. of the capital stock, required security for government deposits in the form of the deposit with the Comptroller of government bonds *and otherwise,* modified the clause relative to the permissable liability of a single firm or individual to a bank so as not to permit such liability to exceed one-tenth of the capital stock actually paid in, bills of exchange drawn against actual values and commercial paper actually owned and discounted not to be considered as money borrowed, and made more complete provision than the previous act for the conversion of state into national institutions.

All things considered, the reluctance of the state banks to enter the system was natural and it was not entirely overcome until the war closed and pressure was put upon them in the form of a tax on their note-issues. This tax, amounting to ten per cent. on their circulation, was imposed by an act passed Mar. 3, 1865. Though it did not go into effect until Aug. 1, 1866 its influence was immediate. To Nov. 25, 1864 only one hundred sixty-eight state banks had entered the system, but during the year 1865 seven hundred thirty-one entered, and by the end of 1868 only two hundred forty-four state banks still remained in existence.

Until the passage of the act for the resumption of specie payments Jan. 14, 1875 the limitation of the total circulation and its distribution among the states were subjects of agitation and legislation. By the end of the year 1868 the limit of $300,000,000 fixed in the acts of 1863 and 1864 had been nearly reached,* and the states of New York, Massachusetts, Connecticut and Rhode Island had more than their legal share. To remedy these difficulties and to

*According to the reports made to the comptroller the total circulation amounted to $280,129,558 Oct. 1, 1866; to $291,093,294 Jan. 1, 1867; to $294,377,390 Jan. 1, 1868, and to $295,769,489 Oct. 1, 1868.

provide for the future expansion of the system, an act was passed July 12, 1870, increasing the limit for the country as a whole from three hundred to three hundred fifty-four million dollars and providing for the withdrawal of $25,000,000 from banks located in states having more than their proportion for redistribution among those in states having less.

The execution of this act was rendered difficult, indeed almost impossible, by the imperfection of the machinery for the retirement of outstanding notes. According to the laws at the time in force such notes had to be collected and returned to the issuing bank or to its redemption agent, but there was no easy and speedy means of accomplishing this. An act passed June 20, 1874, supplied a remedy and modified the law in other important particulars. It made the Treasurer of the United States the redemption agent for all the banks and to this end required the deposit with him of a fund equal to five per cent. of the outstanding issues, which fund, however, could be counted as a part of the legal reserve. It repealed the provision requiring a reserve to be kept against circulation, and increased to $55,000,000 the amount to be withdrawn from banks in states having an excess. In order still further to facilitate the retirement of circulation, it provided that banks might deposit lawful money with the Treasurer of the United States in exchange for an equal amount of bonds held, the notes to be subsequently cancelled as they came into the hands of the Treasurer, and permitted any bank to reduce its holdings of government bonds on deposit with the Comptroller to $50,000.

The act providing for the resumption of specie payments, passed Jan. 14, 1875, removed the limitation on the total amount of the circulation and thus put an end to the difficulties arising therefrom, and from the attempts properly

to distribute it among the states. The danger of currency inflation which had been the cause of this limitation was removed by the provision that for every one hundred dollars of new bank-notes issued eighty dollars of the United States notes should be retired until the total amount outstanding should be reduced to $300,000,000, and by the requirement that on and after Jan. 1, 1879, said United States notes should be paid in coin on demand.

In the period preceding the resumption of specie payments United States notes and bank-notes were rival forms of currency in the sense that the advocates of one were often opponents of the other. During the Civil War the United States notes were generally regarded as a temporary financial expedient to be dispensed with at the earliest possible moment and, when the national banking system was established in 1863, it was expected that the notes issued by these associations would constitute the chief paper element in our hand-to-hand currency. In accordance with this idea, an act passed in 1866 authorized the gradual retirement of the United States notes, but this policy was checked two years later by another act which deprived the Secretary of the Treasury of the authority to retire any more notes. From that time until Jan. 1, 1879, a continuous warfare was waged in Congress between the advocates and the opponents of the resumption of specie payments, the outcome of which was the compromise embodied in the resumption act of 1875 by which national bank-notes were to be gradually substituted for the excess of United States notes in circulation over $300,000,000. An act passed May 31, 1878 modified the compromise by forbidding the further substitution of bank-notes for United States notes and by providing that the United States notes still remaining in circulation, amounting at the time to $346,681,016, should not be returned, cancelled or destroyed, but reissued and kept in circulation.

During this same period, 1875-1879, the circulation of the national banks decreased from $354,128,250 to $323,791,674 on account of the profit to be derived from the withdrawal of bonds on deposit with the Comptroller and their sale on the open market at the premium then ruling. For the same reason it subsequently decreased to the low minimum of $123,000,000 in October, 1890. Since that date it has steadily increased, especially since the passage, on October 14, 1900, of an act, which authorized the establishment of banks with a minimum capitalization of $25,000 in towns of three thousand inhabitants or less, increased the amount of notes to be issued against the bonds deposited from 90 per cent to 100 per cent. of their par value and diminished the tax on circulation from one per cent. to one-half per cent. on condition that the new two per cent. bonds authorized by the act should be deposited as security for circulation in lieu of the other issues at the time extant.

Other amendments to the laws pertaining to national banks were the act of March 3, 1869, providing for five reports annually at dates to be fixed by the Comptroller instead of the quarterly reports previously required; the act of July 12, 1882, reducing the minimum amount of bonds to be deposited by banks having a capital of $150,000 or less from one-third to one-fourth of their capital; and the act of March 3, 1887, providing for an increase in the number of reserve and central reserve cities.

9. **State banking since the Civil War.**—After 1868 the number of state banks increased steadily but slowly to 1886, since which time their growth has been rapid. As banks of deposit they again became competitors of the national institutions. In this competition they have usually had the advantage of a smaller capital requirement, the privilege within limits of loaning upon real estate security and more

liberal laws regarding the magnitude of loans permitted to a single individual or firm.*

On the part of the national banks the profits from note-issues and the prestige of the national system have been advantages. The balance of advantage in favor of the one system or the other has varied in different localities and at different times.

The table on page 185 indicating the number of national and state banks which responded to the call of the National Monetary Commission for statements of their condition on April 28, 1909, represents with a considerable degree of accuracy the distribution of the two classes of institutions throughout the Union at that date.

Legislation regarding state banks since the Civil War has tended in the direction of the more careful regulation and the better safeguarding of the business. The national banking act has undoubtedly served as a stimulus and to some extent as a model. Such requirements as the accumulation of a surplus fund from earnings, double liability of stockholders, a minimum cash reserve and an additional reserve on deposit in reserve cities, the organization of a banking department, regular reports and examinations, limitation of real estate holdings and restrictions on loans are already very common and seem destined to become universal. A few of the states have gone beyond the requirements of the national banking act, especially in the

* Several of the states do not fix any minimum capital requirement, and of those which do $10,000 for banks in small towns is the most common. Regarding investments on real estate security the state banking laws are very liberal, most of them imposing no restrictions whatever. Four allow loans on first mortgage security only; two limit the amount of such loans to the home state or limit their amount to a certain percentage of the value of the property mortgaged. Regarding restriction of loans to a single individual or corporation, sixteen states have no provision whatever and twenty-five have provisions that are more liberal than those of the national banking act. For details see Welldon's Digest of State Banking Statutes included in the Reports of the National Monetary Commission.

matter of protecting depositors. Of these the most noteworthy is Oklahoma, which has inaugurated a system of compulsory insurance of deposits. The desirability of such legislation is generally questioned and its effects are problematical.

Next to improvement in the state banking laws the most noteworthy movement in this field since the Civil War has

State	No. of Nat. Banks	No. of State Banks	State	No. of Nat. Banks	No. of State Banks
Maine	77		Illinois	412	389
New Hampshire	57	9	Michigan	97	335
Vermont	50		Wisconsin	129	455
Massachusetts	196		Minnesota	266	623
Rhode Island	22	3	Iowa	319	282
Connecticut	81	7	Missouri	125	964
New York	430	199	North Dakota	133	432
New Jersey	182	21	South Dakota	93	407
Pennsylvania	790	127	Nebraska	215	625
Delaware	27	4	Kansas	211	757
Maryland	102	36	Montana	43	50
Dist. of Columbia	11		Wyoming	29	39
Virginia	114	207	Colorado	113	82
West Virginia	94	142	New Mexico	41	26
North Carolina	70	274	Oklahoma	242	608
South Carolina	32	202	Washington	69	185
Georgia	102	437	Oregon	69	105
Florida	39	94	California	149	320
Alabama	75	175	Idaho	42	99
Mississippi	31	302	Utah	20	55
Louisiana	35	178	Nevada	11	24
Texas	528	390	Arizona	13	32
Arkansas	43	200	Alaska	2	11
Kentucky	148	405	Hawaii	4	10
Tennessee	88	306	Porto Rico	1	8
Ohio	371	412	Philippines		9
Indiana	250	257			

been the development of a new type of institution known as the trust company. In some of the older states the beginning of institutions of this type dates beyond the Civil War, but their rapid growth in these states and their spread throughout the Union belong to the period under consideration. At the beginning of the year 1915 they were to be found in all of the states and their total number exceeded two thousand.

As the name implies, most of these institutions were originally incorporated for the purpose of administering trusts of various kinds, such as the management and settlement of estates, the management and investment of funds left to widows, orphans, public institutions, etc., the registration and transfer of corporate securities, the underwriting and marketing of stock and bond issues, etc., etc. These still remain the chief branches of their business, but in most cases they have associated with these the collection and investment of savings, and in many states the business of commercial banking. Lending on real estate security is a favorite form of investment with them, and in this connection some of them issue bonds and do a business somewhat resembling that of the mortgage banks of Europe.

The development of trust companies has been accompanied in most states by special laws for their regulation. In many cases, especially in the early days of the movement, these pertained almost exclusively to the trust features of their business and permitted the performance of banking functions either entirely without regulation or under regulations quite different from and, usually, more liberal than those imposed upon banking institutions. The result was unequal competition between them and banks, friction, and agitation for the modification of the laws permitting such injustice. In consequence, in recent years especially, state legislatures have busied themselves with the problem of harmonizing their banking and trust company laws. The tendency now seems to be in the direction of making suitable regulations for each branch of business carried on by both classes of institutions and of requiring compliance with those regulations by any institution, however named, which transacts that kind of business.

Concentration, which has been so prominent a feature of recent banking history in European countries, has also ap-

peared in the United States, although the prohibition of branch banking by our national banking act and by many of our states has been an obstacle of no slight proportions. The movement, so far as it has been realized here, has occasionally taken the form of amalgamations, but more often of concentration of stockownership of institutions remaining independent in form or of the establishment of community of interests between previously competing institutions or between those that naturally supplement each other. The concentration of ownership of state and national banks and trust companies located in the same town is a phenomenon of frequent occurrence in every part of the country. In New York City this movement has extended farthest, most of the state and national banks and trust companies of that city being really controlled by a few groups of financiers who are also the controlling forces in the railroads and the trusts of the country.

10. **The Federal Reserve Act of December 23, 1913.**—There were serious defects in the operation of the banking system the development of which has been traced in the preceding pages. They may be described under the following heads: (a) conflict of functions and of laws; (b) loan operations; (c) Treasury operations; (d) operation of the reserve system; and (e) lack of elasticity in the currency.

(a) Conflict of functions and laws.—State banks, national banks and trust companies existed side by side in many communities, and in the performance of certain services competed for the patronage of the public. As has already been pointed out, state and national banks differed little in their functions except in their relation to real estate loans, and in some states trust companies performed all the functions of these institutions and many others besides. In the performance of these common services, however, they were rarely regulated by the same laws or subjected to the

same kind or degree of public supervision. The competition between them, therefore, was not always on a fair basis and the temptation to violate restraining laws and administrative regulations was strong. The supervising officers recognized the situation as a rule and went to the extreme limit of leniency in administering laws and regulations which operated to the manifest disadvantage of the institutions over which they had jurisdiction, but even then it was often impossible to render the basis of competition fair and equitable.

This condition of affairs resulted in the devising of ways and means of circumventing obnoxious laws and in some cases in practices which were pernicious in themselves. As examples may be mentioned the widespread practice of national banks, which before the passage of the Federal Reserve Act were prohibited by law from making loans on real estate security, of making loans to customers who could offer no other collateral, on the security of their personal notes only, or of making loans secured by real estate by a three-cornered operation utilizing a director or officer or some other third party as intermediary. All three classes of institutions competed in soliciting the savings deposits of the community, with the result that the trust companies and savings banks, which often had the advantage here, sometimes forced upon their state and national bank competitors a higher rate of interest on such deposits than they ought to have paid. The differing regulations in some places in force regarding the amount that might be loaned to a single individual or firm also resulted in some cases in devious and uncommendable practices.

(b) Loan Operations.—In making loans, a typical method of procedure for a business man was to arrange with a bank for what is technically called a "line," that is, the maximum amount he might expect to be able to borrow under normal conditions. This "line" determined, he

borrowed from time to time according to his needs, giving as security his personal note, payable in one, two, three, four, or six months. Sometimes an indorser was required, and sometimes the deposit of collateral, mortgages on real estate, bonds, stocks, and warehouse receipts being the most commonly used securities employed in such cases. Ordinarily, when a note fell due, he expected the bank to renew it, if its payment at the time was not convenient, the agreement on a "line of credit" ordinarily carrying with it that implication, though not legally, probably not morally, binding the bank so to do. Indeed, the customer ordinarily counted the amount of his "line" as a part of his working capital and expected to keep it in use a large part, if not all, of the time.

In the determination of the amount of these "lines of credit," the judgment of some one or more bank officers, assisted by a discount committee and sometimes, though not as a rule, by a specially organized credit department, ruled. In forming these judgments, the bankers of the United States as a class were not guided by any universally recognized and well established principles. The best ones required from their customers carefully prepared statements showing the nature and volume of the business they transacted, and a careful classification of their assets and liabilities. Others, and these were a large majority, relied upon the knowledge they already possessed, gained by general observation, and supplemented by verbal inquiries made from time to time and by the voluntary statements of the customers themselves.

The significance of the distinction between commercial and investment operations in the business of banking was not generally understood, and was consequently little regarded. The dominant question in the mind of the average banker, both in determining the amount of a customer's

line and in making loans to him after the line was fixed, was how much he is "good for," and on this point the total net worth, rather than the nature of the business operations of the customer was likely to be decisive. Of course, the banker was also influenced by the customer's reputation for integrity and business ability.

This method of procedure had the advantage of rendering access of people to the banks easy and of promoting their extensive use, but it had the grave disadvantage of opening the doors wide to inflation of credit. The majority of bankers did not know whether more or less than their savings deposits and their capital and surplus, the only funds which could safely be invested in fixed forms, were so invested. The promissory notes of their customers, which constituted the major part of their assets, gave no information on this point, and they had not made the investigations necessary to determine with certainty the destination of the funds they loaned. They were satisfied with the knowledge or the conviction that their loans could be collected, not at maturity—they knew very well that many, probably most, of them could not—but ultimately. The result was that unconsciously and gradually the banks created their demand obligations in the form of balances on checking accounts against fixed investments in machinery, buildings, lands, mines, etc., and, when the payment of these obligations was demanded, the reserves fell below the danger point and they were forced to require payment at maturity of paper which the maker had counted upon having renewed indefinitely, and the payment of which was only possible by the forced sale of the property in which the borrowed funds were invested, or of some other property in his possession. If only a single bank or a comparatively few banks found themselves in this condition, relief was sometimes found in the rediscount of paper with other banks, in direct

loans, or in the sale of securities on the exchanges; but, if the condition was general, relief by these means was impossible, and widespread forced liquidation became necessary. An aggravated situation of this kind caused panic and resulted in a commercial crisis.

(c) **Treasury Operations.**—Important modifications in the independent treasury system established by the act of 1846 were made during and after the Civil War. In 1863 permission was granted the Secretary of the Treasury to deposit in national banks funds accumulated in the Treasury and derived from any source except duties on imports, provided the banks selected for this purpose should deposit with him government bonds for their security. Subsequently he was authorized to deposit in national banks funds derived from any source, trust funds alone excepted, and to accept as security therefor other securities than government bonds. Other laws made national bank notes acceptable for certain public dues and gave the Secretary authority to issue gold and silver certificates against gold coin and silver dollars deposited in corresponding amounts, and to redeem United States notes in gold coin and to keep on hand for that purpose a gold reserve of $150,000,000.

In the operation of this independent treasury system the reserves of banks were subjected to arbitrary and unforeseeable fluctuations. Whenever the receipts of the government exceeded its expenditures, money accumulated in the Treasury and the reserves of the banks were diminished; and, under opposite conditions, they were increased. The return of accumulated surplus funds to the banks was possible only when the Secretary decided that such return was desirable or necessary and when the banks were able and willing to supply the bonds demanded as security. In case a deposit was agreed upon, the funds went to a relatively small number of national banks which had been selected as deposi-

tories by the Secretary of the Treasury and the amount allowed each depository was also determined by him.

Since the volume of the business of the government was very large, the effects produced by the movement of its funds were of such magnitude as to give them national importance, the ability of banks to loan and to meet obligations already incurred being profoundly affected by them. Among these effects must also be noted the inability of the banks to calculate these movements in advance, as they to a degree could those produced by the operations of their commercial customers, and the relation between them and the Secretary of the Treasury, which resulted. The relation between the receipts and the disbursements of the government varied greatly from month to month and year to year, so that, on the basis of past experience, it was impossible to predict when the banks would gain from or lose to the Treasury. The action of the Secretary of the Treasury regarding deposits of surplus funds was equally uncertain and unpredictable. No fixed policy regarding this matter was established by precedent or determined by law. Each secretary followed his own judgment and was influenced by current events and conditions.

The uncertainty which resulted created a speculative atmosphere about the money market and rendered the banks dependent upon the Secretary and the Secretary influential on the money market in a manner which was unfortunate for both. Since they could not be indifferent to the operations of the Treasury, and could not predict them, banks were obliged to speculate regarding them, and, if they erred, they were likely either to over-extend their credit operations or unduly to contract them. The former resulted when they expected an increase in their reserves from Treasury sources and did not get it, and the latter when contemplated withdrawals of funds did not occur.

The Secretary of the Treasury was not in a position properly to exercise the power conferred upon him. He was outside the channels of commerce and industry, and was, therefore, obliged to secure at second hand the information necessary for intelligent action. Such sources of information were frequently unreliable and inaccurate and their use subjected him to the charge of favoritism and to the danger of acting in the interest of special groups or special localities.

(d) The Reserve System.—Previous to the establishment of the Federal Reserve system each national bank was required by law to keep locked up in its vaults money to the amount of at least six to twenty-five per cent. of its deposits and a balance with banks in reserve and central reserve cities sufficient to bring the total to at least fifteen per cent. of deposits in the case of country banks, and twenty-five per cent. of deposits in the case of reserve city banks. In addition, it was customary for most banks to carry as a secondary reserve high-grade bonds which could be readily sold in case of need. The practice of state banks was practically the same as that of national, and that of trust companies differed only in the amount of reserves carried and in the proportion between the different items.

This system had many disadvantages. Among them the most obvious, perhaps, was the withdrawal of enormous sums from the current use of the agriculture, industry, and commerce of the country. That portion of these reserve funds which was required to be kept under lock and key in the vaults, amounting in the aggregate to a billion and a half of dollars or more, was not available for use in ordinary times, and was practically useless even in times of stringency, since, when the reserves fell to the minimum prescribed by law, banks were obliged to stop discounting under penalty of being put in the hands of a receiver. The other portions of these funds, namely, those deposited with

banks in reserve cities and those invested in bonds, were likewise withdrawn from the uses of current commerce, since a large part of the former was only available for use on the New York Stock Exchange, and the latter was invested in railroads, mines, factories, land, etc.

The explanation of the devotion of the redeposited portion of the reserves to the operations of the New York Stock Exchange is to be found in the fact that that exchange furnished a regular market for call loans on a large scale. Since these funds were held subject to the call of the banks which deposited them, and interest at the rate of at least two per cent. was paid upon them, the depository banks were bound to seek investment for them, and call loans on collateral listed on the exchange under ordinary circumstances was best suited to their purposes.

Another disadvantage of this reserve system was the dangerous situation in which it placed banks from time to time, and the tendency to panic which it fostered. The demands made upon banks for both cash and credit vary with the seasons. In the fall and spring they are much greater than in the winter and summer. They also vary regularly through periods of years, increasing during the up-grade of a credit cycle and decreasing for a longer or shorter period after a crisis. Irregular and unexpected events also cause variations. On account of the rigidity of this reserve system and the lack of elasticity in the currency, the means available to banks for meeting increased demands, especially those of an irregular and unexpected character, were inadequate, and their employment was often dangerous. These means were: keeping in the vaults in slack times a large amount of unused cash, a practice too expensive to be employed; keeping surplus balances with correspondents at two or three per cent. interest, not a sufficiently remunerative practice to be employed on a sufficiently

extensive scale; rediscount with correspondents of some of their customers' paper, or loans from them on the security of their own signatures or on such security supplemented by collateral; and sale of bonds at such prices as they would bring.

None of these expedients was certain at all times and under all conditions, and some of them were precarious at all times. Surplus balances with correspondents were most reliable, but they occasionally failed on account of the inability of correspondents to realize upon their call loans. When calls for the payment of balances were large and general, it was impossible for brokers whose loans were called by one bank to transfer them to another. The collateral deposited as security was, therefore, offered for sale on the stock exchange, and the very stringency which resulted in their being so offered rendered their sale, even at slaughter prices, difficult and sometimes impossible. The result at the best was a heavy fall in the prices of stock-market securities, and at the worst a stock-market panic and a suspension of payments by the banks.

Rediscounts and loans from correspondent banks could not be depended on. Correspondents were under no obligation to make them. They would usually do so as a favor, if their condition warranted, otherwise not. Sales of bonds on the stock exchange were difficult and sometimes impossible in times of emergency, and were usually attended with loss.

On account of this uncertainty and the danger attending it, when new and unusual conditions likely to result in increased demands upon them arose, banks were likely to act "panicky"; to call in their balances from correspondents; to sell bonds; to call loans; and greatly to curtail or absolutely to cut off new discounts. This action spread the panicky feeling among their customers, and created such

pressure at the reserve centers as to cause curtailment of accomodations and panic there.

At the very best, this reserve system was accompanied by high discount and loan rates and by speculation on the stock market. High rates resulted inevitably from the hoarding of currency which it involved, the supply of loan funds being abnormally diminished, and speculation followed from the concentration in slack times of funds in New York City, which could only be employed in call loans on stock-exchange collateral. Stock brokers regularly took advantage of this situation, speculated themselves and inspired speculation among their customers. The mutual dependence of the stock and money markets thus produced was disadvantageous to both, fluctuations in values, uncertainty, and irregularity on both being the result.

(e) Lack of Elasticity in the Currency.—The money of the United States consisted of four main elements, gold and silver coin, United States notes, and national bank notes, and none of these fluctuated in volume in accord with the needs of commerce.

The gold element depended primarily upon the output of gold mines and upon the international movement of gold, increasing when that output increased and when the imports of gold exceeded the exports, and decreasing under opposite conditions. These fluctuations, however, were quite independent of commercial needs. Silver dollars, which constituted the major part of the silver currency, for several years had been unchanged in quantity, and the volume of United States notes had remained at $346,681,016 since the resumption of specie payments, January 1, 1879.

National bank notes fluctuated in volume as a result of changes in the number of national banks and in the prices of government bonds. Before the establishment of the Federal Reserve system, whenever a new national bank

was organized, a specified portion of its capital had to be invested in government bonds, which bonds were usually deposited with the Comptroller of the Currency in exchange for notes; and, when the price of government bonds increased, banks holding more than the minimum required by law frequently retired a portion of their circulation in order to recover their bonds for sale at the enhanced price. When the price of government bonds fell, many banks purchased additional quantities and increased their circulation.

Changes in the price of government bonds and in the number of national banks, however, had no connection whatever with changes in currency needs, and no more did the fluctuations in the volume of the currency as a whole, made up of these various elements combined. As a result of this condition, rates on loans and discounts fluctuated greatly on account of wide variations between the demand and the supply of loan funds, and commerce was hampered at certain seasons and overstimulated at others. As was indicated above, this lack of elasticity in our currency aggravated the defects of the reserve system and also aided in the production of financial panics.

The conviction that the banking system of the country was defective became widespread and intense after the crisis of 1907 and resulted in the appointment by Congress of a commission to make investigations and to prepare a reform measure.

In January, 1912, this committee submitted a report which embodied a bill for the incorporation of a National Reserve Association, to be made up of a federation of local associations of banks and trust companies. The purpose of this association was to supply a market for commercial paper, an elastic element in the currency, a place for the deposit of the bank reserves of the country and of the funds of the

government, as well as proper machinery for the administration of this market and these funds.

For various reasons, the plan of the monetary commission did not meet with universal favor. It was condemned in particular by the Democratic party, which was victorious at the polls in the fall elections, and installed a new administration in Washington, March 4, 1913.

A special session of the new Congress was called to consider the tariff question, and to it was submitted another plan for the reform of the banking system, which was enacted into law December 23, 1913.

This law authorized the establishment of not more than twelve nor less than eight so-called Federal Reserve Banks in as many cities to be selected for that purpose by an organization committee consisting of the Secretary of the Treasury, the Secretary of Agriculture and the Comptroller of the Currency, and the division of the United States, exclusive of Alaska, into as many districts as there are banks established, in such a manner that one of the cities selected be located in each district. The national banks in each of these districts are compelled to subscribe to the capital stock of the Federal Reserve Bank located therein an amount equal to six per cent. of their capital and surplus and to pay in one-half of this amount. The other half is to be paid whenever it is called for by the Federal Reserve Board. State banks and trust companies are permitted to subscribe to the stock of the Federal Reserve Bank of their district the same percentage of their capital and surplus as national banks on compliance with conditions prescribed in the act. The subscribing banks and trust companies are called "member banks."

An important part of the administrative machinery provided for these banks is a so-called Federal Reserve Board consisting of the Secretary of the Treasury and the Comp-

troller of the Currency, *ex officio,* and five other persons appointed by the President of the United States. This board has supervisory power over all the Federal Reserve Banks and controlling power in such matters as note issues, rates of discount, rediscounting between the Federal Reserve Banks and the formulation of by-laws and regulations for the execution of a large number of provisions purposely stated in general terms or left indefinite in the act.

For each Federal Reserve Bank there is a board of nine directors, of whom six are selected by the member banks and three by the Federal Reserve Board. For the purpose of choosing directors the member banks of each district are arranged in three groups according to the amount of their capital stock, each group containing, so far as possible, the same number of banks. Each group elects two directors and each bank in the group has one vote. One of the three directors selected by the Federal Reserve Board is called the Federal Reserve Agent and a second, the Vice Federal Reserve Agent. The former serves as chairman of the board; devotes all his time to the business of the bank; and serves as the intermediary between the bank and the Federal Reserve Board. The Vice Federal Reserve Agent serves in the place of the Federal Reserve Agent in case of his absence. Subject to the supervisory and controlling powers of the Federal Reserve Board the functions of these boards of directors are in essentials like those of the directors of national banks. Each board also selects one person to serve as a member of a so-called Federal Reserve Council which meets quarterly or oftener to give advice and counsel to the Federal Reserve Board.

The chief functions of the Federal Reserve Banks are: to rediscount commercial paper, serve as reserve agents and conduct clearings for member banks; to issue notes; to operate within restricted limits upon the open money market;

and at the option of the Secretary of the Treasury to serve as depository and disbursing agents for the Federal Government.

The paper eligible for rediscount is defined in the regulations of the Federal Reserve Board as bills "the proceeds of which have been used or are to be used in producing, purchasing, carrying, or marketing goods in one or more of the steps of the process of production, manufacture, and distribution." It *does not include* bills the proceeds of which have been used or are to be used "for permanent or fixed investments of any kind, such as land, buildings, machinery (including therein additions, alterations, or other permanent improvements, except such as are properly to be regarded as costs of operation)," or "for investments of a merely speculative character whether made in goods or otherwise." With the exception of bills drawn for agricultural purposes or based on live stock, which may have a maturity not to exceed six months, the maximum maturity of bills eligible for rediscount is three months. All rediscounted bills must bear the indorsement of the member bank which presents them.

Acceptances based upon the importation or exportation of goods, maturing in not more than three months and indorsed by at least one member bank, are also eligible for rediscount, but the amount of such rediscounts may at no time exceed one-half the paid up capital and surplus of the bank for which the rediscounts are made, except with the consent of the Federal Reserve Board, when it may be increased to 100 per cent. of such capital and surplus. Authority to make acceptances of this kind to the amount above indicated is conferred upon member banks.

The Federal Reserve Act changed both the amount and the composition of the reserves of national banks. For time deposits it fixed a minimum reserve of 5 per cent. for

all banks. For demand deposits it reduced the percentage for banks in the central reserve cities from 25 to 18; for those in reserve cities from 25 to 15; and for those in other places from 15 to 12. After three years from the date of the establishment of the Federal Reserve system these reserves must consist of cash in the vaults and balances with the Federal Reserve Banks in the following proportions: For central reserve banks, six-eighteenths cash and seven-eighteenths balances and the remainder in either form at the option of the banks; for reserve city banks, five-fifteenths cash, six-fifteenths balances and the remainder in either form at the option of the bank; and for other banks, four-twelfths cash, five-twelfths balances and the remainder in either form at the option of the bank. During the above mentioned three years interval a higher percentage of cash in vaults is required and a lower percentage of balances with Federal Reserve Banks is permitted. Balances with banks serving as reserve agents under the old system may also be counted as reserves during this period.

The Federal Reserve Board is authorized by the act to require each Federal Reserve Bank to act as a clearing house for the member banks of its district and to itself exercise the functions of a clearing house for the Federal Reserve Banks or to designate a Federal Reserve Bank to act in that capacity.

An important part of the equipment of the Federal Reserve Banks for the performance of the services they are required to render is the power to issue notes, to conduct certain operations on the open market and to establish branches. They are permitted to issue two kinds of notes, so-called Federal Reserve Notes, and notes in their essential features like existing national bank notes. With the consent of the Federal Reserve Board Federal Reserve Notes may be issued on condition that rediscounted commercial

paper to the amount of the issue applied for be placed in the custody of the local Federal Reserve Agent and that a gold reserve of not less than 40 per cent. of the amount issued be maintained. These notes are redeemable on demand in gold at the Treasury Department in Washington and in gold or lawful money at any Federal Reserve Bank; are receivable for taxes, customs and other public dues and by all member banks and Federal Reserve Banks; and are obligations of the United States. Every Federal Reserve Bank is required to keep with the Treasurer of the United States a fund of gold sufficient to enable him to redeem its notes when presented for that purpose. No Federal Reserve Bank may pay out any Federal Reserve Notes except its own, and, whenever the notes of any other Federal Reserve Bank are received, it must present them to the Treasurer of the United States or to the issuing bank for redemption.

Each Federal Reserve Bank is authorized to buy government bonds, and under certain specified conditions may be compelled by the Federal Reserve Board to buy the bonds national banks have on deposit with the Comptroller of the Currency as security for their note issues. In case such purchases are made by any Federal Reserve Bank it may deposit such bonds as are endowed with the circulation privilege with the Comptroller of the Currency and receive in exchange and issue notes of essentially the same character as national bank notes.

Section 14 of the act confers upon the Federal Reserve Banks the following powers:

(a) "Under rules and regulations prescribed by the Federal Reserve Board (to) purchase and sell in the open market, at home or abroad, either from or to domestic or foreign banks, firms, corporations, or individuals, cable transfers and bankers' acceptances and bills of exchange of the kinds and maturities by this act made eligible for redis-

count, with or without the indorsement of a member bank";

(b) "To buy and sell, at home or abroad, bonds and notes of the United States, and bills, notes, revenue bonds, and warrants with a maturity from date of purchase of not exceeding six months, issued in anticipation of the collection of taxes or in anticipation of the receipt of assured revenues by any State, county, district, political subdivision, or municipality in the continental United States, including irrigation, drainage and reclamation districts, such purchases to be made in accordance with the rules and regulations prescribed by the Federal Reserve Board";

(c) "To purchase from member banks and to sell, with or without its indorsement, bills of exchange arising out of commercial transactions, as hereinbefore defined";

(d) "To establish from time to time, subject to review and determination of the Federal Reserve Board, rates of discount to be charged by the Federal Reserve Bank for each class of paper, which shall be fixed with a view of accommodating commerce and business."

It should be noted that cable transfers, bankers' acceptances, and bills of exchange are the only forms of commercial paper in which the Federal Reserve Banks are permitted to deal on the open market. Promissory notes, which form the chief content of the portfolios of American bankers and are at the present time the most widely used documents in the credit transactions between banks and their customers, are not included in any of the items enumerated above. It should also be noted that, with the exception of the above mentioned forms of commercial paper and bonds and notes of the United States, the only securities in which Federal Reserve Banks are permitted to deal on the open market are those of public bodies "issued in anticipation of the collection of taxes or in anticipation of assured revenues" and maturing in "not exceeding six months" from the date

of purchase. These limitations restrict this class of their operations within narrow limits, limits, however, which may be greatly extended by the wider use of the bill of exchange in the regular credit transactions of banks with their customers.

Section 15 of the act authorizes the Secretary of the Treasury at his discretion to deposit with Federal Reserve Banks "the moneys held in the general fund of the Treasury, except the five per centum fund for the redemption of outstanding national bank notes and the funds provided in this Act for the redemption of Federal Reserve Notes," and "the revenues of the Government or any part thereof" and to make disbursements "by checks drawn against such deposits." The noteworthy features of this section are the fact that it provides a means for the practical abolition of our independent treasury system, but leaves the employment of these means to the discretion of the Secretary of the Treasury. He may continue the old practices, retain them in part or entirely abandon them, as he chooses.

Other important provisions of the Federal Reserve Act authorize Federal Reserve Banks to establish branches in their respective districts, or in any other district in which the Federal Reserve Bank may have suspended operations, and agencies in foreign countries for the purchase, sale, and collection of the bills of exchange in which they are permitted to deal on the open market, and enlarge the powers of national banks in the following particulars: Those not situated in a central reserve city "may make loans secured by improved and unincumbered farm land" situated in the Federal Reserve District in which they are located, maturing in five years or less and not exceeding in amount "fifty per centum of the actual value of the property offered as security; with the permission of the Federal Reserve Board any national bank may "act as trustee, executor,

administrator or registrar of stocks and bonds under such rules and regulations as the said board may prescribe"; and with the permission and under regulations prescribed by the Federal Reserve Board national banks with a combined capital and surplus of $1,000,000 or more may establish branches in foreign countries or dependencies of the United States, "for the furtherance of the foreign commerce of the United States, and to act, if required so to do, as fiscal agents of the United States."

The above described provisions of the Federal Reserve Act were intended to supply remedies for the chief defects in our banking system. Precisely how they are likely to operate towards the accomplishment of this end may now be indicated.

The power of the Federal Reserve Banks to rediscount commercial paper makes possible in the first place the creation of a regular national market for such paper. Since, at the counters of the Federal Reserve Bank of their district, member banks can always turn commercial paper into means of meeting their obligations, they should never hesitate to purchase such paper from their customers, and these in turn should not fear a clogging of the wheels of commerce through lack of adequate credit facilities. Since bank acceptances are also eligible for rediscount and the power to make such acceptances, when based on imports or exports, is conferred upon member banks, the foundation for an international market for our commercial paper is laid, this form of paper being regularly bought and sold on foreign markets.

The establishment of a regular national market for commercial paper and of an international market for acceptances, combined with provision for the more extended use of the latter in our commercial operations, offers inducements to banks to increase their investments in this kind of paper and to business men to offer such paper for sale. If this

inducement is adequate, such a modification in the practices of both banks and business men may gradually take place, that the unconscious issue of demand obligations against investment securities, which now occurs periodically with great regularity, will cease, and with it will disappear one of the chief causes of the overexpansion of credit operations.

The significance of this achievement becomes more apparent when it is considered in connection with the probable effects of the changes which have been made in reserve requirements. These are the transfer of the central cash reservoir of the country from the associated banks of New York to the Federal Reserve banks, the elimination of the necessity for investing reserve funds in call loans on the New York Stock Exchange, and the diminution of the amount of money hoarded in bank vaults and withdrawn from active commercial service. The combined result is such an administration of our cash resources as makes possible their easy transfer from one part of the country to another and from one bank to another in response to the needs for them, a considerable increase in the volume of such funds available for use and the establishment of a regular and sure means through which the legitimate cash needs of both banks and business men may be met, namely the discount and rediscount of commercial paper. Under these conditions financial panics ought to disappear and commercial crises to become less frequent and less severe.

The power to issue Federal Reserve Notes supplies the means for adding to our currency the elastic element it has lacked since the establishment of the national banking system. Since these notes can only be issued against commercial paper and must be presented for redemption as soon as the need for them has passed, their automatic increase and decrease in correspondence with the fluctuating needs of the

country for hand-to-hand currency is rendered possible. The remedy of the defect in our currency system here contemplated, as well as those described in the preceding paragraphs, is conditioned upon the extension of the use of rediscountable commercial paper in our credit operations.

Until the Federal Reserve Act is amended, the elimination of the defects of our independent treasury system depends upon the wisdom of the men who are appointed to serve as Secretaries of the Treasury. Possibly the endowment of this official with such power may be justified as a temporary expedient to render easy the transition from the old system to the new, but in the near future the use of the Federal Reserve Banks as depositories and disbursing agents of the Federal Government should be made mandatory.

Noteworthy progress has been made by this act towards the removal of the conflicts between the functions of national and state banks and trust companies and the laws which govern them. The granting to national banks of the right under specified restrictions to loan on real estate security and to execute certain forms of trusts removes in part the disadvantages in competition with state banks and trust companies under which they previously labored. The permission accorded to state banks and trust companies to enter the Federal Reserve system by complying with substantially the same regulations as those to which the national banks are subject tends also in the same direction.

Nearly a year elapsed after the passage of the Federal Reserve Act before the new banks were ready for operation, November 16, 1914 being the date on which they were ordered by the Federal Reserve Board to begin business. In the meantime the organization committee had selected Boston, New York, Philadelphia, Richmond, Atlanta, Cleveland, Chicago, St. Louis, Dallas, Kansas City, Minneapolis

and San Francisco as the Federal Reserve Cities and had divided the country into twelve districts;* the President had appointed five men to serve with the Secretary of the Treasury and the Comptroller of the Currency as the Federal Reserve Board; the directorates and other officers of the banks had been selected; the first installment on the capital subscriptions had been paid; a beginning had been made in the transfer of reserves; and places of business for the respective banks had been procured and equipped.

Noteworthy features of this preliminary work of organization are: the selection of the maximum, twelve, instead of the minimum, eight, or some intermediate number, of federal reserve cities; great rivalry between certain cities for the honor of such appointment and consequent disappointment and dissatisfaction over the selections made;† difficulty in drawing the boundary lines of districts so as to meet the minimum capital requirement ($4,000,000) and

*Each district was given a number and the boundaries were so drawn that No. 1, *the Boston district*, included Maine, New Hampshire, Rhode Island, Connecticut, Vermont and Massachusetts; No. 2, *the New York district*, the state of New York; No. 3, *the Philadelphia district*, New Jersey, Delaware and eastern Pennsylvania; No. 4, *the Cleveland district*, Ohio, western Pennsylvania, northwestern West Virginia and eastern Kentucky; No. 5, *the Richmond district*, the District of Columbia, Maryland, Virginia, the remainder of West Virginia, North Carolina and South Carolina; No. 6, *the Atlanta district*, Alabama, Georgia, Florida, eastern Tennessee, southern Mississippi, southeastern Louisiana; No. 7, *the Chicago district*, Iowa, southern Wisconsin, southern peninsula of Michigan, northern Illinois and northern Indiana; No. 8, *the St. Louis district*, Arkansas, Missouri, except the extreme western part, southern Illinois, southern Indiana, western Kentucky, western Tennessee and northern Mississippi; No. 9, *the Minneapolis district*, Montana, North Dakota, South Dakota, Minnesota, northern Wisconsin and the northern peninsula of Michigan; No. 10, *the Kansas City district*, Kansas, Nebraska, Colorado, Wyoming, the extreme western part of Missouri, northern Oklahoma and the extreme northern part of New Mexico; No. 11, *the Dallas district*, Texas, the remainder of New Mexico, southern Oklahoma, the remainder of Louisiana and southeastern Arizona; and No. 12, *the San Francisco district*, California, Oregon, Washington, Idaho, Nevada, Utah and the remainder of Arizona.

†Probably the keenest disappointment was felt by Baltimore, New Orleans and Denver.

at the same time to satisfy the member banks and to interfere as little as possible with the most efficient conduct of their business; in most cases the failure of the member banks belonging to the groups of small and intermediate capitalization to select members of their own groups as their representatives on the directorate of the Federal Reserve Banks of their respective districts, and the consequent predominance in such directorates of men whose interests and associations are with the larger banks of the country; and the difficulty experienced by the President in selecting men to serve on the Federal Reserve Board on account of the fact that no appointee to this position may "be an officer or director of any bank, banking institution, trust company, or Federal Reserve Bank nor hold stock in any bank, banking institution or trust company," nor "hold any office, position, or employment in any member bank" for a period of two years after he ceases to be a member of the Federal Reserve Board.

The Federal Reserve Banks began to rediscount commercial paper, purchase bankers' acceptances and engage in other open market operations as soon as the necessary permission had been granted and regulations made by the Federal Reserve Board. The following table compiled from the balance sheets published weekly since Nov. 27, 1914, indicates the rapidity with which the chief branches of their business have developed and the volume attained at the end of the first year of their history:

(IN THOUSANDS OF DOLLARS)

			Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco	Total for System
Total Reserves	November 27	1914	15,817	107,615	19,836	17,853	8,273	4,797	39,988	11,492	8,539	8,946	6,218	13,696	262,470
	December 31	.....	13,854	99,099	19,268	18,691	8,800	5,326	38,707	10,095	9,925	10,818	6,696	14,368	255,647
	January 29	1915	17,455	92,286	21,247	18,583	8,893	5,897	37,120	10,360	10,156	11,036	7,258	16,496	256,787
	February 26	.....	18,604	114,325	20,829	19,135	8,895	5,527	33,463	11,116	10,230	11,200	8,197	16,383	277,994
	March 26	.....	16,867	109,581	18,873	17,015	8,790	5,911	33,897	11,077	8,521	11,459	8,286	14,689	265,266
	April 30	.....	17,204	107,261	20,809	16,899	8,452	5,217	36,895	11,596	7,542	11,232	8,586	13,055	264,746
	May 28	.....	15,225	124,687	21,944	17,936	7,487	5,949	38,366	10,334	8,547	9,637	6,565	8,952	275,629
	June 25	.....	16,591	150,082	20,876	17,066	7,637	5,638	37,589	11,309	8,185	10,300	6,721	10,141	303,635
	July 30	.....	16,365	140,850	17,236	18,630	7,966	5,537	37,149	9,451	7,189	10,406	7,687	9,818	288,284
	August 27	.....	17,343	140,116	16,140	18,112	8,956	5,576	39,020	10,624	6,940	9,405	7,540	3,305	288,057
	September 24	.....	18,164	150,865	18,284	17,777	12,652	8,883	42,717	11,260	6,450	8,114	9,626	8,392	313,144
	October 29	.....	19,688	164,872	14,134	16,544	13,532	8,792	39,808	7,677	4,638	7,191	11,660	9,928	318,464
Discounts and Loans[1]	November 27	1914	217	2,715	880	.....	213	25	1,509	1,073	175	392	173	11	7,383
	December 31	.....	154	279	786	506	2,022	1,079	2,617	288	1,104	79	927	752	10,593
	January 29	1915	177	1,014	317	425	3,720	3,180	1,623	476	216	143	1,449	1,215	13,955
	February 26	.....	308	2,230	511	772	5,550	5,289	831	647	319	350	2,576	1,079	20,469
	March 26	.....	1,037	5,080	2,032	1,944	6,608	5,787	2,112	616	705	522	3,516	1,724	31,683
	April 30	.....	2,213	6,118	2,104	1,934	6,943	4,780	2,297	730	814	981	5,229	2,443	36,586
	May 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	June 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	July 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	August 27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	September 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	October 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Investments[2]	November 27	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	December 31	.....	.....	50	.....	.....	.....	.....	205	.....	.....	.....	.....	.....	255
	January 29	1915	556	5,261	1,525	820	.....	.....	2,550	.....	1,077	401	.....	990	13,180
	February 26	.....	626	6,903	1,565	920	37	.....	4,755	55	1,050	515	.....	991	17,417
	March 26	.....	1,061	7,256	1,987	1,254	14	.....	5,939	772	1,385	866	.....	1,045	20,579
	April 30	.....	1,899	8,138	2,129	1,980	1	.....	6,457	953	1,659	1,041	.....	1,211	25,469
	May 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	June 25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	July 30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	August 27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	September 24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	October 29	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

[1] Includes commercial paper and acceptances which were not separately reported until May 28.

[2] Includes government bonds and municipal warrants which were not separately reported until May 28.

(IN THOUSANDS OF DOLLARS)—*Continued.*

			Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco	Total for System
Commercial Paper	November 27	1914													
	December 31														
	January 29	1915													
	February 26														
	March 26														
	April 30														
	May 28		319	425	638	759	7,412	4,469	920	724	591	604	6,148	1,738	24,747
	June 25		296	540	653	784	7,378	4,309	1,187	744	1,082	611	6,455	1,867	25,996
	July 30		306	587	591	681	8,361	4,805	1,485	972	1,714	1,161	6,648	1,771	29,102
	August 27		204	445	512	421	8,652	4,920	1,228	1,185	1,934	1,418	6,889	1,469	29,275
	September 24		180	501	385	748	8,404	6,046	1,410	1,397	1,625	1,929	7,493	1,255	31,373
	October 29		151	403	196	587	6,814	6,600	2,333	1,667	1,617	2,876	6,187	1,017	30,448
Bank Acceptances	November 27	1914													
	December 31														
	January 29	1915													
	February 26														
	March 26														
	April 30														
	May 28		1,908	3,172	857	265			729	343	175	653		1,102	9,204
	June 25		2,041	4,631	975	213			475	342	168	632		902	10,379
	July 30		2,223	5,537	1,411	362			607	362	221	395		501	11,625
	August 27		2,574	6,066	1,529	484			1,144	456	304	452		555	13,564
	September 24		2,435	4,917	1,959	514	100		1,421	404	316	495		605	13,058
	October 29		3,176	4,830	1,528	558	100		1,571	471	341	433		561	13,619
United States Bonds	November 27	1914													
	December 31														
	January 29	1915													
	February 26														
	March 26														
	April 30														
	May 28					175			3,575	242	1,025	930		1,000	6,947
	June 25				194	485			3,725	242	1,025	930		1,000	7,601
	July 30				340	660			3,725	242	1,025	930		1,001	7,923
	August 27		491		340	852			3,951	244	1,027	931		1,000	8,834
	September 24		491		340	887			3,986	242	1,027	1,355		1,000	9,328
	October 29		491		491	932			4,031	952	1,082	1,526		1,000	10,505

(IN THOUSANDS OF DOLLARS)—*Continued.*

			Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta	Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco	Total for System
Municipal Warrants	November 27	1914	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	December 31		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	January 29	1915	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	February 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	March 26		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	April 30		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	May 28		2,338	9,595	2,703	2,474	1	.....	3,281	777	689	156	.....	1,080	23,094
	June 25		2,228	3,246	1,291	1,507	1	.....	1,515	387	468	230	.....	636	11,509
	July 30		2,494	5,688	1,843	1,512	.....	.....	1,873	638	488	446	.....	1,125	16,107
	August 27		3,407	10,802	2,747	2,422	.....	.....	3,502	696	559	580	.....	1,093	25,808
	September 24		3,731	9,305	3,049	1,736	.....	5	2,949	1,047	745	798	.....	1,580	24,945
	October 29		3,274	8,390	2,866	3,638	.....	5	2,750	1,095	793	824	.....	1,379	25,014
Reserve Deposits, Net	November 27	1914	14,383	106,350	18,265	15,845	7,361	4,025	38,275	11,645	7,742	8,115	5,442	11,820	249,268
	December 31		12,457	101,563	19,415	17,344	9,101	6,155	38,495	10,372	10,486	9,942	6,909	13,719	256,018
	January 29	1915	17,091	117,345	19,367	16,877	7,645	5,917	42,344	14,133	8,902	9,670	6,756	13,469	279,516
	February 26		16,093	126,096	19,730	17,048	8,362	5,400	43,172	15,715	8,793	9,559	7,434	12,934	290,336
	March 26		16,788	125,493	19,529	17,612	8,045	5,724	43,197	14,127	8,662	9,977	6,961	12,372	288,217
	April 30		16,105	130,472	21,410	17,102	7,927	5,742	43,280	13,726	8,651	9,379	7,618	12,120	294,832
	May 28		18,018	127,474	19,829	17,062	8,106	5,662	44,033	13,662	8,894	9,128	6,702	12,279	292,050
	June 25		18,588	141,844	20,616	16,052	7,957	5,253	47,098	13,688	9,004	10,475	6,571	12,403	311,349
	July 30		19,221	142,411	17,743	17,130	7,839	5,164	46,331	12,074	8,979	10,779	6,114	12,398	306,183
	August 27		19,481	150,128	18,022	17,443	7,764	5,420	48,032	13,375	8,797	9,989	6,059	12,479	316,989
	September 24		20,041	154,172	23,687	17,303	7,386	5,236	52,640	13,068	9,046	9,179	5,661	12,513	329,941
	October 29		21,095	174,443	18,931	17,522	7,768	5,365	48,820	11,050	9,350	9,687	6,515	12,938	343,554
Fed. Res've Notes, Net	November 27	1914	55	678	384	.....	45	20	1,057	.....	172	280	.....	.....	2,700
	December 31		.....	.....	.....	140	780	434	1,717	39	.....	72	410	183	3,775
	January 29	1915	.....	.....	.....	110	840	707	.....	.....	.....	74	451	.....	2,278
	February 26		.....	.....	.....	177	2,513	1,666	.....	.....	.....	.....	672	.....	5,328
	March 26		.....	.....	.....	.....	3,877	3,880	.....	.....	.....	.....	1,132	.....	8,889
	April 30		.....	.....	.....	.....	5,077	3,647	.....	.....	.....	37	2,277	.....	11,038
	May 28		.....	.....	.....	.....	4,596	2,877	.....	.....	.....	193	3,255	.....	10,921
	June 25		.....	.....	.....	.....	5,001	2,803	.....	.....	.....	4,472	4,341	.....	12,617
	July 30		.....	.....	.....	.....	5,855	2,828	.....	.....	.....	550	5,732	.....	14,965
	August 27		.....	.....	.....	.....	6,865	3,001	.....	19	157	842	5,854	.....	16,738
	September 24		.....	.....	.....	.....	6,415	3,030	.....	.....	.....	603	4,880	.....	15,348
	October 29		.....	.....	.....	.....	4,874	3,622	.....	.....	.....	1,377	4,045	.....	13,918

On pages 214 and 215 is shown a copy of the balance sheet for October 29, 1915, as published by the authority of the Federal Reserve Board.

Noteworthy features of this exhibit are the following:

(a) The development of the rediscount business has been slow and has attained considerable proportions in the Richmond, Atlanta and Dallas banks only. The number of banks which to the present time (November, 1915) have availed themselves of this privilege has been small and of these the majority have belonged to the three southern districts. Substantially the same statement will apply to the issue of Federal Reserve Notes. The small issues made by the other banks during the first or second months of their operations were speedily retired.

(b) Open market operations have so far been confined to the purchase of bankers' acceptances, municipal warrants and government bonds. In all except the three southern banks these have attained considerable relative importance, amounting in the aggregate to more than the rediscounts of commercial paper.

(c) The item "gold settlement fund" refers to a gold clearance fund established at Washington for the purpose of effecting settlements between Federal Reserve Banks with a minimum of delay and cost.

As early as December, 1914, some of the Federal Reserve Banks took the first steps towards the establishment of a clearing system for the member banks of their districts, and on March 4, 1915, the Federal Reserve Board announced "that it had determined to direct the introduction of a voluntary reciprocal plan for immediate clearance at Federal Reserve banks where a clearing plan was not already in operation." As a result intradistrict clearing systems were put into operation in all the districts, which on November 1, 1915, included 2,456 member banks, distributed

Federal Reserve Board

(IN THOUSANDS OF DOLLARS)

RESOURCES

	Boston	New York	Philadelphia	Cleveland	Richmond	Atlanta
Gold Coin and Certificates in Vault	13,738	129,981	7,867	10,618	5,898	5,672
Gold Settlement Fund	5,264	4,492	3,163	4,934	7,159	2,745
Gold Redemption Fund	6	55	37	.....	375	225
Legal Tender Notes, Silver, etc.	680	30,344	3,067	992	100	150
Total Reserve	19,688	164,872	14,134	16,544	13,532	8,792
Commercial Paper	151	403	196	587	6,814	6,600
Bank Acceptances	3,176	4,880	1,528	558	100	.....
U. S. Bonds	491	491	932	.....	.....	.....
Municipal Warrants	3,274	8,390	2,866	3,638	.....	5
Federal Reserve Notes, Net	745	11,376	805	385	.....	.....
Due from other Federal Reserve Banks, Net	.....	.....	3,512	704	640	820
All other Resources	245	383	668	119	51	296
Total Resources	27,770	190,304	24,200	23,467	21,137	16,513

LIABILITIES

Capital paid in	5,181	11,047	5,269	5,945	3,349	2,417
Government Deposits	.....	.....	.....	.....	5,000	5,000
Reserve Deposits, Net	21,095	174,443	18,931	17,522	7,768	5,395
Federal Reserve Notes, Net	.....	.....	.....	.....	4,874	3,622
Due to other Federal Reserve Banks, Net	1,494	2,398	.....	.....	.....	.....
All other Liabilities	.....	2,416	.....	.....	146	79
Total Liabilities	27,770	190,304	20,200	23,467	21,137	16,513

Balance Sheet for October 29, 1915

(IN THOUSANDS OF DOLLARS)

RESOURCES

Chicago	St. Louis	Minneapolis	Kansas City	Dallas	San Francisco	Total for System
27,510	2,827	619	3,917	3,995	5,582	218,224
11,336	4,659	3,982	2,908	7,000	4,318	61,960
.....	35	30	97	341	21	1,222
962	156	7	269	324	7	37,058
39,808	7,677	4,638	7,191	11,660	9,928	318,464
2,333	1,667	1,617	2,876	6,187	1,017	30,448
1,571	471	341	433	.....	561	13,619
4,031	952	1,082	1,526	.....	1,000	10,505
2,750	1,095	793	824	.....	1,379	25,014
2,190	782	1,566	.....	.....	1,874	19,723
2,651	526	1,775	708	302	787	8,533
121	058	70	531	178	325	3,645
55,455	13,828	11,882	14,089	18,327	16,871	429,951

LIABILITIES

6,535	2,778	2,492	3,025	2,767	3,933	54,838
.....	.....	.....	.....	5,000	.....	15,000
48,820	11,050	9,390	9,687	6,515	12,938	343,554
.....	.....	.....	1,377	4,045	.....	13,918
.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	.....	2,641
55,455	13,828	11,882	14,089	18,327	16,871	429,951

among the twelve districts as follows: No. 1, 50; No. 2, 126; No. 3, 120; No. 4, 120; No. 5, 91; No. 6, 74; No. 7, 116; No. 8, 365; No. 9, 184; No. 10, 951; No. 11, 96; and No. 12, 160. The relatively large number in the Kansas City district, No. 10, is due to the fact that membership in that district is mandatory whereas in all the others it is voluntary. The establishment of the gold clearance fund mentioned in the preceding paragraph represents the first step towards the establishment of a clearance system between the Federal Reserve Banks.

The following table, published in the Federal Reserve Bulletin, indicates the rates of discount in force in the Federal Reserve Banks October 28, 1915:

	Maturities of 10 days and less	Maturities of over 10 to 30 days inclusive	Maturities of over 30 to 60 days inclusive	Maturities of over 60 to 90 days inclusive	Agriculture and live-stock paper over 90 days	Trade Acceptances		Commodity paper
						To 60 days inclusive	Over 60 to 90 days inclusive	
Boston	3	4	4	4	5	3½	3½	*3½
New York	3	4	4	4	5	3½	3½	..
Philadelphia	3	4	4	4	4½	3	3	*3
Cleveland	3½	4	4	4½	5	3½	4	..
Richmond	..	4	4	4	5	3½	4	*3
Atlanta	..	4	4	4	5	3½	3½	3
Chicago	..	4	4	4½	5	..	..	..
St. Louis	3	4	4	4	5	3½	3½	3
Minneapolis	..	4	4	4½	5	..	..	3
Kansas City	..	4	4	4	5	3½	3½	3
Dallas	..	4	4	4½	5	3½	4	3
San Francisco	3	3½	4	4½	6	3	3½	(†)

* Rate for commodity paper maturing within 90 days.

† Rate for commodity paper maturing within 30 days, 3½ per cent; over 30 to 60 days, 4 per cent; over 60 to 90 days, 4½ per cent; over 90 days, 5 per cent.

Authorized rate of acceptances, 2 to 4 per cent.

On March 10 the Federal Reserve Board fixed the following rates for rediscounts between Federal Reserve Banks: 3½ per cent. for maturities of 30 days or less; 4 per cent. for maturities of over 30 days to 90 days, inclusive.

In the determination of these rates the board of directors of each bank takes the initiative, but the consent of the Federal Reserve Board must be obtained before they can be enforced. During the first year of the operation of the system these rates were changed several times and almost without exception in a downward direction. The classification has also been changed several times.

State banks and trust companies have been slow to avail themselves of the privilege of entering the Federal Reserve system. To November 1, 1915, only thirty had become member banks. This delay is explained in part by the natural desire to wait and to see how the new plan is likely to work and in part to actual or supposed legal obstacles. Prior to September, 1915, these latter had been removed by legislation in the states of California, Idaho, Iowa, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Jersey, New York, North Dakota, South Dakota, Texas, Utah, Virginia and Washington and by decision of the appropriate authorities in Alabama, Arizona, Arkansas, Delaware, Georgia, Illinois, Indiana, Kansas, Louisiana, Maryland, New Mexico, North Carolina, Rhode Island, Tennessee, Vermont, West Virginia and Wisconsin.

The first branch of a Federal Reserve Bank was opened at New Orleans, September 10, 1915.

REFERENCES

The most elaborate treatises on the history of banking in the United States are Knox, *A History of Banking in the United States,* and Sumner, *A History of Banking in the United States,* the latter published as v. 1 of the History of Banking in all the leading Nations. A good brief account is given in White, 2d. ed., chs. iv to xiv.

Special periods, phases and institutions are treated in Barnett, *State Banking in the United States since the passage of the National Banking Act,* J. H. U. Studies, Feb. and March, 1902; Conant, *Modern Banks of Issue,* chs. xiii, xiv and xv; Dunbar, *History and Theory of Bank-*

ing, ch. ix; Gouge, *Short History of Paper Money and Banking in the United States;* Elliott, *Funding System*, Ex. Docs. 1 Sess. 28th Cong. No. 15; Gallatin, *Considerations of the Currency and Banking Systems of the United States; Report of the Comptroller of the Currency for 1876;* Catterall, *The Second Bank of the United States;* Holdsworth and Dewey, *The First and Second Banks of the United States;* and Kinley, *The Independent Treasury.*

In *Sound Currency* published a few years ago by the Reform Club appeared the following monographs worthy of note; in v. II, White, *National and State Banks;* and Root, *New York Bank Currency, New England Bank Currency* and *States as Bankers;* in v. IV, Root, *The First United States Bank* and *The Second United States Bank;* in v. V, Garnett, *Banks of Issue in Illinois;* Harding, *The State Bank of Indiana;* and Root, *Early Banks of Issue in Wisconsin;* in v. VII, Stackpole, *State Banking in Maine;* and in v. X, Millsaps, *History of Banking in Mississippi.* See also Merritt, *The Early History of Banking in Iowa*, and Hadden, *History of the State Banks and Early Banking in Wisconsin.*

Convenient summaries of laws pertaining to banking in the United States are: Dunbar, *Laws of the United States relating to Currency, Finance and Banking from 1789 to 1891*, and Welldon, *Digest of State Banking Statutes* published by the National Monetary Commission.

On Trust Companies and their development see Kirkbride and Sterritt, *The Modern Trust Company;* Cator, *Trust Companies in the United States*, J. H. U. Studies, v. xx, p. 269; Herrick, *Trust Companies*, Bankers' Magazine for 1904 and 1905; and Noyes, *The Trust Company*, Pol. Sci. Quart., v. xvi, p. 250.

On the Federal Reserve System including the reasons for its establishment see: Laughlin, editor, *Banking Reform;* Bendix, *The Aldrich Plan in the light of Modern Banking;* Conway and Patterson, *The Operation of the New Bank Act;* Federal Reserve Board, *Federal Reserve Bulletin*, issued monthly beginning with May, 1915.

See also references at the close of ch. xv.

CHAPTER XI

BANKING IN CANADA

Inasmuch as the history of banking in Canada has been influenced by the general political history of the country, it will be necessary to preface our account with a brief statement of the grand divisions of Canadian history.

1. **Epochs in the history of Canada.**—Previous to 1791 the settlements in Canada were governed directly by England through a governor and council. In that year a change was made by the organization of the four provinces of New Brunswick, Nova Scotia, Lower Canada and Upper Canada, and by conferring the power of constitutional government upon each one of these provinces. From that time until 1841 each of these provinces had a legislature of its own and substantial legislative independence, the Governor-General exercising advisory and in some instances veto powers. In 1841 the provinces of Upper and Lower Canada were united into the Province of Canada, so that from this date until 1867 there were three instead of four provinces in what is now the Dominion of Canada. In 1867 was passed the so-called British-North American Act, which provided for the federation of the existing provinces and the formation of new provinces in the future. Under the operation of this act the province of Canada was again sub-divided into the provinces of Quebec and Ontario, and subsequently the new provinces of Prince Edward Island, Manitoba and British Columbia were added and the Northwest territories divided into five districts.

Corresponding with these main divisions are some features of the banking history of Canada. Until 1867 the legislative authorities in regard to banking were those of the in-

dividual provinces, the only unifying institution being the English government, operating through the Governor-General. From 1841 to 1867 in the two chief provinces, that of Upper and Lower Canada, there was legislative unity, and as a result unification of banking legislation was accomplished during that period throughout the most important part of what is now the Dominion of Canada. The most prominent features of banking legislation since 1867 have been the passage of a series of general banking acts, the result of which has been the unification of banking regulations throughout the Dominion and the development of a banking system in some respects peculiar to Canada and in all respects interesting and instructive.

2. **Early conditions.**—The economic and social history of Canada has been very similar to that of the United States. In both cases it began with small communities isolated to a considerable degree and living necessarily under primitive conditions. The early methods of exchange in Canada have been admirably described in the following manner by Professor Shortt, formerly of Queen's University, Kingston:

"Owing to the nature of the physical and geographical conditions of the first settlers in Upper Canada, the means of communication being very imperfect, the settlers had little or no choice as to the places in which they might purchase supplies or dispose of their products. Even though there had been an abundance of circulating medium, their trade would still have been essentially one of barter, an exchange of their surplus products with the nearest merchant for a limited range of goods.

Many functions were united in one person in those days. All kinds of goods were supplied by one merchant; all kinds of surplus products were purchased and exported by the same merchant. Where mills were erected the leading merchants commonly owned them. In many places in Up-

per Canada, during this period, a typical trading center consisted of a flour mill, still, saw-mill, general store, tavern and blacksmith shop. In more important places a woollen mill or at least a carding machine were added. Very often all these were owned by one man. Typical representatives of such establishments were the Napanee Mills in the east, and the Albion Mills near Ancaster in the west.

Even in the earliest stages of the settlements the importer was also the exporter, and barter the natural system of trade. Supplies were required by the settlers throughout the year, while their products came in for sale mainly in the autumn; hence to equalize matters it was customary for the merchants, on the one hand, to give credit for supplies, to be paid for in products later on, or on the other hand, in the case of those who brought products in advance, to issue due-bills or bons, to be ultimately redeemed in goods, or partly in goods and partly in cash. These bons were usually made payable on demand, though not necessarily payable in cash. Together with ordinary promissory notes, which enjoyed a considerable local circulation, they supplemented the metallic money in the settlements, and, under the circumstances of the time furnished a fairly effective medium of exchange. All things considered, we cannot but admit that in the early years of the upper province these local media of exchange were much more manageable, if not more secure, than any bank notes could have been.

"The merchants, for their part, in obtaining their goods and disposing of their accumulated products, usually dealt with a few large importers at such places as Queenstown and Kingston. The merchants in these places also acted as bankers and bill brokers for the local merchants, receiving deposits, obtaining from their customers orders drawn upon various persons, and permitting their customers to draw orders upon them. These wholesale merchants sold as much as possible of the produce sent to them to the government agents for the supply of the military and Indian posts, exporting the remainder to Montreal, and importing from Montreal the supplies with which they furnished the local merchants. As the imports were greater than the exports, the balance was met by bills of exchange on London from

the commissariat officers, vouchers for pensions, and other miscellaneous bills coming from all parts of the province. The larger importers in Montreal acted also as bankers for the wholesale men in the upper province, receiving deposits, making payments to order, and not infrequently advancing loans or credits to be met later on by produce, exchanges, or cash, though we find very little of the latter passing." (The Early History of Canadian Banking, pp. 6 and 7.)

This primitive method of exchange was never perfect and was soon outgrown. Complaints were early made of the power which these banker merchants obtained over the prices of the farmers' products and of the disadvantages under which government operations, particularly of a military character, were placed as a result of these restrictions. The representatives of the English government in Canada early proposed means of freeing the settlers and the public officials from their dependence upon the merchants. These took the form either of paper money or banking expedients, but none of them were adopted until the declaration of war between the United States and England in 1812.

During this period there were issued in Canada a species of paper money known as army bills. The quantity issued was sufficient to provide for the most pressing currency needs of the provinces, and the conditions under which these issues were made were such as to prevent their serious depreciation. The advantages which came from the circulation of these notes and the scarcity of currency which succeeded their retirement were chiefly responsible for the success of the banking propositions which were made as a remedy for the financial difficulties of the time.

3. The first banks.—In all the provinces requests were made for bank charters at a comparatively early period, but the first one which was actually granted was in the province of Upper Canada and led to the establishment

of a chartered bank in that province in the year 1817. Previous to 1825 five banks in all were chartered in the four provinces; three in Lower Canada, and one each in Upper Canada and New Brunswick. Two private institutions were also established, one in Upper Canada and one in Nova Scotia. These latter institutions were short-lived and the subsequent development of banking in Canada was based upon the five chartered institutions. The provisions of these early charters are, therefore, basal and must be briefly described.

For the three banks in Lower Canada the following charter provisions* were typical:

(1) Charters were to continue for ten years.

(2) The directors were to be British subjects.

(3) Dividends were to be declared as often as one-half yearly, but only when profits were earned. In paying dividends no encroachment should be made upon the capital. Directors were obliged to submit a clear statement of the bank's position to the share-holders at the annual meeting.

(4) Banks might receive deposits, deal in bills of exchange, discount notes, buy silver coin, bullion, etc., but might not engage in any business other than banking.

(5) Banks could not lend money directly upon real property; they could, however, take such property as further security for loans already made. They were not permitted to lend money to a foreign country.

(6) They were permitted to issue notes to circulate as money, but no limit upon this right, other than that placed upon their general obligations, was fixed.

(7) The government might require at any time, for the protection of the public, a statement under oath of the position of the bank.

*These were taken from Walker's "Banking in Canada," pp. 428 and 429.

(8) Tranfers of shares in the bank were not to be valid unless registered in the stock-book of the bank, and the bank was given a prior lien on the stock for ordinary debts due to the holder.

(9) The total liabilities were not to exceed three times the capital stock actually paid in, and directors were personally liable if they permitted such excess.

(10) Any director might save himself by publicly protesting within eight days after the transactions causing the excess took place.

(11) The share-holders were exempt from any liability except that of payment for the stock for which they had subscribed, with a penalty of five per cent. for non-payment after instalments matured.

(12) Voting by shareholders was not in exact proportion to shares held, the number of votes diminishing by scale as the holdings increased, so that while one share gave one vote, ten shares gave only five, and thirty shares only ten; no holding gave more than twenty votes.

In the nature of its charter the Bank of Upper Canada did not differ materially from those of the lower province. One essential difference was the fact that the government was permitted to subscribe for 2000 shares of the stock of this bank and was allowed to name four of the fifteen directors. Provision was made in the charter of this bank also for periodical instead of occasional reports to the government, one being required each year.

It is claimed by Professor Shortt that the charters of these early banks were closely modelled after that of the Second Bank of the United States rather than after those of the Scotch banks, as has been frequently asserted. They certainly bear more similarity to the former than to the latter, and on account of the close relations which existed between the two countries it is perfectly natural that they

should have copied after their nearer neighbor whose economic conditions so closely resembled their own.

Between the years 1825 and 1837, as the need for banking institutions developed, other charters were granted, modelled upon those already described. Five banks in all were chartered in the province of New Brunswick, one in Nova Scotia, two each in Upper and Lower Canada, and one, the Bank of British North America, was chartered in England with authority to do business in all the provinces. The only peculiarities worth mentioning in the charter provisions of these new banks are indicated in the fact that the Bank of Nova Scotia introduced into Canada the principle of double liability for stockholders, that the Bank of British North America was not permitted to issue notes below the denomination of one pound, or four dollars, and that La Banque du Peuple of Montreal was not a pure joint-stock institution of the modern sort, but a combination of a partnership and joint-stock company. It had twelve partners, who were subject to unlimited liability, and it was permitted to have an indefinite number of associates or stockholders whose liability did not extend beyond the payment for the stock for which they subscribed.

4. Restraining influences on banking excesses.—The student of banking history in the United States will be surprised at the small number of banks established in Canada during this period, while across the border such institutions were increasing in numbers with great rapidity. The explanation of the difference in this respect between the two sections is to be found in the restraining influences which were operative in Canada and not in the United States. In the former country the same tendencies were at work as in the latter. There was agitation for the introduction of the principle of free banking, criticism of the conservatism of the chartered banks, accompanied by claims that the

bank capital and the circulating medium of the country were inadequate, and other evidences of those ideas regarding credit and currency which seem to be characteristic of frontier communities. In Canada these tendencies were checked in part at least by the attitude of the English government, which had the right of veto over bank and other forms of legislation. The process of securing a bank charter consisted in its passage by both houses of the provincial legislature, and its signature by the Governor-General, whose right, however, to append his name was conditioned upon the consent of the privy council of the English government, which practically meant the committee for trade. The early charters were frequently delayed for two or three years by the delay of the home government in granting its consent, and as early as 1830 a set of regulations were prepared and submitted to the legislature through the Governor pertaining to the conditions under which the home government would be willing to give its consent to the granting of bank charters. These regulations have been summarized by Mr. Walker (p. 437) as follows:

"1. Bank charters to be forfeited by suspension for sixty days consecutively or during a year.

2. Note issues to be dated where issued and to be redeemed in specie there and at the head office. No branch need redeem notes issued at any other branch or the head office.

3. One-half the capital to be paid in at commencement, the remainder at discretion.

4. The directors not to become liable on obligations to the bank exceeding one-third the total discounts of the bank.

5. Bank not to hold its own stock or lend money thereon.

6. Half yearly statements to the Government of average assets and liabilities made from weekly balance sheets with particulars of dividends and reserved profits. Special re-

turns might be called for, and must be verified under oath if required.

7. Share-holders subject to double liability.

8. Banks not to lend on real estate."

While these regulations were subsequently incorporated into the charters of most of the banks, there was severe opposition at the time of their presentation, chiefly on the ground that the colonies objected to interference in their banking affairs by the home government. However, the pressing of restrictions of this sort upon the attention of the provinces, and the discussion and opposition which it aroused, tended to restrain the granting of bank charters and to spread correct and sound ideas regarding banking institutions among the people.

Another restraining influence, especially in Upper Canada, was the disinclination of the directors and stockholders of the bank of Upper Canada at Toronto to encourage the formation of rival institutions. This bank, as we have seen, partook to some extent of the nature of a provincial institution, inasmuch as the province owned a part of its capital. Its promoters and the members of its governing body were either provincial officials themselves or the powers behind the throne, and they were able directly or indirectly to control legislation, and accordingly they opposed the multiplication of bank charters.

Another restraining influence was the crisis of 1837 with its lessons regarding the danger of unprotected bank-note issues. Fortunately for Canada, this crisis came before the forces working towards inflation and unsound banking had gained the upper hand. Here, as in the United States, all the banks ultimately were forced to suspend specie payments and resumption was not general before 1839. There was severe depression of trade and general commercial distress here as elsewhere.

5. The experiment with free banking.—The struggle between the tendencies which favored undue bank expansion and these restraining influences retarded the development of new banking institutions up to about 1850. In that year a law was passed inaugurating the experiment of free banking on substantially the same principles as obtained at the time in the state of New York. It will be remembered that the free-banking act of New York state introduced into this country not only the principle of freedom of banking under a general law, but also that of note issues based upon public securities. These principles gained favor in Canada and became ultimately the expression for the tendencies opposed to the existing chartered institutions and in favor of more rapid bank expansion.

The law of 1850 provided for the formation of banks with a minimum capital of £25,000, with the right to establish one office only, and to issue notes to the amount of the par value of the provincial securities which they might hold. Provision was also made for the incorporation of this principle in part into the charters of existing banks by permitting an extension of note issues beyond a proposed minimum on condition of the deposit of provincial securities.

This experiment failed, only five banks ever having organized under these provisions, and of these, three retired their circulation and secured special charters within five years, and the other two led a checkered career for a few years and then disappeared from the field. The bank of British North America, which was forbidden by its original charter to issue notes below one pound or $4, was the only chartered bank which took advantage of the act, and that for the reason that it gained thereby permission to issue notes below this limit. Mr. Breckenridge, in his treatise on Canadian banking, clearly shows that it was unprofitable for the other chartered banks to accept the princi-

ples contained in this act. The necessity of tying up a portion of their capital in provincial securities bearing a rate of interest considerably below that which could be obtained by ordinary bank loans rendered the proposition distasteful, because unprofitable. It should be noted that this experiment was probably due quite as much to the desire of the provincial government to provide a good market for its securities as to the apparent success of the experiment in New York or the devotion of any large section of the population to the principles involved.

The failure of this experiment became evident as early as 1855, and accordingly at this time there was a resumption of the process of bank expansion through special charters which had characterized the earlier period. Between the years 1855 and 1866 twenty-five new charters were granted in the various provinces and about fifteen new banks came into existence. With the exception of four or five banks, which sooner or later failed or were deprived of their charters, these banks have continued their existence down to the present day, either as independent institutions or as parts of other institutions with which they have amalgamated. The cause of this comparatively rapid increase in the number of banking institutions is to be found in the expansion of Canadian markets, due to the reciprocity treaty made in the early 50's with the United States, to the increase of population, especially in the western districts, and to the industrial expansion which was occasioned or aided by the construction of railroads.

The charters of the banks granted during this period and the changes introduced into those of the older banks upon the occasion of their renewal show decided improvements over the earlier charters. These were due in part to the principles recommended by the Committee for Trade of Her Majesty's privy council, and in part to the experi-

ence gained by the banks themselves. As early as 1830 the danger of permitting private bankers to issue without restriction notes of low denominations was appreciated, and a law was passed in Lower Canada prohibiting the issue of notes for less than $5 by any except a chartered bank, and later on the chartered banks were prohibited from issuing notes below 5 sh. or $1. In 1837 the same restrictions were enacted into law in the province of Upper Canada, the four private banks then in existence being included with the chartered banks in the list of those having the right to issue notes of denominations as low as 5 sh. or $1.

6. Steps toward the uniform regulation of banking.— When the provinces of Upper and Lower Canada were united in 1841, a committee on banking and currency was appointed which reported upon incorporating the following restrictions into the charters of the banks upon the occasion of their renewal:

"1st. The amount of capital of the company to be fixed; and the whole of such fixed amount to be subscribed for within a limited period, not exceeding eighteen months from the date of the charter or Act of incorporation.

2nd. The bank not to commence business until the whole of the capital is subscribed, and a moiety at least of the subscription paid up.

3rd. The amount of the capital to be paid up within a given time from the date of the charter or Act of Incorporation, such period, unless under particular circumstances, not to exceed two years.

4th. The debts and engagements of the company, on promissory notes or otherwise, not to exceed at any time thrice the amount of the paid-up capital, with the addition of the amount of such deposits as may be made with the company's establishment by individuals in specie or Government paper.

5th. All promissory notes of the company, whether is-

sued from the principal establishment or from the branch banks, are to bear date at the place of issue, and to be payable on demand in specie at the place of date.

6th. Suspension of specie payments on demand at any of the company's establishments, for a given number of days (not in any case exceeding sixty) within any one year, either consecutively or at intervals, to forfeit the charter.

7th. The company shall not hold shares in its own stock, nor make advances on the security of their own shares.

8th. The company shall not advance money on security of lands, or houses, or ships, or on pledge of merchandise, nor hold lands or houses, except for the transaction of its business; nor own ships or be engaged in trade, except as dealers in bullion or bills of exchange; but shall confine its transactions to discounting commercial paper and negotiable securities and other legitimate banking business.

9th. The dividends to shareholders are to be made out of profits only, and not out of the capital of the company.

10th. The company to make up and publish periodical statements of its assets and liabilities (half-yearly or yearly) showing, under the heads specified in the annexed form, the average of the amount of its notes in circulation, and other liabilities at the termination of each week or month, during the period to which the statement refers, and the average amount of specie or other assets that were available to meet the same. Copies of these statements are to be submitted to the Provincial Government, and the company be prepared, if called upon, to verify such statements, by the production, as confidential documents, of the weekly or monthly balance-sheets from which the same are compiled. And also to be prepared upon requisition from the Lord's Commissioners of Her Majesty's Treasury, to furnish in like manner such further information respecting the state or proceedings of its banking establishments as their Lordships may see fit to call for.

11th. No by-law of the company shall be repugnant to the conditions of the charter or Act of Incorporation, or the statutes of the province.

12th. As the insertion in charters or Acts of Incorporation of provisions relating to the detailed management of

the business of the corporation has, in several instances, been found to render the documents complicated and unintelligible, and has been productive of great inconvenience, it is desirable that such insertion should be avoided, and that the provisions of such charters or Acts of Incorporation should be confined, as far as practicable, to the special powers and privileges to be conferred on the company, and the conditions to be observed by the company, and to such general regulations relating to the nomination and powers of the directors, the institution of by-laws, or other proceedings of the company, as may be necessary, with a view to public convenience and security.

13th. No company to be allowed to issue its promissory notes payable on demand, to an amount greater than its paid-up capital." *

The recommendations of this committee were adopted, and when the charters of the banks were renewed these recommendations were incorporated together with the principle of double liability of shareholders, which up to this time had been in force only in the provinces of New Brunswick and Nova Scotia. It will be observed that under these regulations a distinction is made between the notes of the bank and its other liabilities and the principle introduced that the note-issues should be limited by the amount of the paid-up capital of the bank; a principle which has apparently become permanently established in Canadian banking legislation.

7. **The issue of Provincial notes.**—The failure of the Canadian government to improve the market for its securities through the free banking system rendered some other scheme to that end desirable, if not necessary. The construction of railroads and other internal improvements had greatly increased its expenditures, and a large floating debt had accumulated of which it was necessary to make some

* Walker, pp. 443, 444.

disposition. A considerable part of this debt was owed to the bank of Montreal, which since 1861 had been the government's banker. Among the suggestions made for the improvement of the government finances was the establishment of a provincial bank. But this did not meet with the approval of the legislature, and finally the expedient was adopted of authorizing the Governor in Council to issue provincial notes to the maximum amount of $8,000,000. These notes were to be payable in specie on demand at Montreal and Toronto and to be legal tender. They were to be secured by bonds of the province and specie, of which the latter should amount to 20 per cent. until the issues exceeded $5,000,000, and to 25 per cent. for any excess above that amount. The plan included a provision for the retirement of the issues of the banks and a substitution of these notes in their place. In order to induce the banks to accept this arrangement, the government offered to pay any bank, which would voluntarily resign its right to circulate notes, five per cent. per annum of the amount of its notes outstanding on April 30, 1866, until the date of the expiration of its charter, and to allow it the time preceding Jan. 1, 1868 for the complete retirement of its issues. The government further agreed to pay to such banks, for the issue and redemption of the government notes, one-fourth of one per cent. every three months on the average amount kept in circulation, and to release them from the requirement of investing ten per cent. of their capital in provincial bonds.

The only bank which accepted this arrangement was the Bank of Montreal, which at that time, as we have seen, held a large part of the government's floating debt and was practically the government's banker.

8. The British North American Act of 1867 in its relation to banking.—The passage of the British North American act in 1867 began a new epoch in the history of Canada.

Under its provisions the four original provinces were federated, and one legislature from this time on took the place of the various local bodies, and legislation in regard to banking and currency became the prerogative of the Dominion. In consequence, the era of provincial banking ends with the passage of this act.

The problem before the first Dominion legislature with reference to money and banking was by no means simple or easy. There were at the time 19 banking institutions in operation in the old province of Canada, now the provinces of Ontario and Quebec, 5 in Nova Scotia, and 4 in New Brunswick. Uniform regulations had been introduced for the banks of the two provinces of Ontario and Quebec as a result of the union, in 1841, of the old provinces of Upper and Lower Canada. There was a considerable degree of similarity between the bank charters of the provinces of Nova Scotia and New Brunswick and those of Ontario and Quebec, but important differences, nevertheless, interfered with the unification of the banking system. The privileges of the banks in each province were purely local and their circulation and business also largely local. Two of the banks, namely, La Banque du Peuple of the old province and the Bank of British North America, were operating under charters which differed from those of all the others and contained many peculiar features. The Bank of Montreal was the largest institution in the country, having a paid-up capital of $6,000,000 as against $4,000,000 of the Commercial Bank of Canada, the next largest institution, and numerous branches in various parts of Canada. It was the government's bank and the only institution which had taken advantage of the opportunity to retire its circulation offered by the provincial note act of 1866. The relations of this institution with the other banks were not altogether friendly on account of the great privileges which

it enjoyed. The charters of most of these banks expired in a few years after the passage of the British North American act and consequently an opportunity was offered for such modification in their charters as the Dominion legislature might think proper.

Besides the problem of unification and improvement of the banking system, the Dominion legislature was called upon to legislate regarding the paper money issues of the old province of Canada and of the province of Nova Scotia. The latter province issued a provincial currency early in its history and had maintained that form of currency continuously up to the date of its union with the other provinces. The banks in that province had not been permitted to issue notes in denominations below $20 in order to leave room for the circulation of the provincial notes. In Canada, as we have already seen, provincial notes were placed in circulation the year previous to the union and most of the banks were issuing notes in denominations as low as $1.

Much depended upon the way in which the new legislature settled these financial problems. Any measures adopted were certain to be taken as precedents for the future and were to constitute the foundation upon which future legislation must be built. The legislature seemed to realize this fact, and its earliest measures regarding the banking and currency system were of a temporary character, designed simply to give the legislature time thoroughly to consider the problem before any permanent measures were adopted and to make such changes as were rendered necessary by the substitution of the Federal for the provincial legislatures.

As early as 1868 various plans were submitted for the unification of the banking system. Among these the most important was that of the Minister of Finance, Mr. Rose, who desired to introduce the main features of the national

banking system of the United States. This plan was debated at great length and quite uniformly opposed by the banking and commercial interests of the Dominion. The bill which embodied it was, therefore, withdrawn, and the Minister of Finance retired in favor of another man who was inclined to consult the bank experts in regard to matters of this sort. The result of the deliberations of the Minister of Finance and his associates in and out of the legislature was the preparation of a bill regarding banks, which was enacted into law on the 12th day of May, 1870. Before describing this act, however, it will be necessary to note the disposition made of the notes authorized to be issued by the provincial note act of 1866. This is indicated in the following summary of regulations:

"(a) The management of the Dominion note circulation directly by the Government.

(b) The establishment of branch offices of the Receiver-General's Department in Montreal, Halifax, St. John's and Toronto, for the issue and redemption of notes.

(3) The authorized extension, by Order-in-Council on report of the Treasury Board, of the issue to $9,000,000 in amounts of not more than $1,000,000 at a time, and at intervals of not less than three months.

(d) The requirement that the Receiver-General should hold specie and Dominion debentures to cover the outstanding circulation; the debentures to be issued and held for the purposes of the Act, or to be disposed of temporarily or absolutely in order to provide specie for redemption; the debentures not to exceed 80% of the circulation, the specie, as a rule, to be a sum equal to 25% of the debentures, and never less than 15%.

(e) Provision for the issue of any amount required by the public convenience, so long as the excess over $9,000,000 should be covered by equivalent amounts of specie." *

The effect of this provision was to do away with the

* (Breckenridge, "The Canadian Banking System, 1817-1890," Publications of Amer. Ec. Ass'n., vol. x., p. 252.)

anomalous position occupied by the Bank of Montreal and to restore that institution to something like its original position. It also authorized the increase in the quantity of notes to be issued and a slight change in the security by which they were backed.

9. The bank acts of 1870 and 1871.—The act of 1870 took the form of a series of restrictions which it was provided should be introduced into the charters of existing banks whenever they were renewed and into those of all new banks, together with such others as were provided by existing legislation. The chief provisions of the act may be summarized under the following heads:

(1) *Capital.* No bank was to be permitted to begin business or to issue notes until $200,000 of its capital should have been paid up and the fact certified to by the Treasury Board. Twenty per cent. of the subscribed capital beyond this amount should be paid each year after the beginning of business. This paid-up capital must not be impaired by any distribution of dividends, and whenever for any reason impaired, the amount should be made good forthwith by calls on the shareholders for any unpaid portion of their capital stock and by the application of all net profits. No division of profits by way of dividend or bonus should be permitted to exceed eight per cent. per annum until a reserve fund, after deducting any bad or doubtful debts, equal to 20 per cent. of the paid-up capital stock should be accumulated.

(2) *Note issues and reserves.* The amount of note-issues by any bank was not to exceed the amount of the bank's unimpaired, paid-up capital, and no note of less denomination than $4 was permitted to be issued. The notes of the bank were to be received in payment at any of its offices, but should not be payable in specie or Dominion notes at places other than those specifically named in the note

itself, one of such places being always the bank's chief city of business. There was no provision fixing the proportion of cash reserves to liabilities, but the bank was required to hold usually one-half and not less than one-third of its cash reserve in Dominion notes.

(3) *Loans on security of stock and to directors.* Banks were forbidden to make loans on security of their own stock, and were to have a lien upon the shares and unpaid dividends of debtors for any overdue debt. Discounts or advances to any director or firm of which a director was a partner should not exceed one-twentieth of the total discounts of the bank at the same time.

(4) *Double liability of stockholders.* In case the property or assets of any bank should be insufficient to pay its liabilities, the shareholders were made liable for the deficiency to the amount of their respective shares, in addition to any amount on those shares not yet paid up.

(5) *Votes of shareholders.* Contrary to the preceeding practice, each share of stock was permitted one vote.

(6) *Returns to the government.* Banks were required to make monthly returns to the government of their assets and liabilities in an expanded and improved form prescribed in detail in the act. They were also required to furnish the Minister of Finance each year, before the date appointed for the opening of Parliament, a certified list of their shareholders, the stock held by each, and their residence.

(7) *Charter period.* The principle of revision of charters every ten years was introduced, and accordingly the charters of all banks newly incorporated or renewed were to expire at the end of the session of Parliament next after the 1st of January, 1881.

Inasmuch as this act took the form simply of a number of restrictions which should be incorporated into the charters of new banks or of old ones when renewed, it did not

contain all the provisions which were regulative of banks and did not secure any uniformity in the internal management of the various banking institutions. Such uniformity was desired by the bankers, and in order to obtain it an act was passed in the following year incorporating the provisions of the act of 1870 and such others as were provided by existing legislation and were designed to secure uniformity in banking matters.

The principal modifications introduced into existing legislation by this new act were the provisions that the maximum amount of capital subscribed for a new bank must not be less than $500,000, and that the maximum paid in before commencing business must not be less than $100,000, and that an additional $100,000 must be paid in within two years. The act further revised the previous legislation regarding the use of warehouse receipts as a security for bank loans, and authorized banks to make loans on the security of the stock of other banks, and of municipal, state and corporate securities within Canada, and the public securities of foreign countries.

10. The decade 1870 to 1880 and the revision of 1880.— The first decade after the passage of the new banking act is notable on account of the contrast between the prosperity of the first part of the period and the depression of the latter part. Commerce and industry expanded very rapidly in Canada in the years 1867 to 1874. There was a rapid growth of population, a rapid extension of the railway system, a large increase in the products of agriculture, and expansion along all lines. A natural result of this was a considerable increase in the number of banking institutions. Nineteen all told began business during this period. A considerably larger number of charters than this were granted, but many were forfeited for non-usure on account of the inability of the projectors to secure the requisite

amount of capital within the time appointed. The largest number of these institutions was established in the years 1872 and 1873.

The crisis which passed over the United States in 1873 affected Canada, but in a much less degree. In that country it inaugurated a period of depression rather than one of severe crisis. The result, however, so far as banking institutions were concerned, was disastrous. A number of banks were obliged to cut down their capitals and greatly to diminish the magnitude of their business, while still others completely succumbed and either went into voluntary liquidation or failed. The year 1879 was the most disastrous of all, the largest number of failures having taken place in that year. All told, five banks failed during this period in the provinces of Ontario and Quebec, one in New Brunswick, and two in Nova Scotia. The paid-up capital of the banks reporting to the government, which in 1875 had reached a total of $66,800,225, had decreased by 1881 to $59,677,363. (Breckenridge, App. 1.)

The unfortunate experiences of 1879 and the years immediately preceding it are chiefly responsible for the modifications made in the bank act by the revision of May 7, 1880. Though all of the banks which failed ultimately paid their note-holders in full, with one exception, and most of them paid a large percentage of the debts owed to their other creditors, in 1880, at the time this revision took place, the prospects for meeting any large proportion of their obligations were gloomy in the cases of most of the banks. Agitation for a radical modification of the banking system was, therefore, revived, and it was again proposed that the system in vogue in the United States should be introduced. The bankers successfully opposed this scheme, however, and also convinced the government that it would not be profitable to provide for the inspection of Canadian

banks by public authority. They argued that on account of the size of the banks, the large number of their branches, and the variety of commercial paper which they held, it would be impossible for any public official to make an examination of a Canadian bank which would be thorough enough to reveal its actual condition. They further argued that the fancied security which a favorable report of such an officer, based upon inadequate knowledge, would produce, would result in bad banking and ultimately in disaster. The only successful supervision and inspection for such banks, they claimed, must come from the proper organization and skillful manning of the banks themselves.

The banks recommended that note-holders should be secured by a first lien upon all the assets of the bank, and that the use of the title "bank" in any form should be prohibited to any except incorporated banks. An act which was finally passed May 7, 1880, incorporated these recommendations and in addition raised the limit of the lowest denomination of bank-notes which were thereafter permitted to be issued from $4 to $5, and required that any bank upon the request of one of its customers must pay out one- and two-dollar Dominion notes to the extent of at least $50. Considerable modifications and improvements were also made in the clauses of the act pertaining to warehouse receipts. Two years later some further slight amendments were made, the chief ones being that the penalty for violation of the law, which had previously been forfeiture of charter, was in some cases changed to a money indemnity, and instead of prohibiting to any but incorporated banks the use of the title banking company, banking house, etc., such institutions were prohibited from the use of these titles except when they added the word "unincorporated."

The decade now under consideration is also interesting on account of certain legislation passed with reference to

the Dominion notes. In 1872 a modification was made in the amount and kind of security to be held for these notes. Previously, for all notes issued in excess of $9,000,000, dollar for dollar of specie was held. It was now made lawful to hold for this excess not less than 35 per cent. in specie. In 1875 a still further modification was made to the effect that for any excess above $9,000,000 and less than $12,000,000 50 per cent. should be held in specie, and for all sums in excess of $12,000,000, dollar for dollar in specie. In 1876 the laws regarding the Dominion notes were extended to the provinces of Prince Edward Island, British Columbia, and Manitoba, and branch offices of the Receiver-General for the administration of the note system were established at Charlottetown, Victoria and Winnipeg. The act of 1880 raised the limit of notes to be only partially covered by specie to $20,000,000. Not less than 15 per cent. of this amount was to be covered by gold, not less than 25 per cent. by gold and Dominion securities guaranteed by the United Kingdom, and the remaining 75 per cent. or less by Dominion debentures issued for the purpose.

11. The decade 1880 to 1890 and the revision of 1890.— The decade 1880 to 1890 resembles its predecessor in that the early part of the period was characterized by bank expansion and the latter by losses and failures. Neither the amount of the expansion nor of the subsequent depression was so great or so serious as in the preceding decade, and considering the period as a whole, there was an increase rather than a diminution of banking resources. During the period four new banks were established in the provinces of Ontario and Quebec, and one in the new province of Manitoba. Owing to agitation for increased loan facilities for farmers, there was a large increase in the number of branches established in rural districts and especially in the new western provinces. Manitoba proved to be the chief

center of expansion during this period. A veritable boom of large dimensions struck the province in the early part of the period and was followed by the usual crash in the latter part. This was the chief single cause for the bank losses and failures which characterized the later 80's. As in the previous decade, several banks wrote off losses and received authority to diminish their capitals. Four banks failed or liquidated in the provinces of Ontario and Quebec, one in New Brunswick, and one in Nova Scotia.

The experiences of this period brought out clearly several defects in the existing banking system. Whenever a bank failed its notes at once fell to a discount, even though there was reasonable certainty of its ability ultimately to pay them in full. Existing holders, who were obliged to realize upon them at once, suffered loss in consequence. A further defect was seen in the fact that the banks had not made provision for the redemption of their notes in all parts of the Dominion and were not compelled to do so by law, and in consequence their notes were not everywhere at par. The failures of this and the preceding decade had also shown that a paid-up capital of $100,000 was not sufficient in all cases to guarantee the genuineness of the enterprise.

These defects were patent to the bankers themselves, and even before the period for revision arrived a movement was started among them to increase the number of redemption agencies and in other ways to secure the maintenance of the notes at par throughout the Dominion. Mutual agreements regarding the reception of each other's notes were made by bankers in various localities, and by discussion and careful thought they provided material for the formulation of a revision act in 1890. The chief changes made by this act were the introduction of a bank circulation redemption fund, the establishment of numerous redemption agencies in the chief commercial centers of the Do-

minion, the increase in the minimum capital requirement, and the enlargement and more careful definition of the loan powers of the banks.

"The Bank Circulation Redemption Fund" was introduced primarily for the purpose of preventing the depreciation of bank-notes between the date of suspension and that of the liquidation of the notes of a failed bank. The law provided that each bank must maintain with the Minister of Finance and Receiver-General a fund equal to five per cent. of the average of their notes in circulation for the twelve months prior to the preceding first of July, which fund should be held solely for the purpose of redeeming the notes of banks which were in a state of suspension. Upon this fund the government pays three per cent. interest to the bank. In case of suspension the bank is required to pay interest upon its notes at the rate of six per cent. up to the date named for their redemption. If after two months from the date of suspension the bank's liquidators are not prepared to redeem the notes, the Minister of Finance is authorized to redeem them out of the fund, the notes so redeemed having the same rights against the estate of the bank as other notes. In case the payments by the Minister of Finance on account of redemption exceed the contributions of the suspended bank to the fund, the other banks shall be called upon to recoup the fund pro rata to the amounts to their credit, such contributions, however, not to exceed for any one year one per cent. of the average circulation.

In order to maintain bank notes at par in every part of the Dominion, provision was made for the establishment by each bank of redemption agencies at Halifax, St. John's, Charlottetown, Montreal, Toronto, Winnepeg and Victoria. Redemption was to take place on demand at these agencies as well as at the head office of the bank and any other places designated.

Regarding capital, the requirement made in this act was that no new banks should be organized without a subscribed capital of at least $500,000 and a paid-up capital of not less than $250,000. The general powers and business of a bank are defined in the act in the following terms, (Section 64):

"A bank may open branches, agencies and offices, and may engage in and carry on business as a dealer in gold and silver coin and bullion, and it may deal in, discount, and lend money, and make advances upon the security of, and may take as collateral security for any loan made by it, bills of exchange, promissory notes and other negotiable securities or the stocks, bonds, debentures and obligations of municipal and other corporations, whether secured by mortgage or otherwise, or Dominion, provincial, British, foreign and other public securities, and it may engage in and carry on such business generally as appertains to the business of banking; but, except as authorized by this act, it shall not, either directly or indirectly, deal in the buying or selling or bartering of goods, wares and merchandise, or engage or be engaged in any trade or business whatsoever; and it shall not, either directly or indirectly, purchase or deal in or lend money, or make advances upon the security or pledge of any share of its own capital stock or of the capital stock of any bank, and it shall not, either directly or indirectly, lend money or make advances upon the security, mortgage or hypothecation of any land, tenements or immovable property, or of any ships or other vessels, or upon security of any goods, wares or merchandise."

Succeeding sections authorize the bank to hold various forms of real property when they come into its hands in the process of enforcing the payment of the debts due to it. Sections 73 and 74 authorize the advance of money on ordinary warehouse receipts and bills of lading, and the

act specifies in considerable detail the methods by which such loans shall be effected.

Another interesting section of the act pertains to the rate of interest which may be charged. Banks are authorized to take any rate not over 7%, and are not subject to any penalty or forfeiture for usury. In discounting bills payable at its own branches, a bank may not charge any addition of interest or commission beyond the following rates: For 30 day bills ⅛ of 1%, for bills running over 30 days and under 60 days, ¼ of 1%, over 60 but under 90 days, ⅜ of 1%, for 90 and over, ½ of 1%. For bills not payable at points where it has branches, it may charge not to exceed ½ of 1%. Another section prohibits the use of the titles bank, banking company, etc., except as authorized by the terms of this act.

12. **Recent history.**—The act just described added the finishing touches to the Canadian banking system. In the revision of 1900 no modifications of principle were introduced, amendments taking the form rather of improvement of details. Regarding note issues the act provided that no bank in a condition of suspension shall issue or re-issue its notes, and that the notes redeemed from the fund after the contribution of the suspended bank has been exhausted shall bear interest at three per cent. until repaid out of the assets of the bank. It further authorized banks to issue notes in denominations of one pound sterling and multiples thereof in any other British possession than Canada, such notes to be redeemable at the office or agency of the bank in such colony or possession. Provision was also made for the purchase by one bank of the assets of another and for the making of loans on security of standing timber and on the rights or licenses held by persons to cut or remove such timber.

An interesting change was introduced by the act of 1900

in the methods of winding up and administering the affairs of a suspended bank. By an act passed by this same legislature the Canadian Bankers' Association was incorporated, and the bank act provided for the appointment of a curator by this Association to take charge of the affairs of a suspended bank. It further granted to this Association authority to supervise the making, delivery and destruction of bank-notes.

The Canadian Bankers' Association, thus given a part in the administration of the banking system of the country, in its membership includes nearly all the banks, and includes among its main functions the publication of a periodical known as the Journal of the Canadian Bankers' Association, and the provisions of means for the education and training of bank officials. This Association has already done admirable work and is destined to play a constantly increasing rôle in the banking history of the Dominion.

REFERENCES

The chief works on the history of banking in Canada are Breckenridge, *The Canadian Banking System*, 1817-1890. Pubs. Amer. Econ. Asn. vol. x. numbers 1, 2 and 3, and *The History of Banking in Canada*, published by the National Monetary Commission; Walker, *Banking in Canada*, in vol. III of History of Banking in all the leading Nations; and the following articles by Professor Adam Shortt published in the Journal of the Canadian Bankers' Association: *The Early History of Canadian Banking*, vols. IV and V; *Canadian Currency and Exchange under French Rule*, vols. V and VI; and *The History of Canadian Currency, Banking and Exchange*, vols. VII to XIV. The Journal of the Canadian Bankers' Association published quarterly since 1893 is the best source of information on all phases of Canadian banking history and practice. See also Conant's Modern Banks of Issue, ch. xvi; and White, ch. xv.

CHAPTER XII

BANKING IN ENGLAND

DURING the middle ages and early modern times banking was carried on in England at first chiefly, if not exclusively, by Jews and later by Italians called Lombards, and later still by the so-called goldsmiths or workers and dealers in the precious metals. There were no incorporated institutions engaged in this business previous to the establishment of the Bank of England in 1694. These early private bankers were located chiefly in London. In the country villages and smaller provincial towns banking was not much developed before the middle of the eighteenth century.

1. The early history of the Bank of England.—The Bank of England was incorporated by Parliament in pursuance of a plan devised by a Scotchman named Wm. Patterson, an important feature of which was a loan to the government of £1,200,000 at eight per cent. interest. On account of the great need for funds caused by the war which William and Mary were then waging against the exiled Stuarts and their continental backers, the loan of such a sum at so favorable a rate of interest, and the prospect of further financial assistance from the new institution, were inducements sufficient to secure the assent of Parliament to certain special privileges to be enjoyed by the incorporators. These were: limited liability, that is liability on the part of each stockholder for the debts of the bank only to the extent of his holdings of stock; and the use of the government balances.

The right to issue notes was also specifically granted in the original charter, but was not prohibited to other in-

stitutions or persons. The bank, however, coveted this also as a special privilege and in 1697 secured the passage of an act which bound Parliament not to grant banking privileges to any other institution during the continuance of her charter. The terms of this act, not being sufficiently clear, and attempts to infringe upon this privilege having been made, another act was passed in 1708, the most important clause of which was as follows:

"That during the continuance of the said Corporation of the Governor and Company of the Bank of England, it shall not be lawful for any body politic or corporate whatsoever, erected or to be erected (other than the said Governor and Company of the Bank of England), or for any other persons whatsoever united or to be united in covenants or partnerships, *exceeding the number of six persons,* in that part of Great Britain called England, to borrow, owe or take up any sum or sums of money on their bills or notes payable at demand, or at less time than six months from the borrowing thereof."

This act left private bankers and partnerships of less than six persons free to issue notes and to carry on all other branches of the banking business, and the records of the Bank of England during the first century of her history indicate that, in spite of her privileges, these private bankers more than held their own in competition for the business of merchants and other private individuals. During all this period the balances due the government constituted the bank's chief liability, and loans to the government her chief resource.*

2. Country banking and the act of 1826.—About the middle of the eighteenth century private bankers began to appear in the provincial towns. By the end of the century three hundred or more were in existence and during the

* For statistics see Lawson's History of Banking, pp. 44 and 45.

next few years their numbers increased very rapidly. These bankers issued notes freely, before 1777 in such denominations as they desired, frequently below one pound, and at times, if not ordinarily, were far from conservative and discriminating in making loans and in granting credit to the various enterprises then competing for public favor. Especially during the Napoleonic wars and the years immediately succeeding, when specie payments were suspended, they greatly abused their privileges and contributed to the speculation which preceded the crisis of 1825. The failure of many of them at this time and during the period of depression which followed, revealed the fact that they were greatly undercapitalized and sometimes entirely without capital resources and that the property of their proprietors was inadequate to meet their obligations.

The issue of notes of low denominations was also seen to have been a dangerous privilege, these notes having quite generally taken the place of coin in the circulation.

A widespread demand for reform followed, resulting in 1826 in a new law which provided among other things that banks with an unlimited number of partners might be established in any place in England distant more than sixty-five miles from London and that the Bank of England might establish branches in any place in England. The purpose of this law was the encouragement of the establishment in provincial towns of banks with a larger and financially stronger proprietary than was previously possible under the limitations imposed by the act of 1708. The privilege of extension into the provinces granted to the Bank of England was designed in part to compensate her for the further limitations imposed on her monopoly and in part to give the provinces the advantages of a closer and more direct contact with her.

Taking advantage of the provisions of the act, the Bank

of England established branches in Gloucester, Manchester and Swansea in 1826, in Birmingham, Liverpool, Bristol and Leeds in 1827, in Newcastle in 1828, in Hull and Norwich in 1829, and in Portsmouth in 1834.

Provincial joint-stock banks were incorporated at first in small numbers only, but after 1833 more rapidly. In the year 1836 upwards of forty were established, and by 1844 their number exceeded one hundred.

After the passage of the act of 1826 the number of private banks decreased from over four hundred to less than three hundred in 1844, some of them having been absorbed by the new joint-stock institutions, and others forced to the wall by their competitors or by inherent weaknesses. The new banks were not immune from failure and their methods differed little, if any, from those of their private competitors. Their chief superiority consisted in their greater ability to meet their obligations in case of failure, the number of their proprietors being greater and each one being responsible for the debts of the bank to the full extent of his property.

3. The first banks of deposit.—In 1834 another type of joint-stock bank appeared in the city of London, one destined to prevail and to become second in importance only to the Bank of England. This was the incorporated bank of deposit *without the right to issue notes* and catering to the varying and growing needs of commerce in all of its branches instead of to the landlord and official classes. The London and Westminster Bank, opened for business March 10, 1834, was the first of this type to be established. Its founder was a Mr. Gilbart who believed that the clauses of the various charters of the Bank of England defining her exclusive privileges did not prohibit this kind of a joint-stock bank even in the city of London, and the surrounding territory. This interpretation was adopted by Parlia-

ment and expressed in a clause of the bank charter act of 1833 which reads as follows: "Such banking company consisting of more than six persons may carry on their trade in London or within sixty-five miles thereof, provided they do not borrow, owe, or take up in England, any sums of money on their notes payable on demand or at any time less than six months from the borrowing thereof, during the continuance of the privileges granted by this act."

The practicability of successfully conducting a banking business on the basis of checking accounts instead of note issues had already been demonstrated by the private bankers of London who had ceased to issue notes many years before and whose deposit and exchange business had become sufficiently important even in 1775 to warrant the establishment of a Clearing House. The London and Westminster Bank differed from its joint-stock provincial predecessors, established in accordance with the provisions of the act of 1826, not only in that it did not issue notes, but in that it had a relatively large paid-up and a still larger subscribed capital, and it differed from the private banks of London not only in the fact of incorporation, but in that it catered to the needs of a new and different constituency, the ordinary tradesman and people of moderate and small means.

Other banks of the London and Westminster type early established in London were the London Joint-Stock Bank, opened in 1836, and the Union Bank of London, The London and County Bank and the Commercial Bank of London, opened in 1839. The Marlybone Bank started in 1836 and the Metropolitan Bank started in 1839 of this same type were badly managed and failed in 1841.

4. Discount brokerage as a special branch of banking.— Early in the nineteenth century discount brokerage became an independent branch of business in London and has continued as such to the present day. In 1807 a Mr. Overend

entered into partnership with two other gentlemen for the establishment of a firm for the purpose of serving as intermediaries between merchants who drew bills of exchange and bankers who discounted them. Mr. Overend had previously become an expert in this business through his connection with a private banking firm in Norwich, and the new firm developed it to large proportions and made it an important part of the financial machinery of the great metropolis. Other private firms entered the field and in 1855 the National Discount Company was incorporated for this purpose. The discount firm or company buys or sells bills on commission or deals in them as a grocer does in tea, keeping such a portion of its own capital as it deems best invested in this form or combines both branches of the business. London merchants may and frequently do sell their bills to a discount firm instead of to a joint-stock or private bank, and banks which desire investments of this kind normally go to the discount firms for them instead of buying direct from the issuers.

5. **The bank act of 1844.**—In the years 1836 and 1839 England suffered from panics, each of which was preceded by rash speculation, accompanied by severe money stringency and followed by business depression. Much of previous legislation pertaining to banks had been inspired by the belief that these institutions were largely responsible for crises, and by the hope that proper legal regulation of the banking business would prevent these disastrous occurrences. In addition to the enactments of 1826 and 1833 authorizing the establishment of joint-stock banks of issue in the provinces, and banks of discount in London, there had been others prohibiting the circulation of bank notes of denominations below five pounds and making the notes of the Bank of England, so long as they were paid on demand in legal coin, legal tender, except as between the bank and the

public. The Bank of England had also adopted the policy of keeping in its vaults a coin reserve equal to at least one-third of its demand obligations, and of regulating its note issues in accordance with the state of the foreign exchanges, increasing them when the exchanges were favorable and decreasing them under opposite conditions. The crises of 1836 and 1839 convinced Parliament of the inadequacy of these measures and of the desirability of a more efficient and direct regulation of note issues by the government, the majority apparently believing that the inability of the Bank of England under existing laws properly to regulate such issues was the chief cause of these crises.

The act of 1844, also known as Peel's act, was the remedy devised by Parliament. It created in the Bank of England an issue department and a banking department, the former to have exclusive charge of the issue of notes and the latter of all other branches of the bank's business. It authorized the transfer to the issue department of government and other high class securities held by the bank to the amount of £14,000,000 to serve as backing for a like amount of notes and permitted the issue of notes in excess of that amount on condition only that an equal amount of coin be kept in the vaults for their redemption, or that the Cabinet authorize an increase against securities to take the place of notes of joint-stock or private banks authorized by the act, but afterward abandoned. Fourteen million pounds being the estimated amount of Bank of England notes normally required to supplement the notes of the private and joint-stock banks, and the coin normally in circulation in order that the needs of the country for hand-to-hand money might be satisfied, it was intended that the chief business of the issue department should be to exchange notes for coin and vice versa as one form of currency rather than the other should be desired by the public.

At this time two hundred and seven private and seventy-two joint-stock banks were issuing notes subject to no limitation as to the amount they might put into circulation or the character of their assets. The Act of 1844 changed this situation by fixing as the maximum limit of the issues of such banks the amount of notes they had outstanding on April 12, 1844, and by forbidding the issue of notes by any private or joint-stock bank that should be organized in the future. It provided further that in case any of these banks should relinquish its right to issue notes, it could not again resume, but that, in that case, the Cabinet, by an order in Council, might authorize the Bank of England to increase its issues against securities by an amount two-thirds as great as that thus relinquished.

After 1844 the number of private and joint-stock banks of issue gradually decreased, partly doubtless because of the limitations imposed upon them by the Peel act, but chiefly because of the competition and better adaptation to the needs of the times of joint-stock banks of the London and Westminster type. No longer able to enlarge their business through expansion of note issues, and being forbidden access to London and the surrounding territory so long as they continued to issue the quota assigned by the act of 1844, the joint-stock banks of issue had much to gain and little to lose by relinquishing their issues and reorganizing under the other form. This was particularly true after 1858 when the privilege of limited liability and various other advantages were extended to banking corporations of the London and Westminster type. As we have already noted, a decline in the number of private banks had set in before the passage of the Peel act, the effect of which doubtlessly was to hasten the rapidity of this movement. The following table shows the number of each class of banks registered on the first of January of each of the years indicated:

Year	Private Banks of Issue	Joint-Stock Banks of Issue
1844	211	72
1849	182	66
1853	169	66
1858	153	63
1863	145	63
1868	129	56
1873	119	56
1878	110	52
1883	103	46
1888	91	42
1893	68	37
1898	38	31
1903	19	21
1908	12	15
1909	11	11

As the issues of private and joint-stock banks have been relinquished, the Cabinet, from time to time, in pursuance of the authority conferred by the act of 1844, has added to the amount of notes the Bank of England is permitted to issue against securities. The following table* indicates the dates of the Council orders and the amounts of the increase in each case:

The Peel act, 1844, limited the issues against securities to,	£14,000,000
Council Order Dec. 7, 1855, increased the limit by.....	475,000
Council Order July 10, 1861, further increased the limit by	175,000
Council Order Feb. 21, 1866, further increased the limit by	350,000
Council Order Apr. 1, 1881, further increased the limit by	750,000
Council Order Sept. 15, 1887, further increased the limit by	450,000
Council Order Feb. 8, 1889, further increased the limit by	250,000
Council Order Jan. 29, 1894, further increased the limit by	350,000
Council Order March 3, 1900, further increased the limit by	975,000
Council Order Aug. 11, 1902, further increased the limit by	400,000
Council Order Aug. 10, 1903, further increased the limit by	275,000
	£18,450,000

*Quoted from Bankers Mag., Jan. 1904, p. 29.

6. The joint-stock banks and concentration.—During their early history the non-issuing joint-stock banks, that is Banks of the London and Westminster type, were bitterly opposed by the Bank of England and the private banks of London and many obstacles were placed in the way of their development. Gradually, however, by resort to the courts and to Parliament they not only won the right to existence, but a satisfactory legal status. Since 1857 they have enjoyed the right of registration under the so-called companies' acts which confer the privilege of limited liability and other advantages of great value. By studying the financial needs of commerce and industry and catering to them in a spirit of helpfulness and liberality, they have greatly enlarged the functions of banks, extended their operation to new classes of the population and won for themselves the lion's share of this growing business.

According as their offices are located exclusively in London, in both London and the provinces, or exclusively in the provinces, they are commonly designated as Metropolitan, Metropolitan and Provincial, or Provincial Banks. A typical bank in any of these groups has a main office and several branches. The London and Westminster, for example, has its head office at 41 Lothbury, E. C., a west end office at 1 St. James Square, S. W., and thirty-five branch offices in other parts of London. The London City and Midland Bank, of the Metropolitan and Provincial group, has its main office in Threadneedle St., seventy or more branches in London and its suburbs, and four hundred or more offices in the provinces. The Manchester and Liverpool District Banking Company, belonging to the Provincial group, has its head office in Manchester and more than one hundred offices elsewhere, including one in London.

For many years the leading institutions of these groups

have been growing in size through absorption of other institutions, extension of branches and increases in the magnitude of their branches. For example during the thirty years ending with 1906, two hundred forty-four banks were absorbed through amalgamation, the number of banking offices in England increasing during the same period from about three thousand * to seven thousand five hundred and seven.

7. The present functions of the various groups of banking institutions doing business in England.—At the present time the functions of these various institutions are to a degree specialized and their inter-relations are such as to constitute them one great financial mechanism. At the center of the system is the Bank of England.

The governing body of this institution consists of a Board of Directors of twenty-four members, a Governor and a Deputy-Governor. The board is chosen nominally by the stock-holders, but in reality is self-electing, the practice being that the youngest members retire after a year's service and are uniformly reëlected at the end of the year. Young men of great promise in the old established business firms of London are chosen to fill vacancies. The Governor holds office for two years and is regularly succeeded by the Deputy-Governor whose place is taken by the oldest Director who has not held office. Directors who have held the offices of Deputy-Governor and Governor are permanent members of the board and constitute what is known as the Committee of the Treasury which, though its powers are indefinite, form an executive cabinet of great influence.**

Since the passage of Peel's act, the division into an issue and a banking department has been maintained. The primary function of the issue department is the exchange of

*See Bankers Mag. v. 85, pp. 168 and 278. **Bagehot, ch. viii.

notes for gold and gold for notes, the quantity of notes outstanding for many years having been greatly in excess of £18,450,000, the present limit of issues against securities.* The business of the banking department resembles that of other banks of deposit, but is peculiar on account of the relations of the Bank with the government, and with other banking and financial institutions.

The English government is her largest single customer, public deposits for the decade, 1900-1910, having averaged about 19 per cent. of the total, and her holdings of government securities during the same period averaging about 35 per cent. of the total of all her interest-bearing assets. The government's account with the bank is not only large, but it is peculiar in its fluctuations, and on this account presents to the management problems unlike those confronting other banks. For example the government deposits increase rapidly and its balance becomes large during the tax collecting season, and regularly decreases during the remainder of the year. At periods when interest on the public debt is due large drafts must be met. Government deficits are apt to occur at tolerably regular intervals, which must be met by loans from the bank, or on the open market. Extraordinary events like the financing of a war bring peculiar duties and obligations, such as the flotation of large government loans and the supply of large quantities of specie for public use.

Next to the government the most important of the Bank of England's customers are other bankers. The leading joint-stock and private banks and discount firms of London have accounts with her and the credit balances on these accounts constitute a very important element in their reserves. They regularly keep on hand in their vaults only such

*The Bank statement for May 18, 1910, showed total issues of £55,167,905 against which were held government debts and other securities to the amount of £18,450,000 and gold coin and bullion to the amount of £36,717,905.

amounts of coin as are required to meet daily needs, depositing any surplus with the Bank and checking against their balances to meet deficiencies. The provincial as well as the Scotch and Irish banks proceed in the same way, using as their reserve agents, if not the Bank of England herself, some London joint-stock or private bank, which acts as intermediary in the transfer of cash between them and the Bank. The Bank of England thus holds the reserves of the entire country, and the administration of this fund is one of her chief public functions.

The Bank of England also does business with people other than bankers, but ordinarily such persons deal with joint-stock or private banks, because these offer better terms and better accommodations. The Bank of England does not pay interest on deposits and will only discount the highest class of bills, namely, those secured by the names of at least two responsible British subjects, and maturing in comparatively short periods of time.* Joint stock and private banks pay interest on time deposits and discount various grades of paper which the Bank of England rejects. Their rates of discount are also regularly below that of the Bank of England.

The relative magnitudes of the business done with Banks and with private persons is not revealed to the public. The Bank publishes a balance sheet on Friday of each week which states the amount of the public deposits, but groups all the others under the head "Other Deposits." This practice has continued since 1877, previous to which time the bankers' balances were separately reported.

* In answer to a question of the United States Monetary Commission in 1908 one of the Directors of the Bank stated that the maximum period of maturity of the bills discounted by the Bank was four months and exceptionally six months, and that the average period was forty to fifty days. "Interviews on the Banking and Currency Systems, etc.", p. 20.

Another peculiar feature of the Bank of England is her relatively large capital and surplus fund and cash reserve. The proprietors' capital, as it is called, amounts to £14,553,000, and her surplus for many years has not fallen below £3,000,000. The two combined are normally in excess of £18,000,000 and constitute on the average not far from 25 per cent. of the total liabilities of the bank. The greater part of this fund is invested in government securities. For the greater part of a century it has been the rule of the Bank not to allow her cash reserves to fall below 33 1-3 per cent. of her deposits. To the outbreak of the present war, however, her practice was better than this, the average percentage of her reserves for ten-year periods being as follows:*

1845-1854	52%	1885-1894	45%
1855-1864	42%	1895-1904	49%
1865-1874	43%	1905-1914	47%
1875-1884	44%		

During this entire period the yearly average never fell below 30 per cent. and in two years only, 1857 and 1866, as low as this. In no other year did the average ever fall below 33 per cent. and since 1882 it never fell below 40 per cent. After the passage of Peel's act on three occasions only did the reserve fall to so low a point as to threaten the suspension of specie payments by the Bank. These were Oct. 25, 1847, Nov. 12, 1857, and May 12, 1866. On these occasions the Cabinet assumed the responsibility of permitting the Bank to issue notes against securities in excess of the amount authorized by existing law, subsequently obtaining from Parliament the passage of acts of authorization.

* Figures from 1845 to 1890 are quoted from Palgrave, Bank Rate in England, France and Germany, p. 86, those for the later periods were computed from the weekly bank statements.

The joint-stock banks serve the English merchant, manufacturer and ordinary citizen, and attract the major portion of the custom of these classes. They conduct checking accounts and make advances to their customers, receive time deposits and pay interest on them, buy and sell foreign and domestic exchange, make collections of dividends and interest due in England or abroad, act as agents in the purchase and sale of domestic and foreign securities, provide places of safe keeping for these and other valuables, and in general cater to the financial needs of the ordinary citizen. They also act as agents for country and foreign banks and for municipalities, and other public corporations in England or her colonies.

The chief item in their assets is usually loans and advances to their customers and discounted bills, the latter as a rule being drawn by foreigners and endorsed by a foreign bank. London is the largest market in the world for this class of bills and, on account of the fact that they mature in short periods of time and are usually paid at maturity, they constitute an excellent form of investment for banks. Another important item is usually described as *money at call and short notice.* This, for the most part, represents loans at call made to London discount houses on the security of trade bills and advances to operators on the stock market for the period between settlements which on the London exchange are made twice each month. The cash on hand and the balance at the Bank of England are usually stated in a single aggregate, the latter being regarded and treated as the equivalent of cash. Government, colonial and municipal bonds and high-class securities of British Corporations are also held by joint-stock banks in amounts commonly, at least, equal to their capital and surplus funds and not infrequently in excess of these.

The proportion of capital and surplus funds to total

liabilities naturally varies considerably among the different banks and from time to time in the same bank. During recent years on the average it has not been far from ten per cent. in the case of representative institutions. The percentage of cash on hand and in the Bank of England to deposits has also varied considerably.

In estimating the resources of joint-stock banks available to meet current demands, their loans at call, their bills and their stock exchange securities must be considered. In case of demands in excess of cash holdings and the balance at the Bank of England, a bank may call its loans to brokers and discount houses, rediscount bills with them, or sell securities on the stock exchange. Ordinarily it will resort to these measures in the order named. The proportion of cash on hand, at the Bank of England, and at call, to deposits including notes in the hands of the public, for all the banks of the United Kingdom during the period 1896-1909, probably fairly represents the normal condition of the joint-stock banks. It was reported by the Bankers Magazine to be as follows:

1896.....23%	1901.....27 %	1906.....27.4%
1897.....24%	1902.....28 %	1907.....27.5%
1898.....24%	1903.....26 %	1908.....27.7%
1899.....24%	1904.....27 %	1909.....29 %
1900.....23%	1905.....27.4%	

The functions of English private banks cannot be easily differentiated from those of the joint-stock institutions. Their business is essentially the same, but they often cater to special customers such as the nobility and the official classes. Some of the oldest and most famous private bankers of London have served certain great families for generations and owe their prestige and their peculiarities chiefly to this fact. Many of them also do a large business with

country banks. On account of the peculiarities of their constituencies their assets are less uniform than those of joint-stock banks and some of their problems are peculiar. Like the joint-stock institutions, however, they depend upon their balances with the Bank of England, loans at call, rediscounts of bills and sales of securities for the satisfaction of their needs for cash.

The bill brokers and discount houses deal chiefly with merchants who have bills to negotiate, and with foreign bankers. The extensive imports of British and especially of London merchants, some of them destined for consumption in the British Isles and others for shipment to other parts of the world, create an enormous volume of London trade bills, a common method of settlement for such imports being the sale of drafts drawn by foreigners who sell goods upon the English merchants who buy them. These drafts reach the London market through foreign banks with London offices or agents, and are bought for investment or resale by the bill brokers and discount houses. Domestic bills reach them directly through the merchants who draw them or through other banks, and are also extensively dealt in. The merchants and bankers who thus deal regularly with discount houses carry accounts with them which are essentially the same in nature as the current accounts of other bankers.

The capital of the discount houses is small relative to the volume of their business. They borrow heavily from joint-stock and private banks on the security of their bills, relying upon rediscounts with the Bank of England to meet unusual demands.

For many years banks organized, owned and chiefly operated in foreign countries and the English colonies have operated in England, chiefly in London, by branch offices or agencies. Most nations and all the colonies are thus

represented and in recent years the number and resources of this class of institutions has increased rapidly. Jan. 1, 1908, the number of foreign and colonial banks with offices in England was one hundred and six, while in 1885 it was only twenty-two.*

The chief business of these institutions is the negotiation in London of the paper sent there by their principals, the execution for their clients of orders of purchase and sale of government and other securities, the collection and sale of foreign drafts, and, in the case of the colonial banks especially, the making of advances on merchandise sent to their respective countries. In the case of the Indian banks the negotiation of Council bills, that is bills drawn on the government of India by the India office in London, is also important.

REFERENCES

On the history of banking in England see Macleod, *A History of Banking in Great Britain* in v. II of a History of Banking in all the leading Nations, and *The Theory and Practice of Banking;* Gilbart, *The History and Principles of Banking;* Bagehot, *Lombard Street;* Lawson, *History of Banking;* Phillips, *A History of Banks, Bankers and Banking;* Francis, *History of the Bank of England;* Andréadés, *A History of the Bank of England;* Warren, *The Story of the Bank of England;* Conant, *Modern Banks of Issue,* chs. iv and v; Dunbar, ch. x; and White, 2d ed., ch. xv.

For the workings of the English system see *Interviews on Banking and Currency Systems of England, Scotland, France, Germany, Switzerland and Italy* and Withers, Palgrave and others, *The English Banking System* published by the National Monetary Commission; Jaffé, *Das Englishe Bankwesen;* and references at the close of ch. xv.

* Bankers Magazine for May, 1885 and Jan. 1908.

CHAPTER XIII

BANKING IN FRANCE

THE history of joint-stock banking in France began with the brilliant, but disastrous experiments of John Law in the early years of the eighteenth century, but the first institution of the modern type to be established was La Caisse d'Escompte which was chartered in 1767. After a short life of two years this institution was succeeded by another of the same name which lasted until 1793. At that time the French government was in the midst of a series of experiments with inconvertible government notes which proved disastrous and, for the time being, prevented the establishment of other banking institutions. In 1796 a third La Caisse d'Escompte was chartered and in the following year an institution known as La Caisse d'Escomptes du Commerce. In 1797 still another joint-stock bank was chartered under the name Le Comptoir Commercial. All these banks were located in the city of Paris. In 1789 there was established in the city of Rouen Le Société Générale du Commerce de Rouen.

1. **Origin and early history of the Bank of France.**— These institutions did not fully meet the needs of commerce and the government, and accordingly when he became First Consul, Napoleon devised a plan for a larger and more serviceable institution and embodied it in a decree issued Jan. 18, 1800, establishing the Bank of France. The business the institution was to perform was described in the following terms:

"1. To discount bills of exchange and drafts to order, bearing the signatures of at least three French citizens or foreign merchants of acknowledged reputation and solvency.

2. To undertake collections for the account of private citizens and public establishments and to make advances in cases of such collections as may appear to be secure.

3. To receive, on account, cash deposits and collections in behalf of private citizens and public establishments, and to honor checks and drafts drawn upon the bank against the amounts standing to the credit of account-holders.

4. To issue notes payable to bearer at sight, and notes to order payable within a certain number of days after sight. These notes, as issued by the bank, shall be so proportioned to the reserve cash in the vaults of the bank, and with such regard for the maturing of negotiable paper held by the bank, that the bank can at no time be exposed to danger of delaying payment of its obligations when presented.

5. To open a Department for Investments and Savings, wherein all sums offered in excess of fifty francs should be received for repayment at stated periods."

The administration of the Bank was entrusted to a Board of Regents of fifteen members and a Board of Censors of three members, both to be appointed by the two hundred chief stockholders, and a Central Committee of three members to be chosen by the Censors and the Regents, which together constituted what was called the General Council of the Bank. The Regents were to hold office for five years, one-fifth retiring each year subject, however, to reëlection, and the Censors for three years, one retiring each year, but eligible for reëlection. The capital was fixed at 30,000,000 francs divided into 30,000 shares of 1000 francs each.

During the Napoleonic regime these original statutes were several times modified notably in 1803, 1806 and 1808. The chief provisions of the act of 1803, dated April 14, gave the new bank the monopoly of note issues in Paris;

prohibited the establishment of banks of issue in the departments without the authorization of the state; increased the capital to 45,000,000 francs; and provided that seven of the fifteen regents and the three censors be chosen from those stockholders who were manufacturers or merchants, and that a council of twelve stockholders engaged in commerce in Paris be selected by the Censors to give counsel and advice regarding discounts.

The act of 1806 was the result of a crisis through which the bank passed in 1805. Through bad management it became the possessor of a large amount of the paper of a firm engaged in furnishing supplies to the government and the failure of this firm obliged it to apply to the state for the privilege of temporarily suspending the redemption of its notes in specie. This request was denied but it was permitted to limit for a time the amount to be redeemed each day. This experience convinced Napoleon of the desirability of closer supervision of the institution by the state. The act of April 22, 1806, accordingly abolished the Central Committee in whose hands the direct management of the bank's affairs had been placed and substituted for it a Governor and two Sub-governors to be appointed by the Emperor. It further provided that three of the Regents must be selected from the Receivers General. The Governor was made the presiding officer of the stockholders assembly, of the General Council, and of all committees; was given the exclusive right to appoint and dismiss the clerks and subordinate officers of the bank; and his approval of all the paper admitted to discount was required. Among other important provisions was the requirement that the so-called *statutes* of the bank, i.e., the detailed provisions for its administration to be drawn by the General Council, must be submitted to the Emperor for approval and that the capital be doubled by the issue of 45,000 new shares.

The statutes of the bank under the new organization, approved by the Emperor in a decree dated Jan. 16, 1808, contain among other regulations, one permitting the substitution for the third signature, previously required on all bills admitted to discount, of collateral in the form of bank stock or of five per cent. consolidated state funds, provided the bill originated in a sale of merchandise, and another permitting the bank with the authorization of the Government to establish branches in the provinces. In accordance with this latter provision branches were authorized in Rouen, Lyons and Lille by decrees dated June 24, 1808 and May 29, 1810.

During the period which intervened between 1808 and the downfall of Napoleon in 1815 the fortunes of the bank were closely connected with those of the Government. Serious crises occurred in the years 1810 and 1814, the former one caused by the interference with commerce occasioned by the blockades, and the second by the first defeat of Napoleon. During both of these periods the bank held large quantities of government paper and its reserves ran low. In 1814 it was obliged to resort to the expedient adopted in 1806, that of refusing to redeem more than a small portion of its notes per day. In 1818 the bank also passed through a crisis occasioned by the operations of the Government in connection with the public debt. The Government of the restoration was unable at first to secure the confidence of the investing public, and therefore turned over to the bank the management and security of the public debt, granting to it as security the returns of certain taxes and a considerable number of bonds which it was authorized to sell in case of need. The bank thus undertook the responsibility of paying the interest on the debt and of carrying through measures for its refunding.

The experience of the bank during the last years of the

Napoleonic regime convinced it that close connection with the Government was on the whole disadvantageous, and that it would gain from a reduction of its capital and the closing of its branches. It accordingly petitioned the new Government for permission to close its branches, to reduce its capital to 67,900,000 francs, and to make such modifications in its organization as would put its direct management in the hands of representatives of the stockholders, reserving to the Government simply the right of supervision. The first two of the bank's requests were granted, and accordingly the three branches were closed and a sufficient quantity of the Bank's stock purchased to reduce the capital to the desired figure.

2. **Banking in the Provinces.**—The closing up of the branches of the Bank was accompanied by the authorization of independent banks of issue in a number of the cities of France. In the year 1817 one such bank was opened in Rouen, in 1818 two were opened at Nantes and Bordeaux respectively. For many years, however, provincial banking remained chiefly in the hands of private bankers where it had been since the beginning of banking operations in the middle ages. It was these bankers who served as intermediaries between the lesser merchants and the Bank of France, supplying the third signature required on bills admitted to discount by that institution. Their unreliability in times of crisis, however, was illustrated during the revolution of 1830 when they temporarily withdrew from business and left the mercantile classes without the credit accommodations necessary for the conduct of commerce. On this occasion the government of Louis Philippe came to their aid by the establishment of local discount offices called Comptoirs de'Escompte, and this experience directed attention to the need for better banking accommodations in the provinces. In 1835 two additional local banks of issue

were established at Lyon and Marseilles, and in 1836 the Bank of France petitioned the Government for permission again to open branches and for the exclusive right to issue notes in all places in which such branches should be established. The Government acceded to the Bank's request, but continued also the policy of organizing independent banks. In 1836 branches of the Bank of France were opened at Rheims and Sainte Etienne, and in June of that year and August of the year following independent banks were organized at Lille and Havre. In Oct., 1837, and Jan., 1838, branches of the Bank of France were opened at Saint Quentin and Montpellier, and in June and November, 1838, independent banks were opened at Toulouse and Orleans. A tenth independent bank was authorized at Dijon Aug. 4, 1839, but it was never put into operation. Branches of the Bank of France were organized in 1840 at Grenoble and Angoulème, in 1841 at Besançon, in 1842 at Caen, Châteaureux and at Clermont-Ferrand, in 1844 at Mülhouse, and in 1846 at Strasburg and Le Mans.

3. **Effects of the revolution of 1848.**—At the time of the outbreak of the Revolution in 1848, there were in operation in the departments eleven branches of the Bank of France, and nine independent banks of issue. As a result of the Revolution the Bank was obliged to suspend specie payments, and by an ordinance of the Provisional Government its notes were made legal tender throughout the country, on condition that they should not exceed in magnitude 350,000,000 francs. The nine departmental banks were also permitted to suspend payments, and their notes were made legal tender in the departments in which they were located. During the period of enforced circulation of bank-notes which followed, the advantages of the monopolization of the issue function by a powerful central institution were revealed in an impressive manner. The issues of the local

banks depreciated in varying degrees and the circulation of each was limited to the department in which it was located, thus exposing commerce between departments to heavy losses and subjecting it to great inconvenience. The notes of the Bank of France on the other hand depreciated to a slight extent only and circulated at a uniform value throughout the country. This circumstance was sufficient to turn the tide of public sentiment, so far, at least, as it was represented in the government, in favor of a single bank of issue, and accordingly a law was passed authorizing the absorption of the nine departmental banks by the Bank of France, and granting to the latter institution a monopoly of note-issues. These nine provincial banks became branches of the Bank of France, the capital of which was in consequence increased from 67,900,000 francs to 91,250,000 francs.

Another important effect of the Revolution of 1848 was the establishment of a number of Comptoirs d'Escompte. These were organized on a plan somewhat different from that followed after the Revolution of 1830. The capital needed was furnished one-third by the state, one-third by the municipality in which it was located, and one-third by private individuals. As in 1830 they served as intermediaries between the commercial classes and the Bank of France by supplying the third signature needed to render the bills of exchange originating in the ordinary processes of commerce available for discount. Altogether sixty-seven of these temporary discount offices were opened in various parts of France. Twenty-three went out of existence with the expiration of their charters, but forty-four continued to operate under the combined auspices of the state, the municipalities and the private individuals who furnished their capital, until 1853, after which several of them were reorganized on a purely private basis. Notable

among these was the Comptoir d'Escompte de Paris which is one of the four leading credit institutions of contemporary France. These Comptoirs d'Escompte thus mark the beginnings of a new type of banking institution, namely, one without the right of issue, catering to the interests of the mercantile and industrial classes and intermediating between them and the Bank of France.

4. The Bank of France since 1848.—Besides the acts already described, the chief landmarks in the legislative history of the Bank of France are those of June 30, 1840, June 9, 1857 and Nov. 17, 1897. The law of 1803 fixed the date of the expiration of the privileges of the Bank at Sept. 24, 1818, and that of 1806 extended its lease of life for twenty-five years beyond that date, i. e., to Sept. 24, 1843. The acts of 1840, 1857 and 1897 granted extensions respectively to Dec. 31, 1867, Dec. 31, 1897 and Dec. 31, 1920.

The original capital of the Bank was 30,000,000 francs, but it was increased to 45,000,000 francs in 1803 and to 90,000,000 in 1806. On the occasion of the closing of its first branches the Bank was allowed to purchase 22,100 of its shares, thus reducing its capital to 67,900,000 francs. After the revolution of 1848, when the local banks of issue were absorbed, this was increased to 91,250,000 francs, and again in 1857 to 182,500,000 francs, at which figure it still remains.

The accumulation of a surplus fund was required by the law of 1803 which provided that all earnings in excess of six per cent. should be invested in five per cent. consolidated government stock for the benefit of such a fund. This regulation was modified in 1806 so as to permit two-thirds of the excess of the earnings above six per cent. to be added to the dividends. Laws of July 4, 1820 and Dec. 6, 1831, permitted a part of the surplus then accumulated to be distributed among the stockholders and another passed May 17,

1834, fixed the amount of the surplus at 10,000,000 francs in Rentes plus a sum sufficient to cover the value of the Bank's premises. The law of June 9, 1857, added to this fund any premium that might be realized from the disposal of the 91,250 new shares which were authorized to be sold and any profits realized from a rate of discount in excess of six per cent.

Subject to the statues regarding discounts and advances and redemption in specie on demand, from the beginning the officers of the Bank have been allowed a great amount of freedom in the regulation of note-issues. Previous to the Franco-Prussian war no limitation was placed upon the maximum amount of the issues except during the period of suspension following the Revolution of 1848. After the outbreak of the war with Prussia the Bank was again permitted to suspend specie payments on condition that the total amount of notes outstanding should not exceed 1,800,000,000 francs. This limit was raised to 2,400,000,000 francs August 14, 1870, to 2,800,000,000 francs Dec. 12, 1870 and to 3,200,000,000 francs July 15, 1872. The Bank resumed specie payments in 1878 but the principle of placing a maximum limit on its note-issues was retained, this limit being raised January 30, 1884, January 25, 1892, November 17, 1897, February 9, 1906, December 29, 1911, and August 5, 1914, to 3,500, 4,000, 5,800, 6,800 and 12,000 million francs respectively.

By its first statutes the discounts of the Bank were limited to paper bearing the signatures of at least three solvent persons and maturing in not to exceed ninety days. In 1808 a modification was made by the permission to accept in place of the third signature, in cases in which the paper represented genuine mercantile transactions, collateral in the form of bank stock, or of five per cent. consolidated state funds. The only changes made in these early statutes

in later times have consisted in the enlargement of the list of securities that may be accepted as collateral in place of the third signature. The law of May 21, 1840 allowed the acceptance of all classes of securities issued by the French government; that of Mar. 26, 1898 added warehouse receipts to the list; that of Jan. 13, 1869, added securities of the French railroads, and bonds of the city of Paris, the Crédit Foncièr and the Société Algerienne; and that of Feb. 28, 1880, added the bonds of all French cities and departments.

In addition to discounting bills of exchange and other commercial paper the Bank is permitted to make loans on collateral. The decree of Jan. 16, 1808, restricted the collateral that might be accepted to French government securities maturing at fixed dates, gold and silver bullion and foreign monies. The law of May 17, 1834, enlarged this list so as to include all classes of securities of the French government. Obligations of the French railroads were added to the list by the law of Mar. 3, 1852, those of the city of Paris by the law of Mar. 28, 1852, those of the Crédit Foncièr by the law of June 9, 1857, those of the Société Algerienne by the law of Jan. 13, 1869, and those of all the French cities and departments by the law of Feb. 28, 1880.

From the beginning the Bank has served as banker for the French government. In this capacity it has received the public funds on deposit at its various offices in Paris and the departments, transferred and paid them out at the times and places at which they were needed, discounted the government's paper, and made temporary loans to it, and managed the public debt and the metallic circulation of the country. The terms and conditions on which these services are performed are carefully regulated by law and have been many times changed usually in the interest of

the government. Space will not permit a detailed discussion of them here. Generally speaking it may be said that the chief privilege enjoyed by the state over private individuals consists at the present time of a permanent loan without interest of 180,000,000 francs. It has enjoyed this privilege only since 1897. Previous to that date special advances were from time to time authorized at special rates, one for example in 1857 of 60,000,000 francs at three per cent. and an additional one in 1878 of 80,000,000 at one per cent. When the period for the enjoyment of its special privileges was prolonged in 1897 to 1920 it was provided as one of the conditions that these advances should be increased to 180,000,000 francs and that the payment of interest should cease.

In the establishment of branches the Bank has moved slowly and usually under pressure of the government. In the year 1848 there were twenty-four in operation, and between that date and 1857 seventeen more were established. The bank act passed in that year authorized the government, after a period of ten years, to require the Bank to establish branches in all the departments in which none existed, and this act was supplemented in 1873 by another passed Jan. 27th requiring the government to arrange with the Bank for the opening of eleven new branches by Jan. 1, 1875 and of seven others in each of the years 1875 and 1876. In 1897 there were in all ninety-four branches in operation, and the bank act passed in that year required an increase in the number to one hundred twelve during the two succeeding years. For the increase of its facilities for transacting business in the departments the Bank has established agencies and so-called auxiliary offices in a number of towns in which branches are not located. The number of these is greatly in excess of that of the branches and has increased fairly rapidly in recent years. The report

of the Bank to its stockholders for 1914 indicates that at the close of that year there were in operation one hundred forty-three branches, seventy-five auxiliary offices and three hundred sixty-six agencies, making together with the Central Bank five hundred eighty-five places at which the Bank did business.

The administrative machinery of the branches is patterned after that of the central office at Paris to which every branch is strictly subordinate. Indeed the branches constitute simply the machinery through which the business of the Bank in the departments is transacted and are not in any sense independent institutions. The agencies in the so-called *villes rattachées* are attached to the branches for administrative purposes and are available only for discount and a few other purposes. The auxiliary offices are opened only on certain days each month for the transaction of a limited line of business only.

5. Other banking institutions since 1848.—The Comptoir d'Escompte, mentioned in a preceding paragraph, proved to be the type of institution destined to dominate the commercial life of France on the financial side. When it was reorganized as a private bank in 1853 it had a capital of 20,000,000 francs which was increased to 40,000,000 francs in 1860 and to 80,000,000 francs in 1870. Its rapid expansion began about 1860 through the opening of branch offices in foreign countries and later in the departments and various parts of Paris. About this time also appeared competitive institutions of the same general character, of which three are deserving of especial mention since with the Comptoir d'Escompte they constitute the four leading banks of contemporary France. The oldest of this trio is the Crédit Industrial et Commercial established in 1859 with a capital of 60,000,000 francs and modeled after the great joint-stock banks of England. In 1863 the Crédit

Lyonnais was established first as a local institution of the city of Lyons with a capital of 20,000,000 francs, but destined to outstrip all the others and to become one of the largest private banking institutions in the world. The Société Générale, the youngest of the three, was established in 1864 with a capital of 120,000,000 francs.

The growth of these institutions has been rapid. The Comptoir d'Escompte became seriously involved in the affairs of the copper trust and, when that failed in 1888, was obliged to go into liquidation. It was reorganized, however, Apr. 1889, under the name of Le Comptoir National d'Escompte de Paris with a capital of 40,000,000 francs, which was increased to 75,000,000 francs in 1891, to 100,000,000 francs in 1895, to 150,000,000 francs in 1900 and to 200,000,000 francs in 1909. The Crédit Lyonnais increased its paid up capital to 25,000,000 francs in 1872, to 37,500,000 francs in 1875, to 50,000,000 francs in 1879, to 200,000,000 francs in 1891 and to 250,000,000 francs in 1900. It has also collected a surplus fund which since 1907 has increased to 175,000,000 francs. The Société Générale increased its paid up capital to 120,000,000 francs in 1895, to 160,000,000 francs in 1899, to 200,000,000 francs in 1903, to 250,000,000 francs in 1905, to 300,000,000 francs in 1906, to 400,000,000 francs in 1909, and to 500,000,000 francs in 1912. The capital of the Crédit Industrial was raised to 80,000,000 francs in 1900 and to 100,000,000 francs in 1909. The magnitude of the business of these four institutions has grown with a rapidity at least equal to that of their capital. The discounts, deposits and advances of the four institutions combined, in the year 1890, attained a greater magnitude than that of the corresponding items of the Bank of France and in recent years the Crédit Lyonnais alone has surpassed the Bank of France in the magnitude of all these lines of business.

This growth has been accompanied by the establishment of branch offices and agencies on a large scale. In 1905 the four institutions besides their head offices, had one hundred seventy-eight other places of business in Paris and its suburbs, five hundred seventy-four in three hundred sixty-two provincial towns, and forty-seven in the French colonies and foreign countries.

In the establishment of branches these institutions have not pursued identical policies. The Crédit Industrial et Commercial has confined its operations to Paris and its suburbs, and the Société Générale to France, with the exception of a branch in London and one in San Sebastian, Spain, while the Comptoir d'Escompte and the Crédit Lyonnais have extended their branches into the French colonies and foreign countries. In their expansion outside of Paris and the larger French provincial towns, so far as possible, they seem to have avoided competition. In their foreign expansion, for example, the Crédit Lyonnais and the Comptoir d'Escompte have avoided the establishment of branches in the same places, the only exceptions being London and Brussels. The other foreign branches of the latter, for example, were located in provincial England, the United States, India, Australia, Tunisia, Madagascar and Morocco, while those of the former were located in Spain, Portugal, Switzerland, Russia, Turkey, Asia Minor, Egypt and Algeria. In provincial France all except the Crédit Industrial et Commercial are represented. In 1905 all three had offices in sixty-three towns, two of them in eighty-two other towns, the Comptoir d'Escompte and the Crédit Lyonnais in nine, the Comptoir d'Escompte and the Société Générale in eight, and the Crédit Lyonnais and the Société Générale in sixty-five; in twenty-two towns the Comptoir d'Escompte alone was represented, and in twenty

the Crédit Lyonnais alone and in one hundred seventy-five the Société Générale alone.

In the process of expansion into every town of any importance in France, and into the colonies and foreign countries with which the French people chiefly trade, and even into the suburbs and chief sections of Paris and the larger towns, these four institutions checked the growth of smaller institutions and absorbed a considerable number of those already in existence. There are still surviving a number of unincorporated private banks, some of them of high standing and considerable importance, and a fair number of joint-stock institutions of local importance with head offices in the chief provincial towns and branches in the outlying districts. In Paris and some of the larger towns there are also branches of foreign banking houses and some French banks organized primarily for the prosecution of foreign or other special kinds of business. The work of all these minor institutions may be regarded as supplementary to that of the Bank of France and of the four great credit institutions just described which together constitute the essential and most important parts of the banking machinery of the country.

Among French financial institutions of first grade developed since 1848, must be mentioned the Crédit Foncier established in 1852 for the purpose of extending credit based on mortgage security to landowners and particularly to farmers. In its organization it was modeled after the Bank of France, and in its business methods, after institutions established for similar purposes in Germany. It was intended to serve as an intermediary between landowners wishing to borrow on mortgage security and people with capital to invest by supplying the latter with a form of bond more readily negotiable than a mortgage, and secured by its own capital and credit, as well as by real estate mort-

gages received from borrowers. It was given authority to operate throughout France by means of branches and to absorb two or three smaller institutions previously authorized. Its original constitution and the scope of its operations have been several times modified, notably in 1869 by a decree of Aug. 9 authorizing it to receive deposits and make advances for short periods, not to exceed 90 days, on the same kind of securities that the Bank of France was permitted to accept for the same purposes. This decree brought it into the category of commercial banks, though its main business has continued to be that of issuing bonds and with the proceeds making long period loans on real estate security.

At the present time the Crédit Foncier is one of the largest and most influential financial institutions of France. Jan. 1, 1915, its capital amounted to 250,000,000 francs, its surplus to over 50,000,000 francs, and its loans secured by mortgage to nearly 3,000,000,000 francs. Its loans to communes were also very large, and its advances on other securities amounted to over 50,000,000 francs. Its total resources at that date amounted to 5,852,042,609 francs, an aggregate exceeded only by that of the Bank of France.

6. The present position of the Bank of France.—The historical sketch contained in the preceding sections has made clear the special functions of the Bank of France relative to the conduct of the financial operations of the government and to the currency, but further explanations are needed to indicate its present relations to the other financial institutions of the country.

The limitations imposed by law on the Bank's power to discount and to make advances prevented it from fully satisfying the needs of the rank and file of the industrial and commercial classes. Most of these have always been, and still are, unable to supply three signatures to the paper they

want to discount and to furnish the kinds of collateral required as a substitute for the third signature or as a basis for advances. A field for other banking institutions has, therefore, always been open, and has been occupied, very incompletely to be sure until recent times, but quite satisfactorily since the development of the great credit institutions of the present day. The Bank's practice of not paying interest on deposits has also tended to strengthen the bonds between these other institutions and the people. In catering to the banking needs of the masses, however, these other banks have not been able to dispense with the aid of the Bank of France. Not possessing the right to issue notes, and being unable to attract deposits sufficient to supply them with the necessary working capital, they have been obliged to depend upon her for funds for current uses, as well as for the means of meeting the exigencies of abnormal times. These they have been able to secure through rediscounts and advances. A large part of the bills regularly presented to them for discount can be made acceptable to the Bank of France by adding their own endorsements or by putting up the kind of collateral prescribed in the Bank's statutes. The same kind of collateral, readily obtainable by banks though not regularly in the possession of the ordinary business man, together with the foreign coin and bullion coming into their possession through regular customers or purchases on the market, may be used as a basis for loans. By availing themselves of these means they have become an intermediary between the industrial and the commercial world and the Bank of France which, with the growth of the great banks, has tended more and more to become a bankers' bank. Its doors are still wide open and its services available directly by any citizen who can or will comply with the conditions for doing business which the law compels it to impose, but the ordinary business man finds the

other banks alone able to satisfy all his needs and more economical and convenient in most cases in which he has an option between them and the Bank of France.

Moreover these banks, especially the four largest ones, have exhibited considerable ingenuity in adapting themselves to the needs of the public. They have added to the functions of commercial banking, strictly so-called, those of acting as agents for the marketing of public and corporation securities and sometimes of promoting new enterprises. In this capacity they have connected themselves with the stockmarkets and have become the regular avenues through which their customers make investments. They usually keep on hand a choice selection of high class securities which they can turn over to buyers on short notice and they regularly execute orders for the purchase and sale of such securities as they cannot themselves supply. Through their luxuriously appointed offices and their careful attention to the comfort of their customers they have also added considerably to the strength of their purely commercial appeal.

The Bank of France also exerts an important influence over other institutions in the exercise of its function of guardian of the country's specie reserve. This function has not been directly conferred upon it by law, but it is a natural consequence of the possession of a monopoly of note-issues and of its service as a bankers' bank. It is compelled by law to redeem its notes in specie on demand and, as we have seen, the other banks mainly depend upon it for their supplies of cash. Being also the banker of the government it has become perforce the central monetary reservoir of the country and has been obliged to assume the responsibility of protecting that reservoir against the assaults of other financial centers. This it does by raising or lowering the rate of discount and by availing itself of the option permitted it by law to pay its notes either in gold or in

silver five franc pieces. By the former means it may affect the discount rate of the other banks. Since they are obliged to secure funds from the Bank of France they must adjust their charges to the public to the Bank's charges to them. Ordinarily, therefore, the market rate of discount responds to movements in the Bank rate, and thus the Bank may exert a regulative influence on all those departments of commercial and industrial life which are affected by the cost of obtaining funds through commercial discounts and loans.

REFERENCES

On the history of banking in France see Liesse, *Evolution of Credit and Banks in France,* published by the National Monetary Commission; Des Essars, *A History of Banking in the Latin Nations* in v. III of a history of Banking in all the leading Nations; Conant, *Modern Banks of Issue,* ch. iii; Dunbar, ch. viii; Courtois, *Histoire des Banques en France;* Bousquet, *La Banque de France et les Institutions de Crédit;* Flour de Saint-Genis, *La Banque de France à travers le Siècle,* and Sayous, *Les Banques de Dépot, les Banques de Crédit et les Sociétés Financières.*

The various laws and statutes which have regulated the Bank of France since its foundation are published in a volume entitled *Lois et Statuts qui régissent la Banque de France.*

On the relations of the Bank of France with the French government see Pommier, *La Banque de France et L'Etat depuis sa création jusqu'à Nos Jours.*

On the details and workings of the French system see *Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland and Italy;* Patron, *The Bank of France in its relation to National and International Credit* published by the National Monetary Commission, and Kaufmann, *Das Französische Bankwesen.*

See also the references at the close of ch. xv.

CHAPTER XIV

BANKING IN GERMANY

BANKING in Germany has passed through three stages of development. During the first, extending to about the year 1848, the business was confined almost exclusively to private bankers and to a few banks of issue, of which the Bank of Prussia was the chief. During the second, extending from 1848 to 1870, incorporated banks entered the field on a relatively large scale extending the scope of the business as well as its constituency and greatly increasing the number of institutions. Most of the great private banks of the present day date their beginnings to this epoch. The third period, extending from 1870 to the present day, is characterized by the foundation of the Imperial Bank and its development into a great central institution ranking in importance and functions with the Bank of England and the Bank of France, and by the concentration of about 80 per cent. of the commercial banking business of the country into the hands of eight great institutions with head offices in Berlin, and by the expansion of these institutions into foreign territory.

1. **The Period preceding 1848.**—In Germany, as elsewhere in Europe, banking functions were performed by individuals and unincorporated firms from very early times, and, with the exception of municipal institutions of the type of the old bank of Amsterdam, developed in Hamburg and Nuremberg in the early years of the seventeenth century,

they seem to have had the field to themselves until 1765 when Frederick the Great established a state bank in Berlin. This institution developed into the Bank of Prussia which was later transformed into the Imperial Bank of Germany. Its original constitution was several times modified by acts and decrees the most important of which was passed Oct. 15, 1846. By this act the capital of the bank was raised to 10,000,000 thalers and provision was made for the accumulation of a surplus amounting to 50 per cent. of the capital. Its maximum note issue was fixed at 15,000,000 thalers, and it was provided that these must be covered one-third by coin or silver bullion, one-half by bills of exchange running not more than three months and provided usually with three and at least with two good signatures, and the remainder by loans on collateral. Its discounts were limited to the class of bills just described, but it was permitted to make loans on the security of merchandise and public securities at a maximum rate of interest of six per cent. Its government was entrusted to a governor appointed by the state, and a board of directors consisting of five persons and a president appointed also by the state. The stockholders were represented in the management by a committee of fifteen whose authority, however, was confined to consultation with the directors and the governor. Expansion into the provinces by the establishment of branches began early and was continued until the Bank was thus represented in all the important towns of the kingdom.

October 14, 1772, Frederick the Great established another institution destined to become important, namely the so-called Sechandlungs-Sozietät. Its purpose was stated to be the promotion of "the transportation business by sea under the Prussian flag," and the furtherance of "the business of exportation and importation, particularly with Spain and all other places in which reasonable prospects for such

business should appear." As a matter of fact it became the chief agent of the Prussian government in a number of industrial and fiscal undertakings and ultimately added banking to its functions. Since the transformation of the Bank of Prussia into the Imperial Bank it has served as the chief financial agent of the Prussian government and of the various institutions conducted under the auspices of that state.

Frederick the Great also laid the foundation of a system of land banks which have played an important rôle in the economic history of Germany. On account of the great need of capital for the improvement of agriculture, and the inability of the agricultural classes, impoverished by his wars, to command it unaided through loans, he established credit associations based on the principle that all the members of an association, together with all the lands in their possession, should jointly become security for the money borrowed and employed by each one in the improvement of his lands. This principle has since been widely applied through banking institutions differing from each other considerably in other respects.

Outside of Prussia banks were established in Bremen in 1817, in Lübeck in 1819, in Stettin in 1824, in Munich in 1835 and in Leipzig in 1838.

2. The Period 1848 to 1870.—About the middle of the nineteenth century German industry, as distinguished from agriculture, began to develop rapidly under the stimulus of railroads, the first line of which was constructed in 1835. According to reliable estimates the amount of capital invested in railroads increased from 1,038,000 marks in 1850 to 4,072,167,621 marks in 1870. * During the same period the annual production of pig iron increased from 208,000,-

*Engel cited by Diouritch in his l'Expansion des Banques Allemandes à l'Etranger, p. 15.

000 to 2,029,000,000 kilogrammes, and that of coal in even greater proportions. Joint-stock companies became popular as a result of this movement, two hundred ninety-five with a capital of 2,405,000,000 marks having been established in Prussia in the period 1851-1870 against one hundred two with 638,000,000 marks capital in the period 1826-1850.*

The growth of banking institutions was a natural result of these industrial changes, but the direction which it took was determined partly by a reaction against the monopolization of the issue function by a few banks, which doubtless was connected with the political agitation in favor of popular rights which characterized the opening years of the period. In 1836 all bank-note issues were suppressed in Prussia in order to leave a free field for government notes. Later the Bank of Prussia was allowed to resume its issues and in the early forties an agitation was started in favor of extending the privilege to private institutions. The bank act of 1846, which greatly increased the capacity of the Bank of Prussia to serve the public, not being sufficient to quiet this agitation, an act was passed Sept. 5, 1848, authorizing the establishment of private banks of issue, but limiting their aggregate circulation to 7,000,000 thalers. The movement in favor of private banks of issue extended beyond the bounds of the Kingdom of Prussia. During the period under consideration such banks were established at Berlin, Breslau, Posen, Magdeburg, Dantzig, Cologne, Königsburg, Gorlitz, Gera, Frankfurt a/m, Sonderhausen, Hamburg, Lübeck, Gotha, Meiningen, Bucheburg, Hanover, Bremen, Leipzig and Oldenburg. Some of them were the work of speculators and their bad management resulted even before the Franco-Prussian war in an agitation in

*Engel cited by Diouritch in his l'Expansion des Banques Allemandes à l'Etranger, pp. 15 and 16.

favor of the monopolization of the right of issue by larger institutions.

Besides these banks of issue there was established during the period a considerable number of banks of discount. The first of these was the Schaffhausensche Bankverein, established at Cologne in the year 1848. The next was the Diskonto gesellschaft established at Berlin in 1851, followed by the Bank für Handel und Industrie established at Darmstadt in 1853. In 1856 appeared the Berliner Handelsgesellschaft, the Hamburg Vereinsbank, the Norddeutsche Bank and the Schlesischer Bankverein. To this list was added the Deutsche Genossenschaftsbank in 1864, the Barmer Bankverein and the Magdeburg Bankverein in 1867, the Breslauer Diskontobank, the Deutsche Bank, the Hamburger Kommissions-und Diskontobank, and the Rheinische Kreditbank in 1870, the Bergisch-Märkische Bank, the Braunschweigische Kredit-anstalt, the Breslauer Wechselbank, the Deutsche Vereinsbank, the Kölner Wechsel- und Kommissionsbank, and the Königsberger Vereinsbank in 1871, the Deutsche Effekten-und Wechselbank, the Dresdener Bank, the Essener Kredit-anstalt and the Aachener Diskontobank in 1872, and in 1873 the Deutsche Unionbank. *

These banks catered primarily to the new industrial establishments of the period. With the exception of some of the larger private firms the other institutions clung to old methods and continued to operate within the old traditional field, which was much narrower, with the result that they were soon outdistanced by their more enterprising rivals.

3. The Period 1870 to the present day.—At the close of

*According to a table published in the Deutsche Oekonomist, xxiv, 1906, p. 36, sixty-five joint-stock banks of the type of these were established up to 1870. Diouritch, op. cit., p. 20.

the Franco-Prussian war in 1871 Germany entered upon a regime of unification which included her monetary and banking systems. By acts passed in 1871 and 1873 provision was made for an Imperial coinage and for its substitution for the local systems then in use and in 1875 an act was passed for the purpose of unifying the banking system. The latter act provided for the establishment of an Imperial Bank and for the limitation and the regulation of the issues of all other banks enjoying the issue privilege.

As a foundation for the Imperial Bank it authorized the purchase of the Bank of Prussia. Its capital was fixed at 120,000,000 marks and provision was made for the accumulation of a surplus equal to 25 per cent. of the capital. Its administration and supervision were entrusted to a board of curators, a board of directors and a central committee of stockholders. It was made the duty of the board of curators, which was to consist of the Chancellor of the Empire and of four other persons, one to be appointed by the Emperor and the other three by the Imperial Council, to exercise supervision over the conduct of the Bank's affairs, and to this end complete reports regarding its operations were to be submitted at meetings held quarterly. The board of directors was to consist of a president, a vice president and seven other members to be appointed for life by the Emperor on the nomination of the Imperial Council. To this body was entrusted the administration of the Bank, the appointment of subordinate officers and clerks being made a duty of the president. The Central Committee represents the stockholders who appoint it at their regular annual meetings. This committee is required to meet at least once each month and to receive reports regarding the Bank's operations and condition. Its powers are advisory only, except in the matter of the amount of securities to be purchased, and in that of business with the government, in

which it has the right of veto. From its members the Central Committee is required to select three representatives whose duty it is to attend all meetings of the board of directors and from time to time, in the presence of a member of that board, to examine the books of the Bank and to witness the counting of the cash.

The business of the Bank was defined in the following terms:

"a. To buy and sell gold and silver coin and bullion.

b. To discount, buy and sell bills of exchange whose maturity shall be three months at the longest, and for which usually three, and in no case less than two accredited vouchers shall stand good; furthermore, to discount, buy and sell bonds of the Empire or of any German state, or domestic municipal corporations, provided such bonds mature within three months at the longest and conform to the new standards of value.

c. To grant interest-bearing loans for terms no longer than three months, upon movable security (lombard, or deposit loan business), such as: Gold and silver, coined or uncoined; interest-bearing or non-transferable bonds maturing within a maximum term of three months, whether of the Empire, a German state, or of domestic municipal corporations; also interest-bearing non-transferable bonds on which the interest is guaranteed by the Empire or by any one of the German states; upon capital stock and stock priority shares, fully paid up, of German railway companies in actual operation; and on mortgage bonds of provincial, municipal, or other land credit institutions of Germany that are subject to State control including shares of German mortgage banks to an amount never exceeding three-fourths of their market value; upon interest-bearing non-transferable bonds of foreign states, and foreign railway priority bonds, covered by state security, in amounts not exceeding 50% of their market value; upon bills of exchange of recognized soundness, after deducting at least 5% of their market value; on pledges of native merchandise, in amounts within two-thirds of their value.

d. To negotiate collections for the account of individuals, institutions and governing boards; and upon security, as before mentioned, to furnish payments, and make orders or conveyances on the branch banks or on correspondents.

e. Upon prior security, to buy in behalf of outside parties, effects of all kinds, including the precious metals; and after delivery to sell the same.

f. To receive moneys in circulation or on deposit, with or without interest; but the sum of interest-bearing deposits must not exceed that of the capital stock and reserve fund.

g. To accept the custody or other management of objects of value."

The Imperial Bank was further placed under obligation to receive and make payments, without compensation, for the account of the empire or for any of the German states. It was permitted to issue notes on condition that it hold at least one-third of the quantity in circulation in cash, and the other two-thirds in discounted bills maturing in not less than three months and signed with the names usually of three, but at least of two solvent persons; and on condition that it pay a tax of five per cent. per annum to the government for all issues in excess of an amount equal to its cash holdings plus a fixed sum, later placed at 250,000,000 marks.

The Bank was permitted to establish branches in every part of the empire, and required so to do when directed by the federal council or the Imperial Chancellor.

With regard to the thirty-two other banks of issue in existence at the time, provision was made for their continuance as independent banks under existing regulations or as parts of the Imperial system. Banks which chose to remain outside of the Imperial system were forbidden to establish branches or agencies or to circulate their notes outside of the state in which they were located. Banks which chose to enter the Imperial system were forced to conform in regard to their issues to substantially the same

regulations as those imposed upon the Imperial Bank, and the amount of uncovered issues were fixed for each bank. The empire also reserved the right to deprive each bank of the privilege of issue upon giving one year's notice, January 1, 1891, or any tenth year thereafter. It agreed, however, not to exercise this right except in the interest of the unification of the banking system of the empire or as a punishment for the violation of law.

As was contemplated by the framers of the act, its effect was gradually to bring about the monopolization of note issues by the Imperial Bank. Before the close of the year 1877, fifteen of the thirty-two original banks of issue had given up their right and the quota assigned to the Imperial bank increased by the same amount. In 1886 another bank ceased to issue, in 1887 still another, in 1889 two more, in 1890 one, in 1891 four, in 1894 one, in 1902 two, and in 1905 one leaving only four in the entire empire.

The growth of the Imperial Bank has been as rapid as could have been expected. Its capital has been raised to 180,000,000 marks. Its branches, which numbered at the beginning about two hundred, had increased by 1899 to three hundred ten, by 1900 to three hundred thirty, by Jan. 1, 1903 to three hundred fifty-four, and by Jan. 1, 1915 to nearly five hundred. The magnitude of its business in all lines has increased and it has become in every sense of the word the center of banking operations in the German Empire. Its authorized untaxed note circulation previous to 1899 had been raised to 293,400,000 marks by the renunciation of the right of issue by other banks, and by a law passed June 7, 1899, it was still further raised to 450,000,000 marks. Since that date it has been raised to 472,800,000 marks by the renunciation of the right of issue by three other banks. An act passed June, 1909, provided that beginning with 1911 the untaxed issues might be increased to

550,000,000 marks with a supplement of 200,000,000 marks additional at the ends of March, June, September and December when the pressure upon the bank is greatest. Adding to these figures the amount of the uncovered circulation of the other banks of issue makes the total uncovered issues for the entire Empire 618,771,000 marks except at the ends of the quarters, when it is 818,700,000 marks.

Next in importance to the growth of the Imperial Bank, and the gradual disappearance of most of the other banks of issue, is the concentration of most of the purely commercial banking business of the country in the hands of nine large institutions. Five * of these were in existence when the period opened, and the four others were very soon after established, the Deutsche Bank with a capital of 15,000,000 marks, and the Commerz and Disconto Bank with a paid capital of 15,000,000 marks in 1870; the Dresdner Bank with a paid capital of 9,600,000 marks in 1872, and the National bank für Deutschland with a paid capital of 20,000,000 marks in 1881. During the first three years of the period there were also established a large number of other joint-stock banks,** but the crisis of 1873 revealed the weakness of most of them and marked the beginning of the process of concentration which has continued to the present day. The nine institutions just mentioned possessed the vitality and power requisite not only to withstand the force of the crisis, but to take advantage of it by absorbing their weaker brethren. Between the years 1873 and 1879 they grew enormously in influence and resources while at the latter date only one hundred twenty-seven of the two

*The Bank für Handel und Industrie, the Discontogesellschaft, the Berliner Handelsgesellschaft, the A. Schaffhausensche Bankverein and the Mitteldeutsche Kreditbank.

**The Deutsche Oekonomist v. XXIV, 1906, p. 35, places the number established between 1871 and 1873 at one hundred thirty-two. Cited by Diouritch p. 29.

hundred and two banks in existence at the end of 1872 still survived as independent institutions. *

In the decade 1880 to 1890 the financial center of Germany was transferred from Frankfurt a/m to Berlin, and these banks made the Imperial city the center of their operations. From here they proceeded to extend their influence over the entire empire and into the German colonies and foreign countries by the establishment of branches and agencies, by the purchase of controlling interests in provincial banks, by the creation of banks independent in form but actually controlled by them, by the establishment of a community of interest between themselves and other banks in other ways and by connecting themselves in a vital manner with the rapid industrial and commercial development of the country. They thus became the heads of eight groups of banking institutions controlling between them about 80 per cent. of the banking capital of the empire.** Of these groups those headed by the Deutsche Bank, the Dresdner Bank and the A. Schaffhausensche Bankverein (consolidated), the Discontogesellschaft, and the Bank für Handel und Industrie are much the largest, their combined capital and deposits in 1906 amounting to 8,231.47 millions of marks out of a grand total of 9,565.64 millions for the eight groups, and of 11,394 millions for all the banks of the country.

4. **Mortgage and Coöperative Banks.**—Besides these commercial banks there have developed in Germany a considerable number of mortgage banks and a large number of coöperative banking associations. These institutions exist primarily in the interests of classes not served by the commercial banks such as landowners, peasants, artisans and small tradesmen, and they also extend credit to small towns

* Diouritch p. 30.
**Ibid, p. 37.

and other small political corporations. The mortgage bank secures funds mainly by the sale of bonds, and lends them on real estate security or to small towns or other local political corporations, putting up the mortgages and the securities it receives as well as its own capital as security for its bonds. Some of them lend primarily to owners and dealers in city real estate, and others to farmers and owners of large country estates. Still others lend considerable amounts to small towns and other local political corporations.

The coöperative societies differ considerably among themselves in minor particulars, but they are all based on the principle of mutual responsibility of each member for the obligations of the society. The most popular of these are the Schulze-Delitzsch associations so called because they were first organized in a town called Delitzsch by a Doctor Schulze. The earliest of these date back to 1848 and were organized for the purpose of purchasing merchandise such as sugar, coffee, grain, wines, cigars, etc. Others were afterwards organized for production as well as sale, and later still others for the purpose of stimulating saving and extending credit to their members. These latter constitute at the present time an important group of banks for the people. Members are required to purchase one share of the capital stock, the amount of which varies between different societies, and in most societies each member is responsible to the full extent of his property for all the debts of the organization. A law was passed May 1, 1889, permitting the limitation of the liability of members to a fixed sum, but few societies have availed themselves of it. During the early years of their history most of the funds lent to their members were borrowed from outsiders but, as they became more popular, their deposits increased, and at the present time many of them find difficulty in investing the funds

left with them without going outside of the circle of customers whom they are designed primarily to serve.

The so-called Raffeisen system of coöperative banks dates back to 1864, when Frederick William Raiffeisen founded in Heddesdorf, Prussia, the so-called Heddesdörfer Darlehnskassenverein. Other associations of the same kind were established in 1868 and each year thereafter. These associations were designed primarily to serve peasants and small farmers, while the Schulze-Delitzsch societies originally operated chiefly among artisans and small tradesmen of towns and cities. Both have extended their membership beyond the classes for which they were originally designed, however, and cannot now be differentiated on the basis of the character of their membership. The Raiffeisen societies begun without capital and, when they were compelled by law to accumulate a capital stock, they kept the amount small. It was the purpose of the founder to assist peasants and small farmers to escape from the exactions of money lenders of the usurious type, and to secure credit which, in most cases, would otherwise have been impossible on any terms. To this end he appealed to the same principle as did Schultze-Delitzsch, namely, the ability to borrow money on good terms, provided all the members of a society assume liability for its debts to the full extent of their properties. Inasmuch as it was credit-needy people whom he wished to serve he did not approve of the plan of requiring the purchase of shares of capital stock as a condition of membership. On account too of the differences in the needs and capabilities of the classes served these two kinds of organizations also differed in the length of the periods for which loans were granted, the Schulze-Delitzsch societies granting short-period and the Raiffeisen long-period loans.

The Raiffeisen societies within a given district are or-

ganized into unions each one of which has a bank which receives on deposit the surplus funds of the societies, grants them loans and in other ways renders them all possible assistance. As a central bank for all of these unions, and for other coöperative associations, agricultural loan companies, savings banks, etc., in the Kingdom of Prussia there was established in 1895 the Preussische Central-Genossenschaftskasse. Its capital of at first 5,000,000 marks, afterward increased to 20,000,000 and then to 50,000,000 marks, was furnished by the Prussian State. In 1906 it was again increased by 2,400,000 marks subscribed by the various unions of the Raiffeisen system. In the other German states the Raiffeisen societies have established relations with commercial banks similar to those established in Prussia with this institution. Until 1904 the Schulze-Delitzsch societies had a central bank of their own known as the Deutsche Genossenschaftsbank. At that date this bank became embarrassed and was absorbed by the Dresdner Bank which now serves as the central association for the Schultze-Delitzsch societies. Unlike the Raffeisen associations each of these societies deals directly with the central bank.

5. The present organization of the banking business in Germany.—To some extent the various groups of institutions already described are competitors. They all receive deposits and they all discount certain kinds of bills of exchange, but in the main their fields of operation are distinct and different. The Imperial Bank transacts the banking business of the Imperial Government, administers the country's specie reserve and regulates the circulating medium. Its other functions such as the care of deposits, the granting of credits and the transfer of funds are purely subsidiary or supplementary. The great Berlin banks are

the chief banking servants of the leading industrial and commercial agents of the country and the pioneers of German industrial and commercial expansion in foreign countries and the German colonies. The independent private and provincial banks chiefly serve special groups and purely local interests. The mortgage banks and coöperative societies supply banking facilities to farmers, peasants, artisans, and small tradesmen, and extend credit to those who deal in real estate and to the smaller political corporations.

In spite of their separate functions, however, all these institutions are vitally connected with each other and with the Imperial Bank. The coöperative and mortgage banks derive no insignificant part of the funds they lend from the great Berlin banks and the Imperial Bank by direct sales to them of their securities, by rediscounts and loans on collateral. With these they also deposit their surplus funds. The Berlin banks use the Imperial Bank as their reserve agent, frequently obtaining funds from it through rediscounts and sometimes through loans on collateral and employ its so-called giro-system* for the transfer of funds from one part of the country to another. The Imperial Bank is thus the center and balance wheel of the entire system. It is the central cash reservoir from which all are supplied and to which all surpluses flow. Through the dependance on it of all other credit institutions it is able, at least to a degree, to hold them in check, when they are inclined to extravagance, and to stimulate them, when they are sluggish. Its rate of discount affects all other market rates and its attitude toward a financial enterprise is rarely, if ever, without influence on its fortunes.

*The name given to the system of transferring credits between the central office and the branches, or between the different branches.

REFERENCES

On the history of banking in Germany see Wirth, *The History of Banking in Germany and Austria-Hungry* in v. II of a History of Banking in all the leading Nations; Conant, *Modern Banks of Issue*, ch. viii; Dunbar, ch. xi; Reisser, *Zur Entwicklungsgeschichte der deutschen Grossbanken mit besonderer Rücksicht auf die Konzentrations-bestrebungen*, to be published in translation by the National Monetary Commission; *The Reichsbank* 1876-1900, *Renewal of Reichsbank Charter*, and *German Bank Inquiry of* 1908, published by the National Monetary Commission; Diouritch, *L'Expansion des Banques Allemandes à L'Etranger*, ch. i; Jeidels, *Das Verhältniss der deutschen Grossbanken zur Industrie, mit besonderer Berücksichtigung der Eisenindustrie;* Poschinger, *Die Banken im deutschen Reiche, Oesterreich und der Schweiz* and *Bankwesen* and *Bankpolitik in Preussen;* Hecht, *Bankwesen und Bankpolitik in den süddeutschen Staaten*, 1819-1875 and *Die Mannheimer Banken*, 1870-1900. Nasse and Lexis, article *Bank* in Handwörterbuch der Staatswissenschaften; Warschauer, *Die Konzentration im deutschen Bankwesen* and *Die Organisation des Konzentration im deutschen Bankwesen* and *Die Organisation des Scheckverkehrs in Deutschland*, Conrad's Jahrbuch, 3d F., v. 88, p. 45, and v. 89, p. 590; and Model, *Die Grossen Berliner Effektenbanken.*

On the coöperative banks see Peters, *Coöperative Credit Associations*, U. S. Dept. of Agriculture, Div. of Statistics, Misc. Ser. No. 3, 1892; Wolff, *Peoples Banks;* and articles in the Handwörterbuch der Staatswissenschaften by Marchet on *Darlehnskassenvereine* and by Crüger on *Kreditgenossenschaften.*

See also references at the close of ch. xv.

CHAPTER XV

THE MONEY MARKET

In the preceding chapters the development and present state of the machinery through which the exchanges of the chief countries of the world are effected have been described. The connection of that machinery with other parts of the financial mechanism and some of the features of its operation remain for consideration in the present chapter.

1. **The central markets.**—The cities of London, Paris, Berlin and New York are the central money markets of their respective countries. The banking systems of England, France and Germany center in the three first mentioned, and, while in the United States each of the twelve Federal Reserve Banks is likely to become the central agency for the banks in its district, the associated banks of New York, the Federal Reserve Bank of New York and the New York Sub-Treasury may be regarded as the central agencies for the entire country. In each of these centers there are also one or more stock exchanges for the facilitation of the purchase and sale of securities of public and private corporations and brokerage firms who act as intermediaries in the purchase and sale of commercial paper. These exchanges and brokerage firms are essential parts of the money market machinery, since they supply the means for the investment of surplus funds, and for the speedy liquidation of those investments in case of need. In each of these centers also there are markets for the purchase and sale of the precious metals together with the machinery

for their refining and sometimes for their minting into coin.

These central markets serve as reservoirs and distributing agents for the currency and surplus loan funds of their respective countries, administer their reserves of specie and conduct their foreign exchanges. The facilities they have, and the methods they employ for the accomplishment of these tasks, will now be described.

2. **The central reserves.**—The central reserves held by the controlling institutions of these markets are subject to draft from bankers in the interior of their respective countries, from foreign bankers and from local customers, and those of New York are also subject to draft from the New York Sub-Treasury. They may be replenished from the same sources. The interior movement, as the ebb and flow between these institutions and the interior of the country may be called, depends upon the volume and the course of domestic commerce in all its branches, the foreign movement upon the volume and course of foreign commerce, and the local movement upon the volume and course of the commerce of the city in which the institutions in question are located. The movement between the central reserves and the sub-treasury in New York depends upon the relation between the receipts and expenditures of the government, and upon the discretion of the Secretary of the Treasury in the use of his power to deposit funds in the banks, especially in the Federal Reserve Bank.

A knowledge of the volume and fluctuations of these various currency movements is essential to a proper administration of these reserves. In order to supply this knowledge, statistics of the shipments of currency to and from the Associated Banks, the interior, foreign countries and the sub-treasury have been compiled and published in the financial journals of New York, and similar statistics relative to

England, France and Germany are published in the financial journals of those countries. They indicate that in some of their fluctuations these movements, especially the interior and the foreign, are regular and in a degree predictable, and in others erratic and unpredictable. In all four countries for example, the interior movement is subject to seasonal influences as is also, to a greater degree in some than in others, the foreign movement. The sub-treasury movement at New York is very erratic. Changes in trade and industrial conditions constitute elements of uncertainty in all the movements in all four countries.

The chief problem connected with the administration of these reserves is their adjustment to the varying demands upon them caused by these fluctuating movements. It is a problem not susceptible of a rule of thumb solution, but two points in connection with it are obvious. One is that the banks which administer these must, at all times, keep on hand larger amounts of cash than other banks. Being the ultimate sources of supply for their respective countries they cannot meet a deficit by drafts on other domestic institutions. For temporary purposes one market may draw upon another, but in the main and in the long run each must rely upon its own supply.

The second point is that these banks should keep a large part of their resources in a liquid form. To this end loans subject to call or maturing in short periods of time are best adapted. Such loans are available in all these centers, but in some they are more abundant and better fitted for this purpose than in others. In New York those most widely used in the past were call loans made to operators on the stock exchange. Since the establishment of the Federal Reserve System, bankers' bills and high class commercial bills are coming into use. In European cities these latter classes of bills are chiefly used.

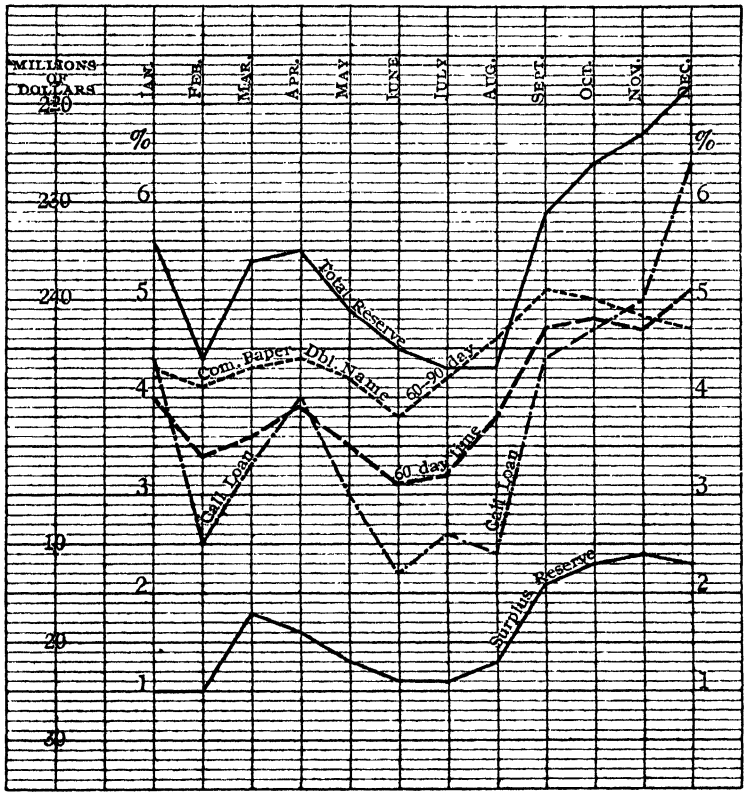
3. Bank and market rates.—The rates charged on these loans and in discounting bills are the best barometers of money market conditions and serve to some extent as regulators of the reserves. On the European markets the official rate of discount of the central banks is known as the *bank rate* and the rates charged by other institutions for standard loans and discounts on the open market are known as *market rates*. In New York the rate of the Federal Reserve Bank corresponds to the bank rate on European markets.

In fixing these rates the state of the central reserves is the most important single factor. In New York the connection between the two was formerly so close that the chief fluctuations of the rates were regularly the opposite of those of the reserves of the Associated Banks. The chart on p. 305,* representing average conditions during the period 1896-1906, clearly indicates this.

On the European markets the connection is not quite so close, but it is none the less real. On account of the dominance there of central banks and other methods of control, rates do not so quickly and frequently respond to changes in the reserves, but the connection between the two is nevertheless vital. The reason for this connection is the same in all cases. It is the effect of changes in rates on the movements of currency and on the volume of loans and discounts. Loan funds, like ordinary merchandise, tend to seek the best markets. Consequently, when rates are raised at any of these centers, these funds are attracted thither, or any tendency to flow away is checked. On the other hand, within the market itself, borrowers will be deterred by the higher rates, the volume of loans diminished, and the percentage of reserves to deposits increased. Loan and

* In the cases of the rate curves an upward movement means a rise and a downward movement a fall, while in those of the reserve curves the opposite is true. See the figures at the left of the chart.

discount rates are thus regulated in accordance with the law of demand and supply like the prices of commodities

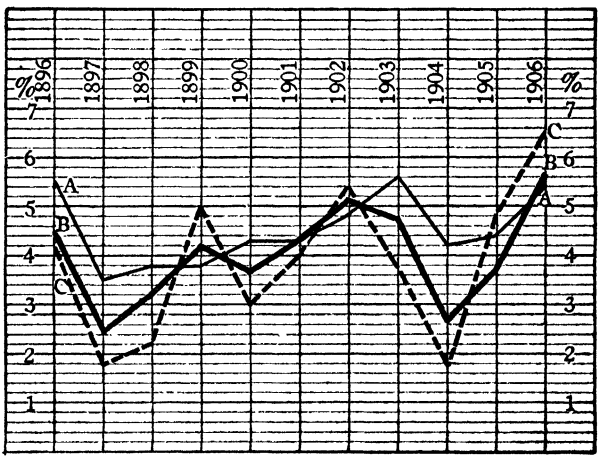


and bank reserves at the money market centers act as supply barometers.

In each market are various classes of loans, the rates on which differ in accordance with the length of the period of the loan and the character of the security on which it is based. In New York the market rates are classified under the three heads *call loans, time loans* and *commercial paper*. The call loans are secured by stock exchange collateral and are subject to payment on twenty-four hours'

notice; time loans are also secured by stock exchange collateral and include 30, 60 and 90 day, 4, 5, 6, and 7 months' notes; and commercial paper is based on personal security consisting of a single or of two names and designated accordingly as single and double-name-paper. Ordinarily the rates on call loans are the lowest, those on time loans higher, and those on commercial paper highest.

The following diagram represents normal conditions in the period 1896-1906.



A=Commercial paper, 60 day

B=60 day time

C=Call loans at stock exchange

Within the time loan and commercial paper groups, the longer the period of the loan, the higher the rate. The explanation of these differences is the importance from the banker's standpoint of control over his resources. The call loan enables him to meet the demands of depositors and to take advantage of more favorable market conditions upon very short notice. The longer the period of the loan, the

more difficult it is for him to meet unforeseeable conditions and he accordingly demands remuneration for this disadvantage in the form of higher rates. The explanation of the higher rates on commercial paper is the inferior character of the security back of it. This consists of the solvency of the persons whose name or names are signed to the paper, while, in the case of the other two classes of loans, the bank has in its possession first-class bonds or stocks listed on the stock exchange which can be sold on very short notice, if the loan is not paid at maturity. If a commercial paper loan is not paid at maturity, legal proceedings are necessary in order to obtain the right to sell the property of the person or persons whose names are signed to it, and there may be uncertainty concerning the existence of such property or its adequacy to pay the debt. The establishment of the Federal Reserve System has introduced a new influence into the commercial paper market in New York, namely that of a national rediscount market. This will doubtless lower the rate and thus radically change its relation to the other market rates.

On the London and Continental markets the classification of rate-quotations is not the same as in New York. In London, besides the bank rate, are regularly quoted the rates on so-called *floating money,* that is call loans usually secured by bills of exchange, on three, four and six months *bank bills,* on three, four and six months *trade bills* and on loans to operators on the stock exchange, called fortnightly loans. The differences between the rates charged on these classes of loans are not so great as in New York, but the same principles are illustrated, the elements of time and of security operating there in the same manner as in New York. In each group, for example, the longer the period of the loan, the higher

the rate tends to be. The element of security shows itself in the tendency of the rates on bank bills to be lower than those on trade bills. The rate on fortnightly loans is usually above the other rates and in this respect seems to be an exception to the principle illustrated by the only loans analogous to it on the New York market, namely call loans on the stock exchange. The element of time, however, constitutes an important difference between these two classes of loans, and the bank and trade bills with which they are compared rank as higher classes of securities in London than do time loans and commercial paper in New York. All things considered, the fortnightly loan is not regarded in London as so good an investment from the banker's standpoint as bank or trade bills or floating money.

The bank rate in London, Paris and Berlin is usually the highest rate on the market, though at times it falls below some or all of the others. As a barometer of market conditions, however, it is more significant than any of the others. In London it is fixed by the directors of the Bank of England at their weekly meetings and is used primarily as a regulator of the reserves, being raised when it is considered desirable to increase the Bank's holdings of cash, or to check a tendency to fall, and lowered under opposite conditions. Its influence over the reserves is due largely to the custom almost universal in England of paying interest on depositors' balances at the rate of one and one-half per cent. below the Bank rate, provided that does not advance beyond four per cent. Since market rates on loans tend to vary with the rate paid on deposits, the Bank rate affects all the others, and its rise tends to attract funds or to check their outward flow, and its fall to stimulate a movement in the opposite direction. The fact that it is usually above the other rates is due to the ultimate dependance of the other banks upon the Bank of England for cash,

and to the great prestige of that institution. In order to supply their needs, other financial institutions directly or indirectly must borrow from the Bank, and this puts her in a position to charge slightly higher rates than those ruling on the market. The rates of the Bank of France and of the Imperial Bank of Germany are regulated in accordance with the same general principles as that of the Bank of England. In the details of their precedure these banks differ from each other on account of the peculiarities of their respective markets.

4. Bank notes and the money market.—On account of the varying demands of commerce caused by changing seasons, the periodicity of dividend, interest and other payments, ups and downs of business prosperity, commercial crises, etc., each market is called upon to supply larger amounts of hand-to-hand money at some times than at others. In order to be in a position to do this, either the reserves at the slack seasons must be greatly in excess of what is needed, or the banks must be able to create hand-to-hand money to meet the extra requirements. The plan of keeping large reserves during the slack seasons is impracticable because it involves loss to the banks. At such times they are certain to tempt borrowers by lowering the rates, and this stimulates speculation and other unsound business ventures. When the period of excess demand comes, on the other hand, they are apt to burden legitimate business with excessive rates and sometimes with an actual shortage of funds, as the alternative of overstraining their credit.

These excesses with their unfortunate, and sometimes disastrous consequences, can only be avoided by giving to the central reserve holding banks the right to issue notes against commercial assets. Such notes will supply most of the needs for hand-to-hand money as well as coin, and the permission to issue them against commercial assets puts them

within the reach of every commercial bank conducting a legitimate business. Those located outside the central market can rediscount such securities there and those within can issue the notes directly to the original makers of the paper, or to the brokers who act as intermediaries in its sale. When the season of excess demand passes, the surplus of discounted paper will be paid, thus reducing the total volume, the surplus notes will accumulate in the banks in the form of deposits and will ultimately find their way to the issuers for retirement.

Indeed to supply the elastic element of the hand-to-hand money of a country is the chief function of bank-note issues. Coin and government notes are inelastic because the sources of their supply are not responsive to the varying needs of commerce. The production of the precious metals, the chief source of the supply of coin, depends upon discovery, cost of production and demand in the arts, which have no connection with currency needs, and all forms of government notes, except those completely covered by coin and consequently in the changes in their volume subject to the same laws as coin, increase and decrease in response to the needs of governments, or to the will of legislative bodies or executive officials.

It is worthy of note in this connection that bank-notes best perform their functions at the money market centers. It is here that the pressure for the supply of the varying needs of commerce is felt, being transmitted thither from all other points, and being impossible to shift to other places. For this reason the concentration of such issues in one or in a few institutions located at the central money market is desirable, a practice common in Europe but only recently adopted in the United States.

5. **Peculiarities of the New York market.**—Differences between the monetary, banking and credit systems, and be-

tween the commercial practices of the different countries, are responsible for certain peculiar features of their central money markets. Before the establishment of the Federal Reserve system, those of New York were due to the lack in this country of an elastic system of bank-note issues, and of a central bank, to our independent treasury system, and to the circulation of a large amount of overvalued silver and various kinds of government notes.

As previously stated, bank-notes were issued in this country only against the deposit of government bonds and their volume consequently varied with the price of these securities and with the circumstances which made it desirable or undesirable for national banks to come into existence. They did not, therefore, play the rôle of an elastic element in our hand-to-hand currency, but rather that of an erratic variable, causing it to increase and decrease without reference to commercial needs and frequently at variance with them.

The effect of our independent treasury system was much the same. The balance between the receipts and expenditures of the government, the chief cause of the augmentation or depletion of money holdings by the Treasury Department, depends upon the productiveness of taxes and other sources of revenue in comparison with the appropriations made by Congress and the expenditures resulting therefrom. This balance varies from one budgetary period to another, there being sometimes a surplus and sometimes a deficit, and from day to day, and month to month, there is no predicting what it will be. Unless the Secretary of the Treasury intervenes and exercises his authority to deposit funds with the banks, during the surplus-accumulating periods, money may accumulate in large quantities in the New York Sub-Treasury, thus depleting the market supply, and, when these accumulations are being reduced, the market may be surfeited with funds. Even when the Sec-

retary of the Treasury sees fit to intervene, his power is limited by the willingness and ability of the banks to supply the security required. Even then the exercise of his discretion introduces an element of uncertainty which renders unavoidable the erratic character of the influence of which we are speaking.

The result of this lack of an elastic element in our currency and of the influences causing erratic variations in the amount of hand-to-hand money in circulation was wide fluctuations in the reserves of the Associated Banks and in money rates. The chart on page 306 indicates the extent of these fluctuations in recent years in terms of annual averages, and that on page 305 indicates average conditions for each year.

The actual fluctuations were much greater than these charts, based on averages, indicate. Those on call loans at the stock exchange, for example, ranged during the decade between 1-2 and 125 per cent., those on 60 day time between 1 3-4 and 16 per cent. and those on 60 day double-name commercial paper between 3 and 8 per cent.

As has been indicated in the concluding section of Chapter X the establishment of the Federal Reserve system was designed to remedy these and other defects. It has been in operation too short a time (one year), however, to render possible a final judgment concerning its efficiency in this direction or a description of the precise manner in which it will ultimately affect the money market of the country. It will probably increase the use of the bill of exchange in banking operations, economize and better administer our cash resources, and increase the elasticity of our currency.

The circulation of the government notes, familiarly known as greenbacks, is a feature of our money market worthy of note. These notes, amounting to $346,681,016 redeemable on demand in gold by the United States Treas-

ury and legal tender for the payment of all debts public and private, except duties on imports and interest on the public debt, constitute a fixed element in our currency and are available for use as bank reserves. By their presentation for redemption it is possible at times for the banks to throw upon the Treasury the burden of supplying the market with gold. The ability of the Treasury to meet this obligation depends upon a reserve of $150,000,000 in gold kept for that purpose and, in case of its depletion, upon the right to borrow gold by the issue of bonds.

A similiar obligation is imposed on the government by the circulation of more than five hundred million silver dollars or silver certificates representing them. The bullion value of these coins varies with the price of silver, but for many years it has been less than one-half their face value. The responsibility for making good this difference is imposed upon the Treasury by the legal requirement that it must at all times maintain the circulation value of these coins at a parity with gold. For the meeting of this obligation no gold reserve is maintained nor has the right to issue gold bonds for this purpose been granted by Congress. The Treasury is protected only indirectly and very imperfectly by legal provisions requiring the retirement of greenbacks and national bank-notes of low denominations, and the issue of the bulk of the silver certificates in these denominations. By this means it is hoped that the silver currency may be kept constantly in use and its return to the government prevented.

The peculiar feature of our money market, due to the circulation of these greenbacks and silver dollars, is the placing of the responsibility for the maintenance of gold payments upon the Treasury without equipping it with the means of meeting this responsibility under all possible conditions. The gold reserve of $150,000,000 once ex-

hausted, the only resort of the Treasury is the borrowing of gold by means of bond issues. In times of monetary stringency and sharp international competition for gold, precisely the times on which such a situation would have to be faced, such a proceeding would at the best be slow and expensive and might be impossible. Knowledge of the weakness and unprotected character of the Treasury under such conditions contributes toward a panicky feeling on the money market whenever these conditions are feared or approximated, and thus helps to create the kind of a situation which it should be the chief function of the guardian of the public interests on the money market to prevent.

6. Some peculiarities of the London market.—The London market owes its chief peculiarities to the central position which England occupies in international commerce, to certain features of her banking system, and to the magnitude of English investments in foreign securities.

For more than a century London has served as a clearing house for international commerce. Through the colonial system of England, her free trade policy, her early establishment of, and persistent adherence to, the gold standard of value, her great wealth, and the genius of her people for commerce, London merchants have established trade connections with every part of the world and are able to perform the function of an intermediary for foreign merchants in other parts of the world more economically than those of any other country. The volume of this kind of business performed by them has long been enormous and shows no tendency to diminish in spite of the increasing competition of other centers. One result of this commercial eminence has been to make London the chief market in the world for foreign bills of exchange, and control of this market has given her a command of the monetary, particularly of the gold, resources of the world possessed by no

other city and at the same time has subjected her to drafts from every quarter. She has thus become the central money market of the world.

In the performance of this function the manipulation of the rate of discount of the Bank of England plays the leading rôle. On account of their ready saleability and their high character in other respects, the bankers of the chief continental markets fill their portfolios with London bills whenever local paper is inadequate for the profitable employment of their funds, a common condition of things, especially in France, Belgium and Holland. On account of its influence on the market rate, the rate of the Bank of England, however, is the chief determinant of the profitableness of these investments. Accordingly when that rate rises, London paper is purchased in increased quantities, and when it is lowered, it is sold and new investments diminished in magnitude. In the one case the power of London to draw gold from the continental centers is increased, a balance in her favor being created or an adverse balance diminished or annihilated, and in the other the power of these centers to draw on London is enhanced. The gold supply of the London market is thus more elastic than that of any other.

This fact renders less serious the consequences of the inelasticity of the English system of bank-note issues. As was pointed out in a preceding chapter, with the exception of a small amount of notes issued by a few joint-stock and private banks, the magnitude of which cannot be increased and which diminishes very slowly, the Bank of England issues all the notes in circulation under the limitations imposed by the bank act of 1844 and subsequent orders in council issued in accordance with its provisions. As a result of these limitations the volume of bank-notes in circulation normally increases only when a corresponding

amount of gold coin is paid into the issue department of the Bank and decreases only when a corresponding amount of gold coin is paid out. The total volume of the circulating medium, therefore, is not affected by them in any way, and the only elasticity in this country's hand-to-hand money is due to the gold element.

In the determination of London's command over the gold supply of the world, an important factor is the magnitude of the investments of Englishmen in foreign securities, and the international character of the London stock exchange. For many years the savings of the English people have been in excess of the amount that local enterprises could profitably absorb, and they have consequently sought and found employment in the colonies and in other countries, chiefly in the form of investments in high-class securities, such as government, municipal and corporation bonds, and the stock of railroad, mining and other large industrial corporations. The amount of such securities at all times in the country and especially in the vaults of London financial houses is very great, and, whenever the need for funds is pressing, a part of them may be sold and the balance of indebtedness thus influenced in favor of England.

The London stock exchange renders the sale of these securities easy and rapid. It lists and supplies facilities for dealing in them as other markets do in national and other local securities. It is connected by telegraph with the other important stock exchanges of the world, and its brokers transact business for people in other countries as well as for Englishmen. It is, in fact, an international market and contributes in no small degree to the international importance of the other financial institutions of the city.

7. **Some peculiarlties of the Paris market.**—In France the issues of the Bank of France perform the function which

properly belongs to bank-notes, that is their volume responds automatically to the varying needs of the country for hand-to-hand money. The other financial institutions of the country, notably the great banks of discount, supply their needs for cash by drawing upon balances regularly kept with the Bank of France, and by rediscounting bills which come into their possession in the ordinary course of their operations. An increased demand for cash anywhere in the country thus normally takes the form of the presentation to local banks by merchants and manufacturers of their bills for discount and of their transfer through rediscounts to the portfolios of the Bank of France, which may meet the demands made upon it by the issue of notes. The payment of these bills, without the discount of a corresponding amount of new ones, brings the notes back to the Bank for retirement.

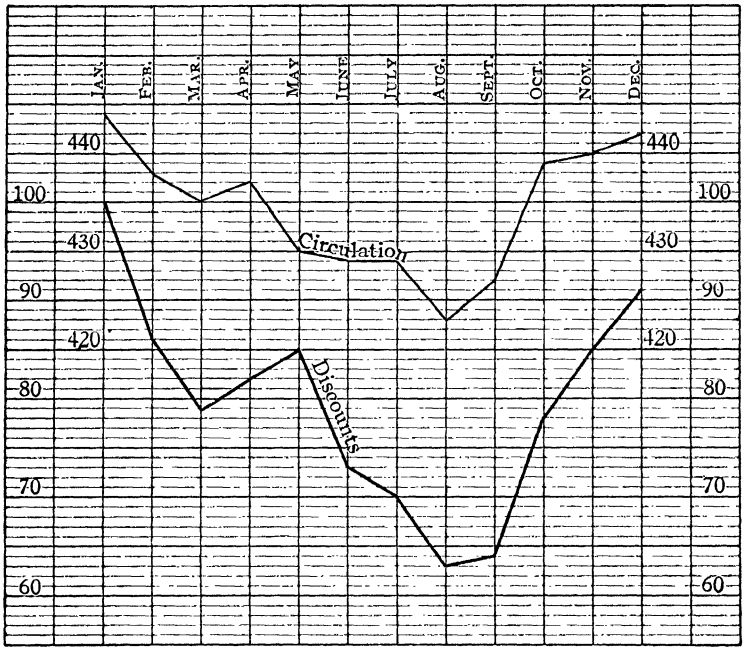
The operation of the system is illustrated by the diagram on p. 291, which indicates a general correspondence between the circulation and discount curves of the bank. It should also be noted that the fluctuations in the volume of the note-issues correspond with variations in the seasonal demands for currency.

On account of the elasticity of her note-issues, the reserves of the Bank of France, which constitute the central coin reserve of the country, are less directly connected with the seasonal and other temporary variations in the currency needs of the country than are those of the Bank of England or of the Associated Banks of New York.

In the protection of her gold reserves the Bank of France is aided, temporarily at least, by the legal-tender laws of the country which enable it at discretion to meet cash obligations with silver five-franc pieces, the bullion value of which is much below their circulation value, as well as with gold coin. These silver coins are no longer minted,

but a large quantity of them is in circulation and in the vaults of the Bank, and, whenever it is desired to check an

CIRCULATION AND DISCOUNT CURVES, BANK OF FRANCE



outward movement of gold, the Bank may use them instead of gold in the redemption of notes, the payment of depositors, etc. It is claimed by some that the protection thus gained is only temporary, since gold to meet foreign obligations must ordinarily be found and as the holder of the ultimate reserves of the country, the Bank must furnish it. The only effect of the temporary use of five-franc pieces in meeting the Bank's obligations, it is claimed, is to force a premium on gold sufficient to draw the supply needed from the general circulation of the country, the deficiency thus created being ultimately supplied by the Bank.

Another peculiarity of the Paris market, in part a result

of those just described, is the relative stability of rates. The discount rate of the Bank of France changes much less frequently than that of the Bank of England. According to the calculations of Mr. Inglis Palgrave * during the period 1844 to 1900 it changed 111 times, while that of the Bank of England changed 400 times. In recent years the discrepancy is still greater, in the decade 1890 to 1900, for example, the number of changes for each bank respectively was 9 and 66 and for the period 1901 to 1908, 8 and 48.**

8. Some peculiarities of the Berlin market.—The Berlin market resembles that of Paris in some respects and that of London in others. The notes of the Imperial Bank, like those of the Bank of France, are issued in response to commercial needs against first-class bills of exchange, and fluctuate in volume in accordance with variations in those needs. Instead of a maximum fixed by law, which the total volume of issues may not exceed, the Imperial Bank pays a tax of five per cent. on all issues in excess of a fixed quota which is so low that the occasions on which it is desirable to exceed it are frequent.*** One consequence of this is that rates on the Berlin market may be forced to a relatively high point before the Bank can without loss afford relief. On account of the dominance of the public interest in its management, however, it not infrequently issues notes at a loss, refusing to advance the discount rate to a sufficiently high point to cover the tax and the other expenses of issue. Thus non-commercial influences are made to affect the market.

Like the Bank of England, the Imperial Bank of Ger-

* Bank Rate and the Money Market, p. 157.

**Calculated from returns published in the Bankers' Magazine.

***As noted in chapter xvi a law passed June 1, 1909, provided for a considerable increase in the tax-free quota beginning with Jan. 1, 1911.

many is required by law to redeem its notes on demand in gold. The Bank of France, as we have seen, has the alternative of redeeming its notes in silver five-franc pieces. In theory, therefore, Berlin like London is a free and open market for gold. In practice it is claimed that the Imperial Bank has at times exerted pressure of a non-commercial kind to prevent the exportation of gold.* If this be true, some justification for such action may, perhaps, be found in the fact that her facilities for influencing international movements of the yellow metal are not equal to those of the great English bank. Berlin is not to the same extent as London a clearing-house for international commerce, nor are Berlin bills so popular investments among continental banks as London bills. In consequence her bank rate is not so influential in international commerce as the English. The ability of the Imperial Bank to issue notes against commercial paper, however, is a means of protecting her gold reserve not possessed by the Bank of England, since these notes may be used to satisfy a national demand for currency in cases in which gold would have to be used in England.

Another peculiarity of the Berlin market is the result of the power of the great private banks and of their direct participation in various branches of domestic and foreign industry. They do so large a portion of the banking business of the country that they are able at times to threaten the control of the Imperial Bank, when their interests lie in that direction, a condition of affairs not unlikely to arise owing to their direct participation in indus-

*Some doubt is thrown on this claim by the interviews held by our National Monetary Commission with representatives of the Imperial Bank. See "Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland and Italy," p. 358.

try and in the stock market. Involved as they are in various industrial enterprises which they have promoted, or which they are fostering, their interests may lie in the direction of expansion, or in that of gold exportation when those of the country as a whole, as interpreted by the Imperial Bank, lie in the opposite direction. In such a case the Imperial Bank may find control of the market through manipulation of the discount rate difficult if not impossible.

REFERENCES

In addition to the references on the workings of the banking machinery of the different countries given at the close of the chapters immediately preceding consult for the *United States:* Pratt, *The Work of Wall Street;* Conant, *Wall Street and The Country;* Nelson, Editor, *The A B C of Wall Street;* for *England:* Straker, *The Money Market;* Clare, *The Money Market Primer and Key to the Exchanges;* Bagehot, *Lombard Street;* Hankey, *The Principles of Banking, its Utility and Economy with remarks on the Working and Management of the Bank of England;* Flux, *The Bank of England Reserve,* Jour. Can. Banker's Assn. v. XI. p. 219; Hillauer, *Die Zahlungsvermittlung der englischen Banken im Überseehandel;* and Lecoffre, *Banques Anglaises et Usages de Banque en Angleterre;* for *France:* Sayous *Les Banques de Dépot, les Banques de Crédit et les Sociétés Financières;* Lepeltier, *Le Portfeuille;* Tavernier, *Operations de Banque et de Bourse;* Rosendorff, *Die Goldprämien politik der Banque de France und ihre deutschen Lobredner,* Conrads Jahrb. 3d F. v. 76. p. 632; and for *Germany: Miscellaneous articles on German Banking* published by the National Monetary Commission; Obst, *Geld-, Bank-, und Börsenwesen;* Buchwald, *Technik des Bankbetriebes;* Kautsch, *Handbuch des Bank- und Börsenwesens;* Weber, *Depositenbanken und Spekulationsbanken;* and Landmann, *System der Diskontpolitik.*

On bank rates see Palgrave, *Bank Rate and the Money Market in England, France, Germany, Holland and Belgium* 1844-1900; Steel, *On Changes in the Bank Rate* in Jour. Inst. of Bankers, 1890-91; Giffen, *Gold Supply, the Rate of Discount and Prices* and *Bank Reserves* in Essays on Finance, 2d Series; Jevons, *Investigations in Currency and Finance,* ch. v; Prion, *Das deutsche Wechseldiskontgeschäft;* and Scott, *Rates on the New York Market* 1896-1906, Jour. Pol. Econ. for May, 1908.

The financial periodicals of each country publish current statistical information such as bank reports and statements, money and exchange

rates, stock and bond quotations, etc., and many valuable articles on the workings of the money market machinery. Among these of especial value are the *Commercial and Financial Chronicle,* its annual summary, *The Financial Review, Bradstreets, The Bankers' Magazine, The Wall Street Journal,* and *The New York Journal of Commerce* for the United States; *The Economist* and the *Bankers' Magazine* for England; *L'Economiste* and *Le Rentier* for France; and *Der deutsche Oekonomist* and the monthly *Volkswirthschaftliche Chronik* of Conrad's Jahrbuch for Germany. See also *Raffalovich, Le Marché Financier.*

The following public documents are also indispensible for the study of conditions in the United States: *Reports of the Comptroller of the Currency;* Reports of the banking departments of the States; *Statistical Abstract of the United States;* and *Monthly Summary of Commerce and Finance of the United States.* See also *Special Report from the Banks of the United States* published by the National Monetary Commission, and the *Federal Reserve Bulletin.*

CHAPTER XVI

THEORY OF BIMETALLISM

UNTIL comparatively recent times there waged in this and some other countries a long controversy over the question of bimetallism vs. monometallism. Though it seems to have abated temporarily at least, its importance and the nature of the problems involved render a discussion of the subject desirable in a text book of this kind.

1. **The nature and purpose of bimetallism.**—The word *bimetallism* is used to describe a monetary system in which standard coins of both gold and silver are freely manufactured without any preference whatever being shown by the government toward either metal. It, therefore, involves three things: first, that the public authorities should decide upon some ratio between the two metals; second, that they should agree to accept all the gold and silver bullion of the proper standard presented, and mint it into certain or all classes of coins at the ratio selected; and third, that they should make such coins full legal tender for all payments public or private. This system is advocated as a substitute for monometallism, in which one of the metals only is used in the manufacture of standard coins, and in which the other occupies a subsidiary position in the sense that the coins made from it are minted only on government account and with limited legal-tender power, and are maintained at at par with the standard coins by being made redeemable directly or indirectly in them, and by being strictly limited in quantity to the public demand for them in those uses for

which they are best adapted. In order to avoid confusion and misunderstanding several points should be carefully noted.

First, the controversy over bimetallism versus monometallism does not involve the question whether both gold and silver shall be used for monetary purposes. In each system coins of both metals play an important part, and no monometallist whose opinion is worth considering proposes the demonetization of either silver or gold, as has often been charged. The question simply concerns the best method of fixing the relation between the two metals in the currency, the bimetallists claiming that both should be put upon a substantially equal footing by the methods of precedure above indicated, while their opponents claim that coin made of one of the metals should be made subsidiary by the processes described in Chapter II. The difference between the two parties in reference to this matter concerns the use of both metals in the manufacture of *standard* coins only.

Second, bimetallism does not involve the necessity of establishing an office for money-changing in the treasury department at which the government would freely exchange coins of the one metal for those of the other. It means only that it shall agree to coin all the silver bullion of the proper standard which people are pleased to bring to the mint into silver coins of the denominations, weight, and fineness established by law, and all the gold bullion brought, into gold coins; that it shall receive in payments coins of either or both kinds without discrimination, and pay out whichever variety of coins it pleases; and that it shall compel everybody else to do likewise by making both gold and silver coins full legal tender. Naturally the public treasurer is obliged to pay out the kind of money he receives, and it is entirely possible that under a bimetallic

system he might be compelled to conduct practically all his monetary operations in one of the metals, and thus be entirely unable to furnish coins of the other metal on demand. Bimetallists do not like to contemplate such a state of affairs, and do not believe that it would ever be realized, but there is nothing in the nature of their system to prevent it. Everything depends upon the mode of its operation.

Third, so far as the present practice of most nations is concerned, the proposition of the bimetallists is that some one of the silver coins, usually the largest, shall be freely minted by the government just as gold coins are now, and that all limitations on its legal-tender power shall be removed. A change in the ratio sometimes is and sometimes is not advocated. In the United States, for example, the bimetallists propose that the silver dollar, which weighs sixteen times as much as would a gold dollar, if one were minted, shall be freely coined for all persons who bring silver bullion nine-tenths fine to any of our mints for that purpose. This coin already possesses full legal-tender power, and consequently no change in this particular is needed. With us, therefore, the question of bimetallism reduces itself to that of the free coinage of silver dollars as opposed to their present limited coinage and as opposed to the proposition made by many people that they be completely assimilated to our other subsidiary coins. In France and the other countries of the Latin Union the controversy concerns the status of the five-franc piece, the coinage of which was discontinued in 1878. The bimetallists propose that this coin, the weight of which is to that of a gold coin of the same nominal value as 15½ is to 1, shall be restored to the position it occupied after the monetary convention of 1865, in which France, Belgium, Switzerland, and Italy agreed to coin five-franc pieces as freely as gold. Inasmuch as no coin similar in status to our dollar and the

five-franc piece of the Latin Union exists in England and Germany,* bimetallism in those countries would mean the selection of some silver coin, possibly the crown in England and the five-mark piece in Germany, for free coinage, and very likely a change in the weight or the degree of fineness or both, of the coins so selected.

The purpose of the advocates of bimetallism is to render the standards of the nations more steady in value, and thus to prevent what they regard as unnecessarily great fluctuations in prices and to counteract the tendency toward appreciation which, they claim, for a long time characterized the gold standards of the world. Some bimetallists, especially those who have large interests in silver mines, have special reasons of a personal character for their enthusiasm in this cause, but these are unworthy of consideration and should not be permitted to prejudice the case of those who have only the public good in view. In order adequately to explain the motives of this latter class, it is necessary to describe their charges against the monometallic system and their theory of the way in which bimetallism would remove or, at least, mitigate the evils for which it is said to be responsible.

2. The bimetallists' arraignment of the monometallic system.—Monometallism causes unnecessarily great fluctuations in prices because it renders the currency of the gold-standard nations quite independent of that of the silver-standard countries and thus prevents a mitigation or neutralization of the effects of changes in the value of the precious metals through mutual readjustments of the

*The thalers of the German Empire occupy a position somewhat similar to our dollars and the French five-franc pieces, but they can hardly be put in the same class on account of the peculiarity of their origin and the fact that in theory at least they are only a temporary element of the currency system.

demand for them for monetary purposes. Prices must change in the gold-standard countries whenever any radical change in the value of gold takes place, and the same result must follow in silver-standard countries with every change in the value of silver. The result is that prices may be rising in the gold standard countries while they are falling in those having a silver standard or vice versa, and very great changes may be taking place in the value of the standards of both sets of countries which, they claim, might be prevented in whole or in part by bimetallism. As a case in point they call attention to the great fluctuations in prices since the abandonment of bimetallism in this country and Europe in the early and middle seventies. They also charge monometallism with making international trade unduly hazardous on account of the impossibility of establishing a fixed par of exchange between gold- and silver-standard countries.

3. **The compensatory action of the double standard.**—As a remedy for these evils the bimetallists rely upon what has been called the compensatory action of the double standard. This may be described as follows: Suppose that the ratio established between the weights of gold and silver coins of the same nominal value be 16 to 1, and that a change in the market for bullion, due to a fall in the value of silver, temporarily makes the actual ratio 18 to 1. It will now be profitable for all debtors to pay in silver and sell gold coins as bullion, since for every ounce of gold thus sold they can purchase eighteen ounces of silver, and, by carrying it to the mint for coinage, pay as large a debt or make as large a purchase with sixteen ounces as they could have done with the original ounce of gold, and thus make a clear profit of two ounces of silver on every such transaction. It is not, of course, to be supposed that every person would know enough to take advantage of such a situation, or

would take the trouble of going into the exchange business if he did see this chance for profit; but we may be sure that the people already in the business, namely, the bankers, would melt down or export gold coins on as large a scale as possible, and buy silver bullion and take it to the mint for coinage. One result of this procedure would be a large increase in the coinage of silver and a decrease, perhaps a complete stoppage, of the coinage of gold; and a second would be, so say the bimetallists, a large increase in the use of silver for monetary purposes, and a decrease in the use of gold. A change in the relative demand for the two metals would thus be produced which would tend to counteract the effects of the fall in the value of silver, and bring the ratio between the two metals on the bullion market back to that established by law for the guidance of the mint. That is, the increase in the use of the one metal and the decrease in the use of the other for monetary purposes would raise the value of the first and lower that of the second, thus tending to bring the two ratios together. A further argument is needed to show that this compensatory action would be sufficient to make the bullion ratio actually identically with the legal, and this the bimetallists find in the enormous quantities of gold and silver used for monetary purposes and in the relatively small capacity of the bullion markets to absorb increased quantities of the precious metals without experiencing great fluctuations in their value.

On account of this compensatory action of the double standard, the bimetallists claim that, if a sufficient number of nations could be induced to adopt the bimetallic system of coinage, no variation in the relative value of the precious metals could take place. The general level of prices might rise and fall on account of changes in the relative value of gold and silver and other commodities, but, so far as

their relations to each other are concerned, no change could take place, since any tendency in that direction would be immediately counteracted by a modification in the relation between the demand and the supply of the two metals brought about by the process just described. The above supposition of a difference between the legal and market ratios, therefore, must be regarded as a hypothetical case, useful as an illustration of the way the law operates, but not in correspondence with facts as they would present themselves under the bimetallic system.

The relation between the compensatory law and the alleged evils of monometallism are obvious. The bimetallic system acts as a check upon fluctuations in the value of both metals, but cannot entirely prevent them. As soon as some external force, such as a discovery of new sources of supply, or improvements in the methods of production, begins to affect the value of one of the metals, the action of the compensatory law commences and modifies the demand for it in such a way as to counteract the rise in value, if that is the tendency of the movement, or the fall, if the new force is working in that direction; but the maximum result of this counteraction will be to prevent a change in the ratio of the two metals. It cannot go so far as to make the ratio between the demand and the supply of both metals precisely the same as before. For example, suppose that the production of silver were to increase twenty-five per cent. under the bimetallic system, all that is claimed is that the demand for silver for monetary purposes would be increased and that for gold decreased to whatever degree might be necessary to prevent a change in that ratio, but that would not mean a twenty-five per cent. change on both sides, which would be required to exactly restore the former ratio of demand to supply. Very likely a twelve and one-half per cent. increase in the monetary demand for silver and a cor-

responding decrease in that for gold would be sufficient, in which case both metals would have experienced a considerable fall in value, but not so great a fall as silver would have experienced, had no counteracting agency been in operation. If no change had taken place meanwhile in the value of commodities, prices would certainly rise, but not in the same degree as in a silver monometallic country under the same circumstances, and, if both metals had previously been appreciating in their relation to other commodities, this tendency would have been checked and perhaps entirely counteracted. As compared with conditions in a gold monometallic country suffering from an appreciating standard, the situation would be much better, because the decrease in the demand for gold for monetary purposes might just counterbalance the increasing demand or the decreasing supply which was the cause of its appreciation in the gold-standard country.

The advantage of a fixed unchangeable ratio between the precious metals in the field of international trade is obvious. The chief difficulty at the present time in this branch of trade is the lack of a fixed par of exchange between gold- and silver-standard countries. If bimetallism could maintain a fixed ratio between the two metals, this difficulty would entirely disappear, and exchanges between the United States and China would be no more hazardous than those between England and the United States at the present time.

4. The weak points in the theory of bimetallism.—The cornerstone of the theory of bimetallism is the doctrine of the compensatory action of the double standard, and its chief strength consists in the fact that the basis of this doctrine is sound and admitted by all. There can be no doubt that under a bimetallic system a substitution of one metal for the other for monetary purposes would be possible and

would take place to a certain extent whenever the market value of either was seriously affected. The important question is, how far would this substitution go, and to what extent would the relative value of gold and silver be affected by it? A consideration of this question will reveal one of the weak points in the theory.

The bimetallists assume that gold and silver are indefinitely interchangeable for monetary purposes, and that the only limit to the possible substitution of one for the other in case of a threatened change of market ratio is the entire discontinuance of the monetary use of the metal which has become relatively dearer. Is this true? Is it not at least conceivable that the dearer metal might still continue to serve as money, but at an enhanced valuation as compared with the cheaper? For example, suppose that, the legal ratio being 16 to 1, the market ratio becomes 18 to 1 on account of a fall in the value of silver, might not gold still continue to be used for monetary purposes, but at a value as compared to silver of 18 to 1 instead of 16 to 1? The bimetallists assume that the law which declares coins of the two metals legal tender at the latter ratio would prevent this, but in so doing they greatly overestimate the power of a legal-tender law. In spite of such legislation, money-changers, bankers, and others who have occasion to use large quantities of gold for monetary purposes might agree to continue to use it in the form of bullion, but at an enhanced value. Contracts involving the exchange of money which were made before the change would be settled on the basis of the cheaper metal, but not necessarily by means of it, and future contracts could and would be made on the same basis, but might perfectly well be settled in gold at its new value. A contract to pay money under the bimetallic system would not differ materially from that of a farm lease in which the lessee is allowed the option of paying his

rent either in wheat or potatoes, one bushel of wheat being regarded as equivalent to two bushels of potatoes for this purpose. If, when pay-day arrives, one bushel of wheat is worth three bushels of potatoes, the farmer will certainly make his payment in potatoes, unless his landlord is willing or prefers to take wheat at its new valuation. If the landlord should really want the wheat and not the potatoes, there is no reason why such an arrangement should not be made. It might be more convenient for both parties. In like manner, under the bimetallic system the law gives the debtor the option of paying either in gold or silver at a given ratio, and, in case of a change in bullion values such as we have assumed above, authorizes him to pay in the cheaper metal, but it does not prevent his making other arrangements with his creditor. The question here at issue is really one of facts, and on that account there is plenty of room for difference of opinion. Is there any reason for supposing that under a bimetallic system gold might not still continue to be used for monetary purposes, even if its market value in relation to silver were considerably higher than that fixed by law?

In a previous chapter we have attempted to show that gold has certain peculiar monetary uses, and that for these it is better than silver or any other metal. This superiority for certain purposes would not be affected in the slightest degree by the establishment of the bimetallic system, though the use of gold coins in the general circulation at a value different from that expressed by the figures or statements on their faces would be rendered difficult and impracticable for most people. Its use in the payment of international balances and for shipment between different cities in the same country would not be rendered more difficult or less convenient by the fact that its bullion rather than its tale value must be considered. In fact, in international pay-

ments its bullion value alone counts, no matter what may be the monetary system, and in great financial institutions like the Bank of England coins are always received by weight in order to guard against loss from abrasion. The fact that gold can be shipped and stored at considerably less cost than silver would give it a preference, for the uses here under consideration, which is quite independent of legal-tender laws and which would not be affected by a divergence between the bullion and the legal ratio under a bimetallic system.

Speculation regarding what would happen if the bimetallic system were introduced and the value of silver should subsequently fall is not the most profitable of occupations, but in this instance it serves to show the weakness of the foundation upon which the bimetallists have constructed their main argument. If the substitution of silver for gold cannot be carried to the extent that they claim, then it becomes highly improbable that bimetallistic action would be able to maintain a fixed ratio between gold and silver. If it cannot accomplish this, it is powerless to cure the evils of the present system.

Many people believe that the real effect of bimetallism would be to introduce what has been called an alternating standard, now of one metal and now of the other. Since gold and silver are constantly fluctuating with reference to each other, they hold that no ratio established by law could be long maintained, and that the metal which became relatively cheap would be the real standard, the other being used as bullion. Therefore, if now one and now the other metal should become cheaper, as measured by the legal ratio, we should have an alternating standard. This would certainly be the result if the claims of the bimetallists regarding the effect of the compensatory law should not prove true.

Another weak point in the theory of bimetallism consists in the assumption that frequent minor fluctuations in prices are less injurious than greater fluctuations occurring at longer intervals. Even if the compensatory action should be sufficient to maintain a fixed ratio between the precious metals, it could not prevent a change of prices whenever any considerable change in the conditions of production or consumption of either of the metals should take place. Under the monometallic system gold-standard countries would suffer only from fluctuations in the value of gold, and silver-standard countries from fluctuations in the value of silver; but with bimetallism both classes of nations would suffer whenever either metal was affected. All that is claimed for this latter system by its most strenuous advocates is that the effects of any change are lessened by being spread over a larger surface, but it is at least questionable whether this advantage is not dearly purchased at the price of more frequent disturbances.

It must, of course, be admitted that the compensatory action of the double standard might be just sufficient to counteract the tendency of one of the metals to rise in value or of the other to fall, but such an effect would be the merest chance, and would rarely, if ever, be experienced. It is difficult to analyze the effects of any change of prices, and consequently not easy to determine whether one kind is better or worse than another, but a currency change which would still further complicate the situation cannot be recommended. That this would be the effect of bimetallism is certain. It would be next to impossible to determine in a given case precisely how the compensatory law had been operating, and to what extent a given change in prices was due to currency and to what extent to other causes. It is difficult now; it would be practically impossible under bimetallism.

5. National and international bimetallism.—Bimetallists may be grouped into two classes according to the degree of faith they have in the efficiency of the compensatory action of the double standard. Some believe that a single nation, like England, France, Germany, or the United States, would furnish a field large enough for its efficient operation, while others hold that the coöperative action of several nations would be necessary. International bimetallists fear that the substitution of the cheaper for the dearer metal in the currency of a single nation might proceed to the extent of completely displacing the latter without bringing the bullion and the legal ratios together, but they hope and believe that this could not happen if several nations were to coöperate in this matter. Some national bimetallists go to the extent of admitting that they prefer an alternating standard to a continuous single standard of either metal, and do not fear the consequences of a complete disappearance of one of the metals from circulation. They do not hesitate to affirm that as between a relatively cheap and a relatively dear standard they always prefer the former. Such persons are also willing to defend the proposition that rising prices are a blessing, or at least preferable to falling prices, but they are apt to overlook the fact that, while bimetallism always establishes the cheaper standard, it frequently does so at the expense of an otherwise stable one. It is, therefore, possible that under a bimetallic system a nation might be forced to accept a depreciating or an appreciating standard, when with monometallism it might have had a stable one.

REFERENCES

On account of the voluminous and controversial character of the literature treating of bimetallism only a few representative books and articles will be referred to here. For a more complete bibliography

the student should consult Adolph Soetbeer, *Litteraturnachweis über Geld-und Münzwesen insbesondere über den Währungsstreit,* 1871-1891, the bibliographical references in Schönberg, *Handbuch der Politischen Ökonomie,* ch. viii; sec. xi; *Das Handwörterbuch der Staatswissenschaften,* articles Goldwährung, Parallelwährung, and Doppelwährung; and Palgrave, *Dictionary of Political Economy,* articles Money, Bimetallism and Monometallism.

The theoretical aspects of the question are well treated from the standpoint of the bimetallist in the first five books mentioned below:

In favor of bimetallism are the following: William Leighton Jordan, *The Standard of Value;* Leonard Darwin, *Bimetallism;* D. Barbour, *The Theory of Bimetallism and the Effects of the Partial Demonetization of Silver on England and India;* Robert Barclay, *The Silver Question and the Gold Question;* J. Shield Nicholson, *Money and Monetary Problems;* Francis A. Walker, *Money,* and *Bimetallism;* S. Dana Horton, *Silver and Gold,* and *The Silver Pound*; Ernest Seyd, *Die Münz-, Währungs- und Bankfragen in Deutschland, and Der Hauptirrthum in der Goldwährung;* Arendt, *Die vertragsmässige Doppelwährung and Der Währungsstreit in Deutschland;* Albert Schäffle, *Für internationale Dopplewährung;* Adolph Wagner, *Für bimetallistische Münzpolitik Deutschland;* M. Wolokski, *L'Or et L'Argent;* Henry Cernuschi, *La Monnaie Bimetalliquc;* and Emile de Laveleye, *La Monnaie, La Question Monetaire en* 1881, and *International Bimetallism and the Battle of the Standards.*

Against bimetallism are the following: Robert Giffen, *The Case against Bimetallism;* Lord Farrer, *Studies in Currency;* W. A. Shaw, *The History of Currency,* 1252 *to* 1894; J. Laurence Laughlin, *History of Bimetallism in the United States;* J. Howard Cowperthwait, *Money, Silver, and Finance;* Henry Dunning Macleod, *Bimetallism;* Karl Knies, *Geld und Kredit,* v. i, p. 230; E. Nasse, *Die Demonetisation des Silbers* and *Der Währungsstreit in Deutschland;* Bueck, *Beiträge zur Währungsfrage;* Hans Kleser, *Die deutsche Währungsreform und ihre Gegner,* and *Währungs- und Wirtschaftspolitk;* Moritz Meyer, *Gold- oder Doppelwährung;* and Frère-Orban, *La Question Monetaire.*

A very complete account of the arguments for and against bimetallism, together with an excellent collection of materials for the study of the subject, is contained in the Reports of the Royal Commission of England appointed to inquire into the recent changes in the relative values of the precious metals. The first report was made in 1887 and the second and final report in 1888. M. Frère-Orban and Emile de Laveleye, *La Question Monétaire en Belgique en* 1889, also presents both sides of the question, M. Frère-Orban being a monometallist and M. Laveleye a bimetallist. See also Nasse's and Arendt's pamphlets entitled *Der Währungsstreit in Deutschland.*

CHAPTER XVII

THE HISTORY OF BIMETALLISM

In order to appreciate the present status of the controversy over bimetallism and the practical aspects of the question, some knowledge of the world's experience with the double standard is necessary. Not only are questions of fact involved in the theory of the subject, but the attitude of the different states toward it is determined much more by historical precedents and actual conditions than by theoretical considerations. In the present sketch only an outline of the history of bimetallism can be presented, and more space must be given to the statement of the results of experience than to the details.

At the outset it should be stated that bimetallism existed as a fact long before any theory of the subject was devised. It was not indeed until quite late in the nineteenth century that it became a question for academic discussion, and the use of the word *bimetallism* belongs to still more recent times. The formal histories of the subject do not usually go back beyond the opening years of the nineteenth century, but, though the early experience is not so instructive as the later, some knowledge of it is necessary to a complete understanding of the subject, and we shall, therefore, devote our first section to it.

1. **Early European experience.**—From the beginning of the fourteenth to the early years of the nineteenth century every European nation had a bimetallic currency, in which, however, silver played the largest part. Gold coins were

introduced into western Europe by Italian traders as early as the thirteenth century, but they were not much used in commerce before the middle of the fourteenth, and their value was always estimated in terms of the current silver coins. They were not, however, subsidiary in the sense in which we have defined that term, but had full legal-tender power, and were minted in as large quantities as the supply of the metal and the demand for it for other purposes would permit.

The nature and functions of money were not understood in the Middle Ages, and in consequence many of the practices of that period must be attributed to ignorance rather than to selfishness or malice, though there was no lack of these latter qualities. The idea most commonly entertained regarding money was that sovereigns possess absolute power over the value of coins, and are quite independent of market conditions. Accordingly, they did not consider it improper to debase the currency if they thought best, and kept the people informed regarding the purchasing and debt-paying power of coins by posting notices in public places, in which they stated the equivalence of the various coins in terms of each other and in those of purely ideal standards. Regarding these ideal standards it is interesting to note that they originated in the belief which we have just mentioned. In early times the precious metals passed in exchange by weight, and the unit of value in every European state was a pound weight of silver. However, when kings began to exercise their supposed power to regulate values, and debased the coinage, they retained the old names for the units, though their former significance had disappeared and a purely ideal conception had taken its place. Thus, in England up to the beginning of the fourteenth century a pound weight of silver was divided into twenty parts called shillings, and each of these again into

twelve parts called pennies, but Edward I divided the same pound of silver into forty parts and still called each a shilling, and twenty of these shillings a pound. Henceforth the word *pound* meant nothing definite, since the king frequently changed the weight and metallic content of the shilling, but always reckoned twenty shillings to the pound and twelve pence to the shilling. When, therefore, in the public notices of the Middle Ages we meet the statement that such a gold coin was worth so many shillings and so many pence, we know nothing about its real value until we have learned how much silver the coin at that time called a shilling really contained, and when we read that the price of an ounce of silver had risen from 3s. 9d. to 4s., it may mean simply that the weight of the shilling had changed.

In view of these peculiar ideas and practices, it is not surprising that currency conditions in the Middle Ages were much confused, and that they are very difficult to interpret. One fact, however, is clearly discernible, and that is that the attempt to maintain the concurrent circulation of gold and silver coins of full legal-tender power was a complete failure and responsible for the chief monetary difficulties of the times. The records regarding monetary matters relate chiefly to the disappearance now of gold and now of silver coins from circulation, and to attempts to prevent this by changing their equivalence or by recoinage. The cause was sometimes debasement or arbitrary changes in the equivalence of coins by means of royal decrees, and sometimes fluctuations in the value of the metals on the market. After the discovery of America the latter was the most common, since the conditions of production of the precious metals were revolutionized by that event. The exploitation of extraordinarily rich mines in Mexico, Peru, and Bolivia increased the estimated value of the world's supply of minted metal from thirty-four to two hundred and

forty millions of pounds sterling between 1492 and 1636, changed the market ratio of gold to silver from about 1 to 11 to about 1 to 15½, and increased the per capita circulation of Europe from sixteen to thirty-six shillings.* The stream of gold and silver which flowed from these new mines into Spain and afterward into every country of Europe was constant, but irregular, and the freedom of its movement was interfered with by inadequate means of transportation and by the attempt of each nation to get all that was possible and to keep all that it got. The result was constant fluctuation in the purchasing power of each of the metals and in their relation to each other, and frequently the greatest divergence between the ratios ruling in the different markets at the same time. To keep both gold and silver coins in circulation at the same time under these circumstances was impossible. In spite of the severest penalties and their not infrequent infliction, the money-changers were constantly shipping the coins of one nation into the territory of another where their value was more highly esteemed, and melting down undervalued coins for sale as bullion. A few instances out of many which might be given must suffice.

The ratio between gold and silver changed considerably on the Continent about the year 1519, and almost immediately England began to suffer from the exportation of undervalued coins. After a futile attempt to remedy the difficulty by means of a treaty with Charles V, it was decided to increase the nominal value of the gold coins, and accordingly on the 22d of August, 1526, *crowns of the sun*, as one species of gold coin was named, were tariffed at 4s. 6d. instead of 4s. 4d., and the ducat was raised from 4s. 6d. to 4s. 8d. Finding that this was not sufficient to check the

K. M's "Die geschichtliche Entwicklung des Geldwesens," p. 12.

exportation, on November 5th of the same year all the gold coins were tariffed at a still higher rate, and in 1527 a new coinage was ordered, in which the weight of the silver coins was again changed. That the difficulty still remained is evident from a state paper of 1529, which describes a dispute between English, Italian, Flemish, and Spanish merchants over the effect of the last edict about gold on the exchanges, and in which the writer recommends an increase in the care exercised at the ports to prevent the exportation of gold. About 1539 the ratio between gold and silver had changed on the Continent to such an extent that silver began to leave England instead of gold, and in order to prevent this there was a general retariffing of coins in 1542 and 1544. During the next fifteen years the currency of England was brought into the greatest confusion by the debasements of Henry VIII and Edward VI but, after the recoinage ordered by Elizabeth in 1559, honest efforts were again made to maintain an adequate currency of gold and silver, but with the same results as before. Elizabeth issued proclamation after proclamation for this purpose, and in 1601 changed the ratio between gold and silver in the coinage, but unfortunately in the wrong direction. The monetary history of England during the seventeenth and eighteenth centuries is simply a dreary recurrence of complaints against the exportation of coins and of royal proclamations and recoinages for the purpose of preventing it or of turning the tide in the other direction.

In France, Germany and the Netherlands the course of events was in all essentials the same as that in England. Constant changes in the ratio between gold and silver and in the rates at which coins were to be accepted was the rule in all these countries down to the nineteenth century. It is not, of course, possible to hold bimetallism responsible for all of this confusion. During the greater part of the period

the coins of one nation were legal tender in the others at rates fixed by royal proclamation, and, since these rates were far from uniform, it was usually possible to make a profit by shipping coins from the nation in which the valuation was low to that in which it was higher. But bimetallism increased these opportunities enormously and imposed upon the statesmen of the period an impossible task. A remedy for the under- or over-tariffing of foreign coins might have been found, but the task of keeping pace with the fluctuations in the market value of gold and silver by changes in the legal ratio through proclamation or recoinage was hopeless from the beginning.

2. Currency reform in England and the act of 1816.—The first change in England's method of dealing with her currency difficulties came in 1774. At that time she was suffering from the double evil of a currency deficient in quantity and in the weight of the individual pieces. Owing to the rates at which foreign coins were tariffed, all the full-weight gold and silver coins were speedily exported or melted down, and light-weight money of both domestic and foreign manufacture was alone in current use. On the advice of Lord Liverpool a remedy was adopted which differed in principle from that which had been employed over and over again in the past. A recoinage of gold was ordered, and it was decreed that the new coins should not be legal tender if they were underweight; and that henceforth worn and clipped coins should be accepted at their bullion value only. Regarding silver the terms of the act are still more significant. They are as follows: "And be it further enacted . . . that no tender in the payment of money made in the silver coin of the realm, of any sum exceeding the sum of £25 at any one time, shall be reputed in law or allowed to be legal tender within Great Britain or Ireland for more than according to its value by weight, after the rate 5s. 2d.

per oz. of silver, and no person to whom such tender shall be made shall be in any way bound thereby or obliged to receive the same in payment in any manner than as aforesaid; any law, statute, or usage to the contrary notwithstanding." In this legislation the modern method of maintaining the concurrent circulation of gold and silver coins was clearly foreshadowed and the first step taken toward the introduction of gold monometallism. It was only necessary to still further limit the legal-tender quality of silver coins, and to introduce a considerable margin between their tale and their intrinsic value, as measured in gold, to make them subsidiary in the modern sense of the term, and thus to take away their capacity to drive gold out of circulation and to render their exportation unprofitable.

Nearly half a century passed before these last steps were taken, and in the meantime the country experienced the effects of the suspension of specie payments by the Bank of England. This happened in 1797, and the depreciation of the bank-notes which followed drove both silver and gold out of the country in large quantities, and rendered retail and small transactions of all kinds difficult on account of the scarcity of small change. Tradesmen were forced to issue private tokens and various other forms of unauthorized currency in order to relieve the needs of the situation. It was as a remedy to this state of affairs that the act of 1816 was passed, the preamble of which reads as follows: "Whereas the silver coins of the realm have, by long use and other circumstances, become greatly diminished in number and deteriorated in value, so as not to be sufficient for the payments required in dealings under the value of the current gold coins, by reason whereof a great quantity of light and counterfeit silver coin and foreign coin has been introduced into circulation within this realm, and the evils resulting therefrom can only be remedied by a new coinage

of silver money," therefore be it enacted, etc. The substance of the enactment was that a Troy pound of silver, eleven ounces two pennyweights fine, should be coined into sixty-six shillings, but issued to the importer or to the public at the rate of sixty-two shillings per Troy pound, and that all silver coins should henceforth be legal tender only to the amount of forty shillings or less. A portion of the section relating to this last point is worth quoting on account of the clearness with which it sets forth the intention of Parliament to establish the gold standard. These are the words: "And whereas at various times heretofore the coins of this realm of gold and silver have been usually a legal tender for payments to any amount, and great inconvenience has arisen from both these precious metals being concurrently the standard measure of value and equivalent of property, it is expedient that the gold coin made according to the indentures of the mint should henceforth be the sole standard measure of value and legal tender for payment without any limitation of amount, and that the silver coin should be a legal tender to a limited amount only."

The principles established by the act of 1816 have not been violated in spite of the numerous efforts of other nations and of many English citizens to induce the Government to re-introduce the double standard. Throughout all the controversies of recent times English statesmen have championed the cause of gold monometallism and have been able to point out very substantial advantages enjoyed by reason of adherence to this system. Since 1816 there has never been any doubt regarding the value of a sound bill of exchange on England or regarding the exact meaning of any other contract calling for the payment of pounds, shillings, and pence. As we have had occasion to point out in the preceding pages of this book, this fact has been one of the chief causes of England's long-continued dominance

in the field of international finance, and it is highly probable that she owes much of her industrial and commercial progress to the same cause. Whoever may be disposed to doubt this, however, cannot question the fact that this act put an end to the difficulties which had harassed English statesmen for centuries and had been a constant drag upon industry and commerce. After 1816 the currency problems of England concerned her credit and banking systems rather than her coins.

3. **Bimetallism in France to 1865.** The experience of France with bimetallism between the years 1803 and 1865 is most instructive because the obstacles which tended to obscure its action in the Middle Ages had by that time been swept away. Though the modern practice of making silver coins subsidiary was foreshadowed as early as 1577, it was not introduced until late in the nineteenth century, and the numerous proclamations and recoinages of the seventeenth and eighteenth centuries exhibit the application of no principle except that involved in the attempt to adjust the legal to the market ratio of the two metals. In 1785 the ratio was finally fixed at 15½ to 1, where it has remained until the present day, and in 1803 the present unit of value, the franc, and the decimal system of reckoning were introduced. Thus in France, since 1803 at least and until the discontinuance of the free coinage of silver in 1874, the bimetallic system had every opportunity to exhibit the normal effects of its action. The ratio remained unchanged during the entire period, the mints were opened freely to the coinage of both metals, and both were legal tender in unlimited amounts.

Since it is the belief of the bimetallists that the compensatory action of the double standard will prevent any marked divergence between the legal and the market ratios of the two metals, we are chiefly interested in noting what

French experience teaches us regarding this matter. The following table* gives the yearly fluctuations in the market ratio of gold and silver from 1803 to 1893:

Year	Ratio	Year	Ratio	Year	Ratio
1803			15.93	1863..	15.37
to			15.73	1864..	15.37
1804..			15.80	1865..	15.44
1805..			15.72	1866..	15.43
1806..			15.83	1867..	15.57
1807..		1838..	17.85	1868..	15.59
1808..	16.08	1839		1869..	15.60
1809..	15.96	to		1870..	15.57
1810 .	15.77	1840..	15.62	1871..	15.57
1811..	15.53	1841..	15.70	1872..	15.65
1812..	16.11	1842..	15.87	1873..	15.92
1813..	16.25	1843..	15.93	1874..	16.17
1814..	15.04	1844..	15.85	1875..	16.62
1815..	15.26	1845..	15.92	1876..	17.77
1816..	15.28	1846..	15.90	1877..	17.22
1817..	15.11	1847..	15.80	1878..	17.92
1818..	15.35	1848..	15.85	1879..	18.39
1819..	15.33	1849..	15.78	1880..	18.04
1820..	15.62	1850..	15.70	1881..	18.24
1821..	15.95	1851..	15.46	1882..	18.25
1822..	15.80	1852..	15.59	1883..	18.65
1823..	15.84	1853..	15.33	1884..	18.63
1824..	15.82	1854..	15.33	1885..	19.39
1825..	15.70	1855..	15.38	1886..	20.73
1826..	15.76	1856..	15.38	1887..	21.18
1827..	15.74	1857..	15.27	1888..	21.99
1828		1858..	15.38	1889..	22.09
to		1859..	15.19	1890..	19.17
1829..	15.78	1860..	15.29	1891..	20.92
1830..	15.82	1861..	15.26	1892..	23.72
1831..	15.72	1862..	15.35	1893..	26.49
1832..	15.73				

* Shaw, p. 157. Figures taken from Hamburg Exchange Ratio to 1832, from 1833 onward from the London Bullion Brokers' Ratio.

It will be observed that at no time during the entire period was the legal ratio 15½ to 1 realized upon the markets. From 1803 to 1807 an ounce of gold was worth sometimes more and sometimes less than fifteen and one-half ounces of silver; during the next seven years it was worth persistently more, at one time, in 1813, as much as sixteen and one-fourth ounces; then for six years less; and from 1819 to 1850, always and increasingly more. The

TABLE OF THE MOVEMENT OF SILVER TO AND FROM FRANCE (1822-1875)*

Year	Net Imports (Francs)	Net Exports (Francs)	Year	Net Imports (Francs)	Net Exports (Francs)
1822...	125,000,000	.....	1851...	78,000,000	.....
1823...	114,000,000	.....	1852...	.....	3,000,000
1824...	124,000,000	.....	1853...	.....	117,000,000
.....	.....	.....	1854...	.....	164,000,000
1830...	151,000,000	.....	1855...	.....	197,000,000
1831...	181,000,000	.....	1856...	.....	284,000,000
1832...	60,000,000	.....	1857...	.....	360,000,000
1833...	75,000,000	.....	1858...	.....	15,000,000
1834...	101,000,000	.....	1859...	.....	171,000,000
1835...	74,000,000	.....	1860...	.....	157,000,000
1836...	27,000,000	.....	1861...	.....	62,000,000
1837...	144,000,000	.....	1862...	.....	86,000,000
1838...	120,000,000	.....	1863...	.....	68,000,000
1839...	75,000,000	.....	1864...	.....	42,000,000
1840...	96,000,000	.....	1865...	72,000,000	.....
1841...	117,000,000	.....	1866...	45,000,000	.....
1842...	92,000,000	.....	1867...	189,000,000	.....
1843...	103,000,000	.....	1868...	109,000,000	.....
1844...	82,000,000	.....	1869...	112,000,000	.....
1845...	90,000,000	.....	1870...	35,000,000	.....
1846...	47,000,000	.....	1871...	15,000,000	.....
1847...	53,000,000	.....	1872...	102,000,000	.....
1848...	214,000,000	.....	1873...	181,000,000	.....
1849...	244,000,000	.....	1874...	360,000,000	.....
1850...	73,000,000	.....	1875...	194,000,000	.....

* Shaw, p. 184.

movements of gold and silver to and from the country was precisely what one would expect. Since from 1819 to 1850 gold was undervalued at the French mint and silver

TABLE OF THE MOVEMENT OF GOLD TO AND FROM FRANCE (1822-1875)*

Year	Net Imports (Francs)	Net Exports (Francs)	Year	Net Imports (Francs)	Net Exports (Francs)
1822...	4,000,000	.....	1851...	85,000,000	.....
1823...	.....	19,000.000	1852...	17,000,000	.....
1824...	37,000,000	.....	1853...	289,000,000	.....
.....	.....	.....	1854...	416,000,000	.....
1830...	10,000,000	.....	1855...	218,000,000	.....
1831...	10,000,000	.....	1856...	375,000,000	.....
1832...	.....	39,000,000	1857...	446,000,000	.....
1833...	24,000,000	.....	1858...	488,000,000	.....
1834...	.....	7,000,000	1859...	539,000,000	.....
1835...	.....	20,000,000	1860...	311,000,000	.....
1836...	.....	14,000,000	1861...	.....	24,000,000
1837...	.....	6,000,000	1862...	165,000,000	.....
1838...	.....	4,000,000	1863...	12,000,000	.....
1839...	24,000,000	.....	1864...	125,000,000	.....
1840...	49,000,000	.....	1865...	150,000,000	.....
1841...	.....	5,000,000	1866...	465,000,000	.....
1842...	.....	12,000,000	1867...	409,000,000	.....
1843...	.....	41,000,000	1868...	212,000,000	.....
1844...	.....	6,000,000	1869...	275,000,000	.....
1845...	.....	14,000,000	1870...	119,000,000	.....
1846...	.....	9,000,000	1871...	.....	214,000,000
1847...	.....	13,000,000	1872...	.....	53,000,000
1848...	38,000,000	.....	1873...	.....	108,000,000
1849...	6,000,000	.....	1874...	431,000,000	.....
1850...	17,000,000	.....	1875...	454,000,000	.....

overvalued, it was profitable to import the latter metal and either to export the former or to use it for other than currency purposes. Up to 1822 the precious metals were not distinguished in the public records of imports and exports, and, hence, it is possible only to give figures for the last

*Shaw, p. 183.

twenty-nine years of the period. The preceding table, on page 320, covers a longer period, but is inserted in full for future reference.

It will be observed that in every year of the entire period, 1822 to 1851, the net imports of silver were large, and that the opposite movement quite as persistently characterized the next period.

The net importation of gold in the period 1851 to 1867 is quite as striking, that metal being overvalued at the mint during the entire period. The figures are on p. 321.

The exports of the precious metals are less significant than the imports, because it is not necessary that they should leave the country when they are undervalued at the mint. They may be sold on the bullion markets at home and absorbed in the arts, or hoarded. Neither do statistics of the gold and silver coins struck at the mint always tell the story of the operation of the compensatory law. It is not necessary that coins issued from the mint should enter into the general circulation. They may be hoarded or exported or even sold upon the bullion market. As indicated in the preceding chapter, it is even possible that gold, undervalued at the mint, may, by special agreement, continue some of its monetary functions, but at its market instead of its legal value. The importation of the overvalued metal, however, is certain, unless conditions are precisely the same in other countries, because in the form of the coins of the country in which there is overvaluation it is worth more than in any other form. It is, therefore, sent to the mints of such a country from all quarters, in accordance with the law by which commodities are impelled to seek the best markets. However, the above tables show that gold was exported in considerable quantities during the years 1834 to 1838 and 1841 to 1847, and that the net exports of silver were very large every year from 1853 to 1864 inclusive. The relative

amounts of these metals brought to the mints for coinage also indicate the operation of the bimetallic system, though there was at no time a complete discontinuance of the coinage of either metal. [See Appendix, p. 365].

Regarding the effects of the divergence between the legal and the market ratios upon the monetary use of these two metals during this period the following statement quoted by Mr. William Shaw* from an official explanation of the reasons for introducing a subsidiary currency into France in 1876 is significant: "The variations of the commercial from the legal 15½ ratio remained normal during the years 1824-67. All the same they sufficed to modify greatly the composition of the French circulation. After the predominance of silver, which became marked in 1847, the ratio from 1847-67 introduced gold in a large proportion, and measures had to be taken to retain in France the smaller silver coinage."

The causes of the fluctuations in the relative values of the precious metals must be sought in an analysis of their demand and supply. For the period now under consideration this is a difficult process, owing to the absence of detailed information regarding all the facts involved, and it would be impossible here in any case on account of a lack of space. Three events, however, throw considerable light upon the situation, and will suffice for our purposes. The first is the great increase in the amount of silver produced in the closing years of the eighteenth and the early years of the nineteenth century; the second is the resumption of specie payments in England in 1822; and the third is the enormous increase in the annual production of gold after 1850. During the first eighty years of the eighteenth century the average annual production of silver had been in weight from 21.6

**History of Currency*, p. 187.

to 31.5 times that of gold, while in the forty years intervening between 1780 and 1820 it was never less than 47.2 times that of gold, and for the ten years 1800 to 1810 averaged 50.2 times as much.* It was natural, therefore, that the value of silver should fall below that established by law in France in 1803, which was not far from the market value at that date. The natural effect of the resumption of specie payments in England was to increase the demand for gold, that being the standard money of the country after the passage of the act of 1816. This fact considered in connection with the continued large annual production of silver as compared with gold goes far toward explaining why silver did not recover its value during the next thirty years.

The effect of the increased production of gold after 1850 is not questioned by anyone. The only marvel is that the value of this metal did not fall to a much lower point than was actually the case. The facts regarding the matter are as follows:** On account of the exploitation of very rich gold mines discovered in Australia and California the annual production of that metal increased from about $15,000,000 in 1840 to an average of more than $137,000,000 for the five years 1850 to 1855, and to an average of more than $143,000,000 for the succeeding five years. It did not fall to so low a figure as $100,000,000 until 1874, and then for two years only. While the production of silver began to increase greatly at about the same period and has continued at a high rate ever since, its proportion to that of gold fell tremendously in 1851 and has never been restored. While in weight it was 50.2 times as great in the decade 1801 to 1810, it was only 4.4 times as great

*Laughlin's *History of Bimetallism*, 1st ed., p. 42.

**Laughlin, pp. 217 and 218.

in the period 1851-60, and between six and seven times as great during the next ten years.* The fall in the purchasing power of gold over commodities during this period has been variously estimated, but it was probably not less than nine nor more than fifteen per cent. The change in its ratio to silver is indicated in the table on p. 319. On account of its overvaluation at the mint France received more than her share of this metal and silver began to disappear from circulation, causing a scarcity of small coins and finally compelling the government to make all silver coins, except the five-franc piece, subsidiary.

In 1865 the history of bimetallism in France entered upon a new phase, before describing which, however, it will be well to note some of the early monetary experiences of the United States. Regarding the general results of its operation during the period here under discussion, there can be no question, however much people may differ regarding the explanation of specific phenomena. It did not succeed in preventing divergence between the legal and market ratios of the two metals, and the dominance now of one and now of the other in the circulating medium, and it did subject French commerce to great inconvenience by rendering it difficult and at times impossible to keep in circulation an adequate supply of small change, not to speak of the uncertainty attending the change of the standard in 1851 from silver to gold. As compared with the peaceful course of England, the continued occupation of the French government with harassing coinage questions during the entire century is an object lesson which should not be overlooked.

4. **Bimetallism in the United States to 1873.**—The experience of the United States with bimetallism admirably supplements that of France because it exhibits the effects of

*Laughlin, p. 42.

two ratios, one above and the other below that of the French mint. From 1792 to 1834 the mint ratio in this country was 15 to 1, and since the latter date it has been 16 to 1. It will be well, therefore, to separate these two periods in our discussion.

A. The Period from 1792 *to* 1834.—The adoption of bimetallism and of the ratio 15 to 1 was chiefly the work of Alexander Hamilton, who was the author of our monetary system. Previous to the passage of the act of 1792, or rather to the execution of the provisions therein contained, our currency consisted of foreign coins, chiefly English and Spanish, and of the mintages and paper money of the various colonies. It was inadequate in quantity and extremely inconvenient on account of its numerous and varied elements. It was Hamilton's belief that the bimetallic system was necessary in order to secure an adequate supply of the precious metals for coinage purposes, and the ratio 15 to 1 was adopted because it was thought to represent approximately the market value of the precious metals at that time. Two or three years were required after the passage of the act of 1792 before a mint could be constructed and equipped, and the new system actually put into operation, and meanwhile the market ratio changed, silver falling in value relatively to gold. According to Mr. Soetbeer, it was 15.37 to 1 in 1794, 15.55 to 1 in 1795, 15.65 to 1 in 1796, 15.41 to 1 in 1797, 15.59 to 1 in 1798, 15.74 to 1 in 1799, 15.68 to 1 in 1800, 15.46 to 1 in 1801, and 15.26 to 1 in 1802* Practically from the beginning, therefore, there was a divergence between the market and the mint ratios, and silver was overvalued. Being a very new country, however, situated a long way from Europe, and commerce being but

*For the ratio at dates subsequent to 1802 see table on p. 346.

slightly developed, the markets of the United States were sluggish and did not respond quickly to foreign influences. There was a great demand for money, and accordingly both gold and silver were minted in considerable quantities, but in time, and probably as early as 1810,* gold began to disappear from circulation, and ultimately in such quantities as to attract the attention of Congress. From about 1818 on also, the coinage of silver greatly increased, while that of gold relatively, and in some years absolutely, decreased.

The action of the bimetallic system was somewhat obscured and complicated during this period by the circulation of various foreign coins and by inadequately secured bank-notes. Spanish silver dollars were full legal tender, and, since they contained more silver than the corresponding coins of the United States, they were hoarded by bankers and money-changers or sent to the mint for recoinage, and, since both coins passed at their face value among the people generally, a profitable trade was carried on by sending our silver dollars to the West Indies and transporting hither the heavier Spanish coins. On this account the coinage of silver dollars was suspended in 1805, but the traffic still continued to be carried on with our smaller coins. The result was that only worn and clipped foreign silver coins were in actual circulation, and there was a great dearth of the kind of money needed for ordinary transactions. In consequence of the war with England, in the years 1814 to 1816, there was a general suspension of specie payments by the banks of the country, and consequently so great a depreciation of bank-notes that coins of all kinds were driven out of circulation.

Though the situation was much confused by these disorders, the resumption of specie payments in 1818 brought

*See Laughlin, chap. iii.

into clear light the effect of the undervaluation of gold at the mint. It did not return to circulation, and the exchanges of the country were practically on a silver basis, and all large payments had to be made in bank-notes. Owing to the general distrust of this latter form of currency, caused by our unfortunate experiences with paper money during colonial times, the Revolutionary War, and the period of suspension, and fostered by President Jackson and his supporters during their fight to prevent the recharter of the Second United States Bank, a strong party arose in favor of such a change in the ratio as would bring gold again into circulation. Aided undoubtedly by the discovery of gold mines in South Carolina, this party was able in 1834 to secure the passage of an act by which the mint ratio was made 16 to 1. Though it was generally known that this was an overvaluation of gold, the desire to restore this metal to circulation was so great that the party in power did not wish to take any chances in the matter, and many probably believed that the tendency of silver was to fall still more in value, and that it was, therefore, best to anticipate to some extent the probable course of events in the future. The change from the old to the new ratio was accomplished by diminishing the amount of pure metal in the gold eagle from 247.5 to 232 grains, the amount of pure silver in the dollar remaining unchanged at 371.25 grains.

B. The period from 1834 *to* 1873.—Whatever may have been the expectations of the framers of the act of 1834, the ratio between gold and silver upon the markets did not greatly change during the next sixteen years, and never became 16 to 1. With the fall in the value of gold which accompanied the greatly increased supply after 1850, it diverged more and more from that point, and did not show any marked tendency to turn in the other direction until about 1867. The result was at first a gradual substitution

of gold for silver in the currency, and, after the gold discoveries, the disappearance of silver to such an extent as seriously to interfere with commerce and to cause the issue of private tokens and other monetary devices to take the place of small coins. The situation compelled Congress again to take up the question of the coinage, and this time the remedy to which England had been forced under similar circumstances in 1816 was adopted, namely, the reduction of the small silver coins to a subsidiary basis. The act by which this was accomplished was passed in 1853, and it diminished by 6.91 per cent the content in pure silver of all coins below the denomination of a dollar. Heretofore the half-dollars, quarter-dollars, dimes, etc., had contained respectively one-half, one-quarter, one-tenth, etc., of the amount of metal put into the dollar, but henceforth two half-dollars were to contain only 345.6 instead of 371.25 grains of pure silver, and 384 instead of 412½ grains of standard silver, and the other coins in proportion. This act also took away the free-coinage privilege in the case of these coins, and made them legal tender for sums of five dollars and under only.

The effect of this act was to place the currency of the United States upon a gold basis. Nominally, however, it still remained bimetallic because by law the silver dollar was still authorized to be freely coined at the mint at the ratio with gold of 16 to 1, and its legal-tender power had not yet been removed. Since it was worth a premium of four or five cents per dollar in gold, however, it did not form an element in the currency, and had not done so since 1834.

From 1862 to 1879 legal-tender government notes, issued as a financial expedient during the war between the states, constituted the basis of the currency of the United States, their depreciation having expelled from circulation both gold and silver, even the subsidiary coins. The annals of

this period, therefore, are not significant in the history of the operation of the double standard, and could be passed over in silence, were it not for the act of 1873 and the controversy of which it was the occasion in subsequent years. The purpose of this act was to bring together in one code the laws which were in force at the mint and to eliminate their obsolete features, one of which was supposed to be the authority to coin a silver dollar which was then at a premium in gold, and had not been a part of the circulating medium since 1834, and had played but a very insignificant rôle since 1805. Accordingly in the enumeration of the list of coins authorized to be struck at the mint, the silver dollar was omitted, and our currency was thereby made gold monometallic in law as well as in fact.

This act had no immediate effect upon the currency of the United States, and only a subjective one upon the relations between gold and silver in other parts of the world, inasmuch as only inconvertible paper was in circulation at the time. However, it did become significant when we resumed specie payments six years later, and even before, owing to the authorization of resumption by an act passed in 1875 and a sudden drop in the value of silver in the following year, an event which must be explained before we can profitably proceed with our account of the history of bimetallism.

5. The fall in the value of silver after 1875.—The table of ratios on p. 319 shows that the value of silver as measured by gold steadily and persistently fell after 1859, and that its downward pace was greatly accelerated in 1875 and 1876. This was due to great changes in the relation between the demand and the supply of the two metals caused in part by an increase in the production of silver and a diminution in the amount coined, and in part by a large increase in the

use of gold for currency purposes. The statistics of the production of the precious metals given in the Appendix show a steady gain in the proportion of the annual output of silver to gold after 1860. For the five years 1865 to 1870 the annual average increase in the production of silver over that of the preceding quinquennial period was $10,700,000 while in the case of gold it was only $4,725,000. For the next five years the figures for silver show an annual increase of $28,375,000, while those for gold show a decrease of $14,800,000. In the period 1876 to 1880 the increase for silver was $23,875,000, while the production of gold but little more than held its own. To these figures must be added the annual sales of silver bullion by Germany in the years 1873 to 1879 inclusive, amounting in the aggregate to $141,784,948.* The chief cause of this increase in the production of silver was the discovery of very rich mines in the western part of the United States, especially in Nevada.

On the demand side the case is not so simple, but that there was a falling off in certain quarters and a limitation in others of the field for the extension of the use of silver as money is clear. During the years 1871 to 1876 Germany introduced her present monetary system, which involved a change from the silver to the gold standard. This was accomplished by acts passed in 1871 and 1873, the first authorizing an Imperial gold coinage, and the second its substitution, together with a new Imperial silver coinage issued on a subsidiary basis, for the old silver coins which had been previously minted by the various states out of which the empire was formed. The amount of silver required for the new coins was very much less than that formerly in circulation, and accordingly a considerable quantity

*Laughlin, p. 141.

of the metal accumulated in the Imperial treasury, a portion of which was sold between the years 1873 and 1879. So far as Germany is concerned, therefore, there was a considerable falling off in the demand for silver, accompanied by an addition to the supply thrown upon the bullion market.

During the entire nineteenth century India served as the chief outlet for the surplus silver of the world. Her capacity to absorb this metal seemed for a time to be unlimited, a peculiar fact due to the custom of hoarding the precious metals as a means of saving, and to their extensive use in the manufacture of idols and personal ornaments. During the decade 1857-67 the Indian demand was abnormally great on account of the Sepoy rebellion, the transfer of the government from the East India Company to the crown, the construction of railways and other public works, and the importation of cotton to Europe to take the place of the American exportation temporarily stopped by the war between the states. All of these events gave occasion for the shipment of unusual quantities of silver from Europe to India. About 1867 a marked change in this situation is observable, the imports of silver into India decreasing greatly. [See Appendix.] The reason for this seems to have been the disappearance of the main sources of extraordinary demand and the beginning of annual interest payments on the large public debts which the events above mentioned occasioned. These payments were due to England chiefly, and were made by the sale in London of bills of exchange on India, the purchase and shipment of which by people who had debts to pay there to a considerable extent now taking the place of silver. From 1867 on, therefore, there was evidently a relative decrease in the demand for silver from this quarter.

A limitation of the field for the monetary use of silver was caused not only by the events in Germany already de-

scribed, but also by the reduction of small silver coins to a subsidiary state in the United States and throughout Europe generally, and by limitations placed upon the minting of larger silver coins in the states of the Latin Union and in this country. Before describing the means by which this was brought about, however, we must note the main causes for the increase in the demand for gold, which also helps to explain the relative fall in the value of silver.

Reference again to the table on p. 319 will show that the divergence between the bullion and the legal ratios in both France and the United States was favorable to the introduction of gold into the currencies of those countries after 1853. That it was so introduced in large quantities is rendered certain by the statistics of the mints of the two countries and by many other kinds of contemporary evidence. The same may be said of Switzerland and Belgium, whose monetary systems were assimilated to that of France after 1865, and of the Netherlands, Denmark, and the Scandinavian countries whose monetary movements closely followed those of Germany. In this latter country, as we have seen, gold became the standard of value in 1873, and has constituted an important part of the circulating medium ever since. In Italy and Austria the circulation of coin was small during this period on account of the currency of inconvertible legal-tender notes, and in the United States from 1862 to 1879 gold played a smaller rôle for the same reason. It has been estimated that between 1850 and 1876 not far from two billions of dollars' worth of gold were absorbed by the currencies of the various countries.* When it is remembered that before 1850 silver was the chief money metal everywhere except in England, the effect of this change in demand upon the relative values of the two metals will become evident.

*Laughlin, p. 174.

In explanation of this great increase in the demand for gold, the chief emphasis must be laid upon the enormous growth of commerce on a large scale since the middle of the nineteenth century. It was this which made gold acceptable to all the nations and preferred to silver for all purposes except that of small payments; and it was this, therefore, which more than any other one thing accounts for the changes in legislation which have been noted. Germany was doubtless influenced in her action by the large indemnity in gold which she forced France to pay her as the price of peace in 1871, but it was chiefly because of the belief of her statesmen in the superiority of the gold over the silver standard for modern commercial nations that she demanded the payment of so large a portion of that indemnity in gold.

6. The Latin Union.—We are now prepared to resume our account of the history of bimetallism in France and the United States. Regarding the former country the most important facts to be noticed are connected with a monetary convention or agreement formed with Belgium, Switzerland, and Italy, December 23, 1865. The events leading up to this treaty are, briefly stated, as follows:—

For some years previous to 1865 the unit of value in all these nations had been the franc, and in other respects there was a general similarity between their coinage systems. When gold began to fall in value relatively to silver after the great discoveries of 1849 and 1850 they were all troubled by a scarcity of small coins. Silver money was being rapidly melted down and exported, and the gold coins which took its place were of too large denominations to serve the purposes of small change. The proper remedy for this difficulty was the issue of a subsidiary silver currency, and to this Switzerland resorted in 1860 by an act which reduced

the fineness of all her silver coins, except the five-franc piece, to eight-tenths, and made this latter coin her unit instead of the franc. Inasmuch as the similarity of their systems had made the circulation of the coins of each country common in all the others, these Swiss coins of low intrinsic value began to be substituted for the more valuable ones of the other states, and the latter to be brought to the Swiss mints for recoinage. In order to prevent this, April 14, 1865, the French government prohibited the receipt of Swiss coins at all public offices, and the government of Belgium suggested a conference of delegates from all the countries affected. This met in Paris on November 20, 1865, and the result of its deliberations was the treaty above mentioned.

In accordance with the agreement at that time made, a subsidiary coinage of silver .835 fine, limited in quantity to six francs per capita, was introduced into all these nations, but the five-franc piece was retained as a standard silver coin to be freely minted at the old ratio of 15½ to 1. The double standard was thus retained, but its operation, so far as silver was concerned, was confined to the five-franc piece.

The commercial ratio between silver and gold in 1865 was not far from 15½ to 1, but, as we have seen, it began to change about two years later, and silver fell very rapidly in 1875 and subsequently. By 1873 this fact began to make itself evident in a large increase in the number of five-franc pieces struck from the mints, in France from 5,000,000 to 154,000,000 francs, and in Belgium from 33,000,000 to 111,000,000 francs.* In the same year Germany began the withdrawal of her old silver currency and the sale of a portion of the surplus, and the countries of the Latin Union with good reason began to fear that, unless speedy

*Laughlin, p. 155.

action were taken, their gold would disappear, and they would be reduced to a silver standard. Another meeting of delegates was, therefore, called and, as a result, a supplementary treaty went into force in 1874, by which the number of five-franc pieces to be minted was limited in the case of each of the nations concerned to a definitely assigned quota. This policy of restriction was adhered to during the following three years, the assigned quotas, however, being considerably diminished in 1876 and Switzerland refraining from coining any of her quota in 1875 and 1876. These measures, however, were not sufficient to check the outward movement of gold, and in consequence in 1878 the states of the Latin Union completely suspended the coinage of five-franc pieces, and have adhered to this policy to the present day. A good many meetings of delegates have been held since 1878, but their deliberations have been chiefly concerned with the feasibility of placing the gold standard on a still more secure basis and with the obligation of each State to redeem its own silver coins in gold in case of a dissolution of the Union.

7. Bimetallism in the United States since 1873.—Strictly speaking the currency of the United States has not been bimetallic since 1873, but a very close approach to bimetallism was made in 1878 and 1890. The chief source of the increased production of silver, which has been one of the causes of its declining value during the last thirty years, has been the rich mines of our western states, and on this account, since the early sixties, very important private interests in this country have been associated with the fortunes of silver. The principle of protection, which has so long and so persistently dominated the policy of our government in its relation to private interests, very naturally

encouraged the owners and others interested in these mines to seek assistance from the State when the value of their product began to fall and the profitableness of their industry to decline. They were greatly aided in their efforts by the people who, still cherishing the monetary fallacies of the greenback period, believed that the quantity of money in circulation and prosperity were related to each other as cause to effect and that the country was suffering from a scarcity of currency. Most of our theorists also believed in the doctrine of bimetallism, and, hence, furnished plausible arguments for the more active partisans. After the passage of the resumption act in 1875, this combination of circumstances produced a strong party in Congress which favored a return to the bimetallic system by restoring the silver dollar to its status previous to 1873.

It is not possible within the space which can be devoted to the subject here to describe even in outline the struggle which ensued. We can only state the results. In 1878 a compromise measure was enacted into law, known as the Bland Act, which ordered the director of the mint each month to coin into silver dollars of the same weight and fineness as formerly minted, not less than two nor more than four million dollars worth of silver bullion, and which restored to these coins their former legal-tender power. Being the result of a compromise, neither party was satisfied with this act, but under it we resumed specie payments January 1, 1879, and, owing to a fortunate combination of circumstances and devices our commerce was able to make use of this constantly increasing mass of overvalued coins, and the gold standard was maintained intact. Lulled into a state of fancied security by our apparent ability to absorb enormous quantities of silver, and pressed by political exigencies, the party which had fought so strenuously against the rehabilitation of the silver dollar in 1878 consented to a

still more liberal measure in 1890, known as the Sherman Act. This was passed as a substitute for the Bland law, and authorized the Secretary of the Treasury to purchase each month four million five hundred thousand ounces of silver at its market price and to pay for it in treasury notes redeemable at his option in silver dollars or in gold. While this measure did not increase to any appreciable extent the amount of silver dollars in circulation, it greatly increased the strain upon our gold standard and piled up an enormous quantity of unused silver in the vaults of the treasury building.

The course of events which resulted in the exhaustion of the government's gold reserves and in the repeal of that portion of the act of 1890 which authorized the purchase of silver bullion has been described in a previous chapter and need not be repeated here. Suffice it to say that since 1893 we have not added to our stock of silver, and that in 1900 Congress passed an act which in many particulars safeguards the gold standard against danger from this source.

8. The International conferences.—Another phase of the history of bimetallism must be presented before the present status of the question can be appreciated. Four international conferences and a number of others of less importance have considered the questions involved in it, and a brief account of their deliberations and results will help us to understand the general course of official opinion on this question and the prospects for the future.

The first of these conferences was held in Paris in 1867 and was the result of a plan formulated by the delegates of the states of the Latin Union at their meeting in 1865 to promote international uniformity of action on monetary matters. The most significant fact connected with this conference was the declaration of all the states which partici-

pated, except Holland, in favor of the gold standard. Other proposals aimed at the establishment of an international unit of value. In February, 1868, the English government appointed a commission to consider the proposals of this conference, but the outcome of its deliberations was unfavorable to any change in the English system, though it expressed a strong appreciation of the advantages to be derived from legislation looking toward uniformity of international action. What happened in other states we already know. Germany adopted the gold standard in 1871-73, and her action was followed by the Scandinavian countries, Denmark, and Holland. France and the other states of the Latin Union discontinued the free coinage of five-franc pieces in 1874, and the United States dropped the silver dollar from the list of authorized coins in 1873.

The next conference was the direct result of the fall in the value of silver which became so marked in 1876 and which affected important interests in most countries. In the United States the silver producers of the west saw their profits threatened; in England the exchanges with India were upset, the business of the cotton manufacturers of Lancastershire injured, and investments checked; in India the increased cost of making the annual payments due in England threatened a deficit in the finances; and in France and the other states of the Latin Union a gold famine was imminent. In March, 1876, the English government appointed a commission to investigate the situation, and the Congress of the United States took similar action in August of the same year. The former committee made no proposals by way of remedy, but presented a full statement of the situation, while the committee of Congress reported in favor of the rehabilitation of silver, and started the movement which culminated in the Bland Act. One clause of this authorized the President to invite the various nations

to an international conference on the subject, and the outcome was a second meeting of delegates in Paris, August 10, 1878.

The attitude of the representatives of the various states toward bimetallism indicated a considerable change of opinion since 1867, but a wide diversity of interests and the impossibility of an international agreement for the rehabilitation of silver at this time. The delegates of the United States strongly favored the free coinage of silver by all the nations at a ratio to be agreed upon. Those of Belgium, Switzerland, and Norway strongly opposed such action, and the English delegate stated that England would not consent to a modification of her system. Germany was not represented at all and France maintained a waiting attitude. The conference adjourned after declaring that in view of the wide differences of opinion expressed it was useless to discuss the question of an international ratio, and that each nation must be left free to treat silver as it might think best.

The advocates of bimetallism were naturally encouraged over the trend of opinion in their direction since the conference of 1867, and carried on a vigorous agitation, especially in the United States, France and Germany. This fact together with the continuous decline in the value of silver resulted in a third conference, called, on the joint invitation of France and the United States, April 19, 1881. This time the advocates of bimetallism were very much more numerous, including, besides the delegates of the United States, those of France, Italy, Austria, the Netherlands, and British India. The representatives of England and Germany, however, stated positively that the best that could be hoped from their governments was possible action with a view to increasing the use of silver as money, in case an international agreement for free coinage were made by the

other nations, and the delegates of Belgium, Switzerland, Greece, and the Scandinavian countries declared against bimetallism. Therefore, in spite of additions to the forces working for bimetallism, an international agreement seemed as far away as ever. This conference adjourned to meet again April 12, 1882, but it was not reassembled until 1893.

Agitation in favour of bimetallism was continued during the eleven years, an international league having been formed for that purpose. A conference of bimetallists was held at Cologne in October, 1882, which advised Germany to retain the silver she already possessed, and to substitute it in her circulating medium for small gold coins and paper below the denomination of ten marks. It also urged the Bank of England to make use of her right to keep a part of her reserve in silver. A Royal commission on the depression of trade, appointed in England in 1886, reported in 1888, one-half of its members favoring and the other half opposing bimetallism. In connection with the Paris Exposition of 1889 a monetary conference was held, which closed, however, without any practical recommendation. In this conference England was not represented.

The Brussels conference of 1893 was called on the invitation of the United States, and the opinions there expressed indicate that the cause of bimetallism had rapidly lost ground since the last meeting in 1881. Even the President's invitation was couched in language which was not hopeful. It declared the purpose of the conference to be a consideration of "what measures, if any, could be taken to increase the use of silver in the currency systems of nations." Though the delegates of the United States presented a scheme of international bimetallism, they learned at the beginning that it would be useless to push it to the front, and accordingly most of the time of the conference was devoted to a discussion of two or three plans submitted for an

increase in the use of silver for monetary purposes by substituting it for small gold coins and paper of low denominations at that time based on gold. Even these plans, however, were rejected. The delegates of Germany, Austria, and Russia came to the conference instructed by their respective governments not to vote or to express an opinion, and, though uninstructed, those of Roumania, Portugal, Turkey, and Greece took the same attitude. The representatives of France declared that their government would not consent to the free coinage of silver unless the other nations would do likewise, and England's attitude was not materially changed. The conference, therefore, adjourned without any practical result so far as the purpose which called the delegates together was concerned, but not without leaving upon the minds of most people who watched its deliberations the conviction that the cause of international bimetallism was lost.

9. The present status of bimetallism.—Having passed in review the most important aspects of the world's experience with bimetallism, we may now close our discussion with a statement of results, first of all regarding the bearing of the historical facts presented upon the theory of the subject.

The crucial point in the doctrine of bimetallism is the supposed adequacy of the compensatory action of the double standard to prevent a divergence between the legal and the market ratios of gold and silver. Upon this point the testimony of history is clear. Throughout the Middle Ages and early modern times there was nearly always a lack of uniformity between the market ratio and that established by law in the various countries, and during the nineteenth century, in spite of more settled conditions and a studied attempt by governments to give the compensatory law an unobstructed field for operation, the same experience has

been repeated. In order to maintain the concurrent circulation of the two metals, one after the other every nation of Europe and the United States has been compelled to make small silver coins subsidiary, and those which have attempted to retain one silver coin as standard money have been obliged at first to limit the amount coined, and ultimately to discontinue its coinage entirely. At the present time, outside of the silver-standard countries, there is not a single nation which is regularly minting full legal-tender silver coins. That this situation has been brought about by the force of economic law, and in most, if not all, cases against the will, and in spite of the efforts, of the nations most concerned, is evident from the facts presented in the preceding pages.

Many people still believe that bimetallism has never had a fair trial and that its establishment upon an international basis would vindicate the claims of its advocates regarding the efficacy of the compensatory law. The failure of the experiment made by the Latin Union along this line is not regarded by such people as a demonstration of the futility of international bimetallic agreements, because, they say, the times were then rendered unpropitious for such an experiment by the action of Germany in demanding an enormous war indemnity in gold from France and in throwing upon the bullion market more than half of the silver which had formerly constituted her circulating medium. It must be remembered, however, that the Latin Union was compelled to limit the coinage of five-franc pieces in 1874, before Germany had sold silver enough to affect the markets materially, and that only a small part of the gold which she had at that time absorbed came from France. Further, in judging of the probable effects of an international agreement at the present time it must not be forgotten that the market for the precious metals was never so sensitive as

now. A much smaller difference in price than was formerly required will now cause the movement of metal from one market to another. The cost of transportation is less than formerly, and a much closer connection between the bullion markets of the world has been established by the development of the credit system in its various branches and especially by the extension of international banking. Moreover, the magnitude of international credit transactions is so great that large quantities of gold or silver can be drawn from one nation to another with comparative ease. A nation which should attempt to establish the bimetallic system at the present day would find the task a more difficult one than it was twenty or even ten years ago.

It is idle to speculate regarding what would happen if all the great nations of the earth should unite in the free coinage of silver at a common ratio, but it may not be out of place here to say that the probability of such action was never more remote than at the present time. The results of the Brussels Conference were certainly sufficiently discouraging to the bimetallists, but the statistics of the production of gold in recent times are even more so. The discovery of new mines of great richness in South Africa, Alaska, and the western part of the United States has so enlarged the world's capacity to meet a growing demand for that metal that the outcry against an appreciating standard of value has lost its force. There are few people who would not prefer a single to a double standard, if the fear of falling prices could be removed. It is significant of the trend of opinion in very recent times that in 1900 the Congress of the United States, the stronghold of bimetallism for a quarter of a century, was induced to pass a law expressly making gold the standard of value in this country and safeguarding it by provisions which, though inadequate, are a long step in the right direction.

REFERENCES

The literature on the history of bimetallism is voluminous, but most of it is controversial and fragmentary in character. The following books are general and cover large portions of the entire field: W. A. Shaw, *The History of Currency, 1252 to 1894.* While this is a hard book to read, it is filled with valuable facts and observations and systematically covers the entire period from the thirteenth century to the last decade of the nineteenth, and includes the history of currency in all the important countries of continental Europe as well as in England and the United States. The following three books by Mr. Ottomar Haupt also contain a large amount of historical material relative to various countries: *Währungs-Politik und Münzstatistik; L'Histoire Monétaire de Notre Temps; and The Monetary Question in 1892.* See also James Marclaren, *A Sketch of the History of the Currency.*

On the experience of the United States the best book is J. Laurence Laughlin, *The History of Bimetallism in the United States.* It was first published in 1886, but it has been brought up to date in more recent editions. It covers the entire period from the passage of the act of 1792, and explains in detail the various coinage acts which have been passed since that date and the influence of the production of the precious metals and of the legislation of European countries upon our currency. For the period since the Civil War see also Noyes' *Thirty Years of American Finance.*

The history of bimetallism in France, Belgium, Switzerland, and Italy is usually treated in books on the Latin Union. The latest of these and the most complete is Henry Parker Willis, *A History of the Latin Monetary Union.* Appendix III of this book contains a valuable bibliography. Others are: L. Bamberger, *Die Schicksale des Lateinischen Münzbundes;* and Ad. Burchardt-Bischoff, *Die Lateinische Münz-Convention und der Internationale Bimetallismus,* which, however, treats the subject chiefly from the standpoint of Switzerland and is not so useful as either of the others for the purposes of most students. H. Cernuschi, *Le grand Procès de l'Union monétaire latine* and O. Noel, *La Question monétaire et l'Union latine* treat of the experiences of the Latin Union itself, especially of the circumstances which led at first to the limitation and finally to the discontinuance of the coinage of the five-franc pieces.

On the statistics of the production of the precious metals and fluctuations in their market ratios the chief authority is Soetbeer, *Edelmetall-Production und Wertverhältnisse von Gold und Silber,* which, however, brings the subject down to the year 1886 only. It should,

therefore, be supplemented by reference to the Annual Reports of the Directors of the United States Mint and the United States Bureau of Statistics. A good critical discussion of the statistics which cover the period 1886-1895 may be found in Ernst Biedermann, *Die Statistik der Edelmetalle,* published in Berlin in 1898. For statistics which differ to some extent from those of Soetbeer see the Appendices to Laughlin's history. On the interpretation of these statistics and the causes of the changes in the value of the precious metals see, besides the references above given, W. Stanley Jevons, *Investigations in Currency and Finance,* chs. ii, iii, and iv; Ernst Seyd, *Der Hauptirrthum in der Goldwährung;* W. Jacob, *History of the Precious Metals;* J. E. Cairnes, *Essays in Political Economy,* chs. i-iv; Michel Chevalier, *De la Baisse Probable de L'Or;* Helferich, *Von den periodischen Schwankungen im Wert der edeln Metalle von der Entdeckung Amerikas bis zum Jahre* 1830; Thomas Tooke and William Newmarch, *History of Prices,* vols. v. and vi; and R. Hogarth Patterson, *The New Golden Age.*

On the international conferences see the Reports published by the United States Government; Russell, *International Monetary Conferences;* L. Pauliat, *La Conférence de* 1881; Shaw's history, pp. 275-285; J. D. Casasus, *Le Problème Monétaire et la Conférence de Bruxelles;* and Joh. Phil. Schneider, *Die Pariser Münz-Conferenzen von* 1878.

Copies of the various coinage acts of the United States may be found in Dunbar, *Laws of the United States relating to Currency, Finance, and Banking,* in *Laws of the United States relating to Loans, Currency, and Banking* published by the Treasury Department and in the Appendices to Laughlin's History of Bimetallism. For translations of the legislative acts of other countries see the Appendices to Laughlin's History and to Willis's *History of the Latin Monetary Union.*

APPENDICES

APPENDIX I

LIST OF REFERENCES

Aldrich, Senator Nelson W. Retail Prices and Wages. Senate Report No. 986, 52d Congress, 1st Session. 3 parts. Washington, 1892.

Andréadès, A. A History of the Bank of England. Translated by Christabel Meredith with a preface by H. S. Foxwell. London, 1909.

Annals of the American Academy of Political and Social Science.

Arendt, Otto. Die vertragsmässige Doppelwährung. Berlin, 1880.

——— Der Währungsstreit in Deutschland. Eine Antwort auf Erwin Nasse's gleichnamige Schrift. Berlin, 1886.

Bagehot, Walter. Lombard Street. A Description of the Money Market. 10th ed. With notes bringing the work up to the present time by E. Johnstone. New York and London, 1892.

Bamberger, L. Die Schicksale des Lateinischen Münzbundes. Ein Beitrag zur Währungspolitik. Berlin, 1885.

Bankers Magazine. London.

Bankers Magazine, The. New York.

Barbour, D. The Theory of Bimetallism and the Effects of the Partial Demonetization of Silver on England and India. London and Paris, 1886.

Barclay, Robert. The Silver Question and the Gold Question. 4th ed. London.

Barnett, George E. State Banking in the United States since the passage of the National Banking Act. J. H. U. Studies, v. 20, p. 67.

Bever, Carl Friedrich. Die Frage des Goldes und Silbers und ihrer Währungen. Magdeburg, 1880.

Biedermann, Ernst. Die Statistik der Edelmetalle. Berlin, 1898.

Bolles, Albert S. Practical Banking. New York, 1884.

——— Money, Banking, and Finance. New York and Chicago.

Bousquet, Georges. La Banque de France et les Institutions de Crédit. Paris, 1885.

Bradstreets. New York.

Breckenridge, Roeliff M. The Canadian Banking System, 1817–1890. Publications of the American Economic Association, v. X, Nos. 1, 2, and 3.

——— The History of Banking in Canada. National Monetary Commission. Washington, 1910.

Buchwald, Bruno. Die Technik des Bankbetriebes. Ein Hand- und Lehrbuch des praktischen Bank- und Börsenwesens. 4th ed. Berlin, 1908.

Bueck, H. A. Beiträge zur Währungsfrage. Düsseldorf, 1880.

Burckhardt-Bischoff, Adolph. Die Lateinische Münz-Convention und der Internationale Bimetallismus. Zwei Vorträge gehalten in der Statistisch-volkswirthschaftlichen Gesellschaft in Basel. Basel, 1886.

Cairnes, John Elliott. Essays in Political Economy, theoretical and applied. London, 1873.

Cannon, James G. Clearing-Houses, their History, Methods, and Administration. New York, 1900.

Casaus, Joaquin D. Le Probleme Monétaire et La Conférence Monétaire Internationale de Bruxelles. Paris, 1893.

Catterall, Ralph C. H. The Second Bank of the United States. Chicago, 1903.

Cator, George. Trust Companies in the United States. J. H. U. Studies, v. XX, p. 269.

Cernuschi, Henri. La Monnaie Bimétallique. Paris, 1876.

——— Le Grand Procès de l'Union Latine. Paris, 1884.

Chevalier, Michel. De la Baisse probable de l'or, des Conséquences commerciales et sociales qu'elle peut avoir et des mesures qu'elle provoque. (Translated with preface by Richard Cobden, Manchester, 1889.) Paris and Corbeil, 1859.

Clare, George. The A B C of the Foreign Exchanges: A Practical Guide. London, 1890.

——— A Money Market Primer and Key to the Exchanges. 2d ed. London, 1900.

Cleveland, Frederick A. Funds and Their Uses. A book describing the methods, instruments, and institutions employed in modern financial transactions. New York, 1902.

Commercial and Financial Chronicle. New York.

Conant, Charles A. The Principles of Money and Banking. 2 vols. New York, 1905.

——— A History of Modern Banks of Issue, with an Account of the Economic Crises of the Present Century. 2d ed., revised. New York, 1896.

——— Wall Street and the Country. New York and London, 1904.

Conant, Charles A. The Banking System of Mexico. National Monetary Commission. Washington, 1910.

——— The National Bank of Belgium. National Monetary Commission. Washington, 1910.

Courcelle-Seneuil, J. G. Traité Théorique et Pratique des Opérations de Banque. 4th ed. Paris, 1864.

——— La Banque Libre, exposé des fonctions du commerce de banque et de son application a l'agriculture, suivé de divers écrits de controverse sur la liberté des banques. Paris, 1867.

Courtois, Alphonse, fils. Histoire des Banques en France. 2d ed. Paris, 1881.

Cowperthwait, J. Howard. Money, Silver, and Finance. New York, 1892.

Crüger, Hans. Kreditgenossenschaften. Handwörterbuch der Staatswissenschaften.

Darwin, Leonard. Bimetallism. A Summary and Examination of the Arguments for and against a Bimetallic System of Currency. London, 1897.

Davis, Andrew McFarland. Currency and Banking in the Province of Massachusetts Bay. 2 vols. Publications of the American Economic Association, Series 3, v. I, No. 4 and v. II, No. 2. New York, 1900–01.

Der Deutsche Oekonomist. Berlin.

Des Essars, Pierre. A History of Banking in the Latin Nations. A History of Banking in all the Leading Nations, v. III.

Dillon, Malcolm. The History and Development of Banking in Ireland from the Earliest Times to the Present Day. Dublin, 1889.

Diouritch, Georges. L'Expansion des Banques Allemandes à L'Etranger. Ses Rapports avec le développment Economique de l'Allemagne. Paris and Berlin, 1909.

Dunbar, Charles F. Chapters on the History and Theory of Banking. New York, 1892.

——— Laws of the United States Relating to Currency, Finance, and Banking from 1789 to 1891. Boston, 1891.

Easton, H. T. Banks and Banking. London, 1896.

——— The Work of a Bank. 2d ed. London, 1900.

Economist, The. London.

L'Economiste. Paris.

Elliott, Jonathan. Funding System. Ex. Docs. 1 Sess. 28th Cong. No. 15.

Falkner, Roland P. Introduction to the Aldrich Report on Retail Prices and Wages. (See Aldrich Report.)

Falkner, Roland P. Theory and Practice of Price Statistics. Publications of the American Statistical Association, v. III.

Farrer, Rt. Hon. Lord. Studies in Currency. London, 1898.

Ferraris, Carlo. Moneta e corso Forzoso. Milano, 1879.

Financial Review, The. New York.

Fiske, Amos Kidder. The Modern Bank. A description of its functions and methods and a brief account of the development and present systems of banking. New York, 1907.

Flour de Saint Genis. La Banque de France à travers le Siècle. Paris, 1885.

Flux, A. W. The Bank of England Reserve. Journal of Canadian Bankers' Association, v. XI, pp. 219–230.

——— The Swedish Banking System. National Monetary Commission. Washington, 1910.

Francis, John. A History of the Bank of England, its Times and Traditions. London, 1847.

Frere-Orban, Hubert Joseph Walther. La Question Monétaire. Examen du système et des effets de Double Etalon suivant les idées de M. Emile de Laveleye et Réfutation des Doctrines Monétaire de M. Malon, ministre des finances. Bruxelles, 1874.

Frere-Orban and Laveleye. La Question Monétaire en Belgique en 1889. Exchange de Vues avec Emile de Laveleye. Bruxelles, 1890.

Gallatin, Albert. Suggestions on the banks and currency of the several United States, in reference principally to the suspension of specie payments. New York, 1841.

Gambaro, Raffaele. Lessons in Commerce. 3d ed., revised. London, 1895.

Garnett, Charles H. Banks of Issue in Illinois. Sound Currency, v. V.

German Bank Inquiry of 1908. National Monetary Commission. Washington, 1910.

German Banking, Miscellaneous articles on. National Monetary Commission. Washington, 1910.

Giffen, Sir Robert. Essays in Finance. 2d Series, 3d ed. London, 1890.

———The Case Against Bimetallism. London, 1892.

Gilbart, James William. The History and Principles of Banking. London, 1866.

Glanville, Ernest. The South African Gold Fields. London, 1888.

Goschen, George Joachim. The Theory of the Foreign Exchanges. 15th ed. London, 1892.

Gouge, William M. Short history of paper-money and banking in the United States, including an account of provincial and con-

tinental paper-money; to which is prefixed an inquiry into the principles of the system, with considerations of its effect on morals and happiness. 2d ed. New York, 1835.

Hadden, Clarence B. History of the State Banks and Early Banking System of Wisconsin. Transactions of the Wisconsin Academy of Sciences, Arts, and Letters, v. X.

Hague, George. Bank Reserves. Journal of the Canadian Bankers' Association, v. I, p. 107.

Handworterbuch der Staatswissenschaften. Herausgegeben von Dr. I. Conrad, Dr. L. Elsten, Dr. W. Lexis, Dr. Edg. Loening. 6 vols. Jena, 1892–94.

Hankey, Thomas. The Principles of Banking, its Utility and Economy, with remarks on the working and management of the Bank of England. 4th ed. London, 1887.

Harding, William F. The State Bank of Indiana. Sound Currency, v. V.

Hardy, Miss S. McLean. The Quantity of Money and Prices. Journal of Political Economy, March, 1895.

Haupt, Ottomar. Arbitrages et Parités. 8th ed. Paris, 1894.

——— Währungs-Politik und Münzstatistik. Berlin, 1884.

——— Die Stellung der Scheidemünze im Deutschen Münzwesen. Wien, 1878.

——— L'Histoire Monétaire de notre Temps. Paris, 1866.

——— The Monetary Question in 1892. 2d ed. London, 1892.

——— La Réhabilitation de L'Argent. Paris, 1881.

Hazell, A. P. The Quantity Theory of Money from the Marxist Standpoint. Journal of Political Economy, December, 1898.

Hecht, Felix. Bankwesen und Bankpolitik in den süddeutschen Staaten, 1819–1875. Jena, 1880.

——— Die Mannheimer Banken, 1870–1900. Leipzig, 1902.

Helferich, Johann A. R. von. Von den periodischen Schwankungen im Werte der edlen Metalle von der Entdeckung Amerikas bis sum Jahre, 1830. Nürnberg, 1843.

Hellauer, Josef. Die Zahlungsvermittlung der Englischen Banken im Uberseehandel. Vienna, 1904.

Herrick, Clay. Trust Companies. Bankers' Magazine, 1904 and 1905.

Hertzka, Theodor. Wechselkurs und Agio. Eine Währungspolitische Studie. Wien, 1894.

——— Währung und Handel. Wein, 1876.

Hildebrand, Dr. Richard. Die Theorie des Geldes. Kritische Untersuchungen. Jena, 1883.

History of Banking in all the Leading Nations. Edited by the editor of the Journal of Commerce and Commercial Bulletin. New York, 1896.

Horton, S. Dana. The Silver Pound and England's Monetary Policy since the Restoration, together with the History of the Guinea, illustrated by contemporary Documents. London, 1887.

——— Silver and Gold in their relation to the Problem of Resumption. Cincinnati, 1876.

Howarth, William. Our Clearing System and Clearing Houses. 3d ed. London, 1897.

Hutchison, John. The Practice of Banking, embracing the Cases at Law and in Equity bearing upon all Branches of the subject. 4 vols. London, 1881.

International Monetary Conference, Paris, 1878. Washington, 1879.

International Monetary Conference, Paris, 1881. Washington, 1887.

International Monetary Conference, Brussels, 1892. Report of the Commissioners on behalf of the United States. Washington, 1893.

Interviews on the Banking and Currency Systems of England, Scotland, France, Germany, Switzerland and Italy. National Monetary Commission. Washington, 1910.

Jacobs, William. An Historical Inquiry into the Production and Consumption of the Precious Metals. 2 vols. London, 1881.

Jaffe, Edgar. Das Englishe Bankwesen. Leipzig, 1904.

Jäger, Ernst. Die älteste Banken und der Ursprung des Wechsels. Stuttgart, 1879.

——— Supplement zu der Schrift: Die altesten Banken und der Ursprung des Wechsels. Stuttgart, 1881.

Jahrbucher für Nationalökonomie und Statistik.

Jeidels, Otto. Das Verhältniss der deutschen Grossbanken zur Industrie, mit besonderer Berüchsichtigung der Eisenindustrie. Leipzig, 1905.

Jevons, W. Stanley. Money and the Mechanism of Exchange. New York, 1889.

——— Investigations in Currency and Finance. Edited, with Introduction, by H. S. Foxwell, M.A. London, 1884.

Johnson, Joseph French. Money and Currency in relation to Industry, Prices, and the Rate of Interest. New York.

Jordan, William Leighton. The Standard of Value. 6th ed. London, 1889.

Journal of the Canadian Bankers' Association. Toronto and Montreal, 1893–

Kardorff-Wabnitz, Baron William von. The Gold Standard, its Causes, its Effects, and its Future. Translated from the German.

Kautsch, Jacob. Handbuch des Bank und Börsenwesens. Berlin, 1901.

Kemmerer, Edwin Walter. Money and Credit Instruments in their relation to general prices. New York, 1907.

Kerr, Andrew William. Scottish Banking during the Period of Published Accounts, 1865–1896. London, 1898.

Kinley, David. Money. A Study of the Theory of the Medium of Exchange. New York, 1904.

——— The History, Organization and Influence of the Independent Treasury of the United States. New York, 1893.

Kirkbride, Franklin Butler and Sterrett, J. E. The Modern Trust Company, its Functions and Organization. New York and London, 1905.

Kleser, Hans. Geld und Währung. Eine Kritik bimetallischer Anschauungen. Berlin, 1881.

——— Die deutsche Währungsreform und ihre Gegner. Köln, 1883.

——— Währungs- und Wirtschaftspolitik. Kritische Untersuchungen über den Währungsstreit. Köln, 1885.

Knapp, Georg Friedrich. Staatliche Theorie des Geldes. Leipzig, 1905.

Knies, Karl. Geld und Credit. 2 vols. Berlin, 1876–85.

Knox, John Jay. United States Notes. A history of the various issues of paper money by the Government of the United States. 3d ed., revised. New York, 1892.

——— A History of Banking in the United States. New York, 1900.

Koch, R., Editor. German Imperial Banking Laws, together with the German Stock Exchange Regulations. National Monetary Commission. Washington, 1910.

Kramar, Carl. Das Papiergeld in Oesterreich seit 1848. Leipzig, 1886.

Landmann, Julius. System der Diskontpolitik. Kiel and Leipzig, 1900.

——— The Swiss Banking Law. National Monetary Commission. Washington, 1910.

Laughlin, J. Laurence. The Principles of Money. New York, 1903.

——— The History of Bimetallism in the United States. New York, 1886.

Laveleye, Emile de. International Bimetallism and the Battle of the Standards. London, 1881.

——— La Question Monétaire in 1881. 4 parts. Bruxelles, 1881.

——— La Monnaie Bimétallique. Extrait de la Revue de Belgique. Bruxelles, 1876.

Lawson, William John. History of Banking, with a comprehensive account of the origin, rise, and progress of the banks of England, Ireland, and Scotland. Boston, 1852.

Lecoffre, A. Banques Anglaises et Usages de Banque en Angleterre. London, 1892.

Lejeune, Alphonse. Monnaie, Poids et Mesures des Principaux Pays du Monde. Paris, 1894.

Lepeltier, P. Le Portefeuille. Paris, 1900.

Le Touzé, Charles. Traité théorique et pratique du Change, des Monnaies et des Fonds d'Etat Francais et Etrangers. 3d ed. Paris, 1883.

Lexis, W. Münzwesen. Handwörterbuch der Staatswissenschaften, Bd. IV.

——— Erörterungen über die Währungsfrage. Leipzig, 1881.

——— Die Fixierung des Wechselkurses in den Silberwahrungslandern. Conrad's Jahrbuch, 3d. F., v. 81, p. 289.

Liesse, Andre. Evolution of Credit and Banks in France, from the founding of the Bank of France to the present time. National Monetary Commission. Washington, 1909.

Linderman, H. R. Money and Legal-tender in the United States. New York, 1879.

Lois et Statuts qui regissent la Banque de France. Paris, 1887.

Lotz, Walther. Geschichte und Kritik des deutschen Bankgesetzes. Leipzig, 1888.

Lough, William H., Jr. Corporation Finance. An exposition of the principles and methods governing the promotion, organization and management of modern corporations. New York and Chicago, 1909.

Lownhaupt, Frederick. Investment Bonds, their issue and their place in Finance. New York and London, 1908.

Loyd, Archie Kirkman. Four Lectures on Bills of Exchange. London, 1894.

Maclaren, James. A Sketch of the History of Currency. 2d ed. London, 1879.

Macleod, Henry Dunning. The Theory and Practice of Banking. 5th ed. London and New York, 1892.

——— The Elements of Banking. 8th ed. London and New York, 1886.

——— Bimetallism. 2d ed. London. 1894.

——— The Theory of Credit. 3 vols. London, 1894–1897.

——— A History of Banking in Great Britain; with a historic analysis of the principles governing banking, currency, and credit. A History of Banking in all the Leading Nations, v. II.

Marchet, G. Darlehnskassenvereine. Article in Handwörterbuch der Staatswissenschaften.

Margraff, Anthony W. International Exchange, its terms, parts, operations and scope. A practical work on the foreign banking department and its administration by American bankers. Chicago, 1904.

Martello, Tullio. La Moneta e Gli Errori che corrono intorno ad essa. Con un Introduzione di Francesco Ferrara e con un Appendice sulla theoria del valore. Firenze, 1883.

Martin, John Biddulph. Seigneuriage and Mint Charges. Journal of the Institute of Bankers, April, 1884.

Menger, Karl. "Geld." Handwörterbuch der Staatswissenschaften.

——— Grundsätze der Volkswirthschaftslehre. Wien, 1871.

Merritt, Fred D. The Early History of Banking in Iowa. Iowa City, 1900.

Meyer, Moritz. Gold- oder Doppelwährung. Berlin, 1894.

Mill, John Stuart. Principles of Political Economy with some of their Applications to Social Philosophy. London, 1886.

Mitchell, Wesley E. Quantity Theory of the Value of Money. Journal of Political Economy, March, 1896.

——— A History of the Greenbacks, with special reference to the economic consequences of their issue, 1862–65. Chicago, 1903.

Millsap, R. W. History of Banking in Mississippi. Sound Currency, v. X.

M. K. Die geschichtliche Entwicklung des Geldwesens und der gegenwärtige Währungsstreit. Varel a. d. Jade, 1886.

Model, Paul. Die Grossen Berliner Effektenbanken. Jena, 1896.

Monthly Summary of Commerce and Finance of the United States.

Muhleman, Maurice L. Monetary Systems of the World . . . with various plans proposed for the solution of the currency problem. New York, 1895.

Nachod, W. Die Organisation des Reisekredits: Kreditbrief, Circularkreditbrief und Reisecheck. Conrad's Jahrbuch. 3d F., v. 82, p. 823.

Nasse, Erwin. Das Geld- und Münzwesen. Schönberg's Handbuch der politischen Okonomie, art. VIII, v, I. 3d ed. Tübingen, 1890.

——— Die Demonetisation des Silbers. Holzendorff Bretano's Jahrbuch.

——— Der Währungsstreit in Deutschland. Preussischen Jahrbücher. Berlin, March, 1885.

Nasse, Erwin and Lexis, W. Bank. In Handwörterbuch der Staatswissenschaften.

Nelson, S. A., Editor. The A B C of Wall Street. New York.

New York Journal of Commerce and Commercial Bulletin. New York.

Nicholson, J. Shield. A Treatise on Money, and Essays on Present Monetary Problems. 5th ed. London, 1901.

——— Principles of Political Economy. 2 vols. New York, 1897.

Noel, Octave. Les Banques d' Emission en Europe. 2 vols.

——— La Question monétaire et l'Union latine. 1882.

Noyes, Alexander Dana. Thirty Years of American Finance. A Short Financial History of the Government and People of the United States since the Civil War, 1865–1896. New York and London, 1898.

——— The Trust Companies: Is there danger in the system? Political Science Quarterly, v. XVI, p. 250.

Norman, John Henry. Complete Guide to the World's Twenty-nine Metal Monetary Systems, also to the Foreign and Colonial Exchanges of Gold, Silver, and Inconvertible Paper on the unit of the weight system, with aids to the construction of the science of money. London, 1892.

——— Norman's Universal Cambist. A Ready Reckoner of the World's Foreign and Colonial Exchanges of Seven Monetary and Currency Intermediaries. 2d ed. London, 1897.

——— Silver and Gold Coinage of England from the Conquest to the Present Time, etc. Journal of the London Statistical Society, v. VIII, pt. IV, 1890.

Obst, Georg. Wechsel- und Scheckunde. Leipzig, 1900.

——— Organisation des Zahlungsverkehrs. 2d ed. Leipzig, 1901.

——— Geld-, Bank- und Börsenwesen. Ein Handbuch für Bankbeamte, Juristen, Kauflaute und Kapitalisten, sowie für den akademischen Gebrauch. 2d ed. Leipzig, 1903.

Palgrave, R. H. Inglis. Dictionary of Political Economy. 3 vols. London, 1894–1899.

——— Bank Rate in England, France, and Germany, 1844–1878; with remarks on the Causes which influence the Rate of Interest charged, and an Analysis of the Accounts of the Bank of England. London, 1880.

——— Bank Acts and Bank Rate, 1845–91. London, 1892.

Pallain, Jacques. Les Changes Etrangers et les Prix. Paris, 1905.

Patron, Maurice. The Bank of France in its Relation to National and International Credit. National Monetary Commission. Washington, 1910.

Patterson, R. Hogarth. The New Golden Age and Influence of the Precious Metals upon the World. 2 vols. London and Edinburgh, 1882.

Peters, E. E. Coöperative Credit Associations. United States Department of Agriculture, Division of Statistics, Miscellaneous, Series No. 3, 1892.

Phillips, Maberly. A History of Banks, Bankers, and Banking in Northumberland, Durham, and North Yorkshire, illustrating

the commercial development of the North of England from 1755 to 1894. London, 1894.

Pommier, Louis. La Banque de France et L'Etat depuis sa création jusqu' à Nos Jours. Paris, 1904.

Poschinger, H. von. Die Banken im deutschen Reiche, Oesterreich und der Schweiz. Erlangen, 1876.

——— Bankwesen und Bankpolitik in Preussen. Berlin, 1878.

Pratt, Sereno S. The Work of Wall Street. New York and London, 1906.

Prion, W. Das deutsche Wechseldiskontgeschäft. Leipzig, 1907.

Raffalovich, Arthur. Le Marché Financier. Paris, 1902–

Rauchberg, Heinrich. Der Clearing- und Giro-Verkehr. Vienna, 1886.

Reichsbank, Charter, Renewal of. National Monetary Commission. Washington, 1910.

Reichsbank 1876 to 1900, The. National Monetary Commission. Washington, 1910.

Report of Comptroller of the Currency, 1879.

Reports of the Director of the United States Mint. Washington.

Report of the Monetary Commission of the Indianapolis Convention of Boards of Trade, Chambers of Commerce, Commercial Clubs, and other similar bodies of the United States. Prepared by J. Laurence Laughlin. Chicago, 1898.

Reports on Retail Prices and Wages. (See Aldrich Report.)

Reports of the Royal Monetary Commission. London, 1887 and 1888.

Report of Secretary of the Treasury for 1863.

Report from the Banks of the United States, Special. National Monetary Commission. Washington, 1909.

Reports of the Comptroller of the Currency.

Reports of the Banking Departments of the States.

Rentier, Le. Paris.

Ridgeway, William. The origin of Metallic Currency and Weight Standards. Cambridge, 1892.

Riesser, J. Zur Entwickelungsgeschichte der deutschen Grossbanken mit besonderer Rucksicht auf die Konzentrations-bestrebungen. 2d ed. Jena, 1906.

Root, L. Carroll. New England Bank Currency. Sound Currency, v. II.

——— New York Bank Currency. Sound Currency, v. II.

——— State as Bankers. Sound Currency, v. II.

——— The First United States Bank. Sound Currency, v. IV.

——— The Second United States Bank. Sound Currency, v. IV.

——— Early Banks of Issue in Wisconsin. Sound Currency, v. V.

Roscher, Wilhelm. Principles of Political Economy. From the 13th German ed., with additional chapters on paper money, interna-

tional trade, and the protective system. Translated by J. J. Lalor. 2 vols. Chicago, 1878.

Rosendorff, R. Die Goldprämienpolitik der Banque de France und ihre deutschen Lobredner. Conrad's Jahrbuch, 3d F., v. 76, p. 632.

Ross, Edward A. The Total Utility Standard of Deferred Payments. Annals of the American Academy of Political and Social Science, v. IV.

Russell, Henry B. International Monetary Conferences, their Purposes, Character, and Results. New York, 1898.

Say, Jean Baptiste Léon, Editor. Dictionnaire des Finances. 2 vols. Paris, 1889–1894.

——— Rapport sur le payement de l'indemnité de guerre et sur les opérations de change qu' en ont été la conséquence. Journal des Economistes, v. XXXVI. 1874.

Sayous, André E. Les Banques de Dépot, les Banques de crédit et les Sociétés Financières. Paris, 1901.

Schaffle, Albert E. Für Internationale Doppelwährung. Tubingen, 1881.

Schaps, Georg. Zur Geschichte des Wechselindossaments. Stuttgart, 1892.

Scharling, Williams. Bankpolitik. Jena, 1900.

Schmidt, Hermann. Tate's Modern Cambist: A Manual of Foreign Exchanges and Bullion, with the Moneys and other Mediums of Exchange of all Trading Nations; also Tables of Foreign Weights and Measures, with their Equivalents in English and French. 23d ed. London, 1893.

Schneider, Johann Phillip. Die Goldwährungs-Autoritäten. Eine Kritik von Schriften über die Währungsfrage und Anregung zu einer internationalen Währungs-Convention. Bremen, 1881.

——— Die Pariser Münz-Conferenzen von 1878. Bremen, 1879.

Schoenhof, J. History of Money and Prices; being an Inquiry into their Relations from the thirteenth century to the present time. New York and London, 1896.

Schönberg, Gustav, Editor. Handbuch der politischen Okonomie. 3 vols. 3d ed. Tübingen, 1890–1891.

Schraut, Max von. Organisation des Kredits. Leipzig, 1883.

——— Die Lehre von den auswartigen Wechselkursen unter besonderer Berücksichtigung der deutschen Verhaltnisse. Leipzig, 1881.

Scott, William A. The Quantity Theory. Annals of the American Academy of Political and Social Science. March, 1897.

——— Rates on the New York Market, 1899–1906. Journal Political Economy, May, 1908.

Seyd, Ernest. The London Bank and Bankers' Clearing-House System. London.

——— Münz-, Währungs- und Bankfragen in Deutschland. Elberfeld, 1871.

——— The Question of Seigniorage and the Charge for Coining, and the Report of the Royal Commission on International Coinage. London, 1868.

——— Der Hauptirrthum in der Goldwährung nebst kritischen Bemerkungen über Dr. Soetbeer's Schriften. Rudolstadt und Leipzig, 1880.

Shaw, W. A. The History of Currency, 1252 to 1894: being an Account of the Gold and Silver Moneys and Monetary Standards of Europe and America, together with an examination of the effects of currency and exchange phenomena on commercial and national progress and well-being. 2d ed. London, 1896.

Shortt, Adam. The Early History of Canadian Banking. Journal of the Canadian Bankers' Association, vs. IV and V.

——— Canadian Currency and Exchange under French Rule. Journal of the Canadian Bankers' Association, vs. V and VI.

——— The History of Canadian Currency, Banking and Exchange. Journal of the Canadian Bankers' Association, vs. VII–XIV.

Soetbeer, Adolph. Litteraturnachweis über Geld- und Münzwesen inbesondere über den Währungsstreit 1871–1891. Berlin, 1892.

——— Materialien zur Erlaüterung und Beurteilung der wirtschaftlichen Edelmetallverhältnisse und der Währungsfrage 2d ed. Berlin, 1886.

Somers, Robert. The Scotch Banks and System of Issue, including a translation of "Les Banques d'Ecosse" by L. Wolowski. Edinburgh, 1873.

Spencer, Edward W. A Manual of Commercial Law. Indianapolis and Kansas City, 1898.

Stackpole, E. Birney. State Banking in Maine. Sound Currency, v. VII.

Statistical Abstract of the United States.

Steele, Francis Edward. On Changes in the Bank Rate: First, their Causes; and secondly, their Effects on the Money Market, on the Commerce of the Country, and on the Value of all Interest-bearing Securities. Reprint from Journal of the Institute of Bankers of the Institute Prize Essay for the session 1890–1891. London.

Stewart, Patterson L. A Composite Bank Statement. Journal of the Canadian Bankers' Association, v. XI, pp. 40–50.

Stieglitz, H. von. Das Wesen und die Vorzüge des Depositen- und Checkverkehrs. Berlin, 1884.

Stopel, K. T. Ueber Japanisches Bankwesen und Deutschlands Antheil am Welthandel und der Industrie Japans. Halle, a. S., 1898.

Straker, F. The Money Market. London, 1904.

Sumner, William G. History of American Currency, with chapters on the English Bank Restriction and Austrian Paper Money. New York, 1884.

——— A History of Banking in the United States. A History of Banking in all the Leading Nations, v. I.

Taussig, F. W. The Silver Situation in the United States. Publications of the American Economic Association, v. VII.

Tavernier, Auguste. Opérations de Banque et de Bourse. Paris, 1899.

Taylor, F. M. Some chapters on Money. Printed for the use of students in the University of Michigan. Ann Arbor, 1906.

Tooke, T., and Newmarket, W. A History of Prices and of the State of the Circulation from 1793 to the present time. 6 vols. London, 1838 to 1857.

United States Treasury Department. Laws of the United States relating to Loans and the Currency, Coinage, and Banking, 1790–1895. Washington, 1896. Senate Report, No. 831.

Volkswirthschaftliche Chronik. Conrad's Jahrbuch. Monthly.

Vührer, A. Histoire de la Dette Publique en France. 2 vols. Paris, 1886.

Wagner, Adolph. Beiträge zur Lehre von den Banken. Leipzig, 1857.

——— Der Kredit und das Bankwesen. Article IX in Schönberg's Handbuch der politischen Okonomie. Dritte Auflage. Erster Band.

——— System der Deutschen Zettelbankgesetzgebung, unter Vergleichung mit der ausländischen. Zugleich ein Handbuch des Zettelbankwesens mit Rücksicht auf die Errichtung von Zettelbanken in Baden, sowie die Bankreform und das Staatspapiergeldwesen im Norddeutschen Bunde. Freiburg i. B., 1873.

——— Die Russische Papierwährung; Eine Volkswirthschaftliche und finanzpolitische Studie, nebst Vorschlagen zur Herstellung der Valuta. Riga, 1868.

——— Für bimetallistische Münzpolitik Deutschlands. Berlin, 1881.

Walker, Byron E. Banking in Canada. In v. III of History of Banking in all the leading Nations.

Walker, Francis A. Money. New York, 1891.

——— Money in its Relations to Trade and Industry. New York, 1889.

——— International Bimetallism. New York, 1896.

Walker—The Quantity Theory of Money. Quarterly Journal of Economics, v. IX.

Wall Street Journal, The. New York.

Walsh, Correa Moylaw. Measurement of General Exchange Value. New York, 1901.

Warren, Henry. The Story of the Bank of England. London, 1903.

Warschauer, Otto. Die Konzentration im deutschen Bankwesen. Conrad's Jahrbuch, 3d F., v. 88, p. 145.

——— Die Organisation des Scheckverkehrs in Deutschland. Conrad's Jahrbuch, 3d F., v. 89, p. 590.

Watson, David K. History of American Coinage. 2d ed. New York, 1899.

Weber, Adolph. Depositenbanken und Spekulationsbanken. Leipzig, 1902.

Welldon, Samuel A. Digest of State Banking Statutes. National Monetary Commission. Washington, 1910.

White, Andrew D. Paper Money Inflation in France: A history and its application. Economic Tracts, No. 7, New York Society for Political Education, 1882.

White, Horace. Money and Banking illustrated by American History. Boston and London, 1896.

——— National and State Banks. Sound Currency, v. II.

Whitney, David R. The Suffolk Bank. Cambridge, Mass., 1878.

Willis, Henry Parker. A History of the Latin Monetary Union: A Study of International Monetary Action. Chicago, 1901.

——— Credit Devices and the Quantity Theory. Journal of Political Economy, June, 1896.

Wilson, James. Capital, Currency, and Banking: being a collection of a series of articles published in the "Economist" in 1845, on the principles of the Bank Act of 1844, and in 1847, on the recent monetarial and commercial crisis, concluding with a Plan for a Secure and Economical Currency. With an appendix containing the weekly and monthly accounts of the Bank of England and of the general circulation of the kingdom since the passing of acts of 1844 and 1845. 2d ed. London, 1859.

Wirth, Max. Handbuch des Bankwesens. Köln, 1883.

——— The History of Banking in Germany and Austria-Hungary. A History of Banking in all the Leading Nations, v. IV.

Wolff, Henry. People's Banks. 3d ed. London, 1910.

Wolowski, M. L'Or et l'Argent. Paris, 1870.

——— La Question des Banques. Paris, 1864.

World's Currencies, The. Sound Currency, v. VII, No. 8. New York, 1900.

APPENDIX II

STATISTICAL TABLES

A

STATISTICS OF PRODUCTION OF THE PRECIOUS METALS *

Period	Gold Total for Period		Silver Total for Period		Percentage of Production by Weight	
	Ounces fine	Value	Ounces fine	Coining Value	Gold	Silver
		Dollars		Dollars		
1493–1520	5,221,160	107,931,000	42,309,400	54,703,000	11	89
1521–1544	5,524,650	114,205,000	69,598,320	89,986,000	7.4	92.6
1545–1560	4,377,544	90,402,000	160,287,040	207,240,000	2.7	97 3
1561–1580	4,398,120	90,917,000	192,578,500	248,990,000	2.2	97.8
1581–1600	4,745,340	98,005,000	296,352,700	348,254,000	1.7	98.3
1601–1620	5,478,360	113,248,000	271,924 700	351,579,000	2.	98
1621–1640	5,336,900	110,324,000	253,084,800	327,221,000	2.1	97.9
1641–1660	5,639,110	116,571,000	235,530,900	304 525,000	2.3	97.7
1661–1680	5,954,180	123,084,000	216,691,000	280,166,000	2.7	97.3
1681–1700	6,921,895	143,088,000	219.841,700	284 240,000	3.1	96.9
1701–1720	8,243,260	170,403,000	228,650,800	295,629,000	3.5	96.5
1721–1740	12,268,440	253,611,000	277,261,600	358,480,000	4.2	95.8
1741–1760	15,824,230	327,116,000	342,812,235	443,232,000	4.4	95.6
1761–1780	13,313,315	275,211,000	419,711,820	542,658,000	3.1	96.9
1781–1800	11,438,970	236,464,000	565,235,580	730,810,000	2.	98
1801–1810	5,715,627	118,152,000	287,469,225	371,677,000	1.9	98.1
1811–1820	3,679,568	76,063,000	173,857,555	224,786,000	2.1	97.9
1821–1830	4,570,444	94,479,000	148.070,040	191,444,000	3.	97
1831–1840	6,522,913	134,841,000	191,758,675	247,930,000	3.3	96.7
1841–1850	17,605,018	363,928,000	250,903,422	342,400,000	6.6	93.4
1851–1855	32,051,621	662,566,000	142,442,986	184,160,000	18.4	81.6
1856–1860	32,431,312	670,415,000	145,477,142	188,092,000	18.2	81.8
1861–1865	29,747,913	614,944,000	177,009,862	228,861,000	14.4	85.6
1866–1870	31,350,430	648,071,000	215,257,014	278,313,000	12.7	87.3
1871–1875	27,955,068	577,883,000	316,585,069	409.322,000	8.1	91.9
1876–1880	27,715,550	572,931,000	393,878,009	509.256,000	6.6	93.4
1881–1885	23,973,773	495,582,000	400,019,722	594,773,000	5.	95
1886–1890	27,306.441	564,474,000	544,557,155	704,074,000	4 8	95.2
1891–1895	39,412,823	814,736,000	787,906,656	1,018,708,000	4.8	95 2
1896.....	9,783,914	202,251,600	157,061,370	203,069,200	5.9	94.1
1897.....	11,420,068	236,073,700	160,421,082	207,413,000	6.7	93.3
1898.....	13,863,620	286,586,500	173,227,864	223,971,500	7.4	92.6
1899.....	14,831,039	306,584,900	167,224,243	216,209,100	8.1	91.9
Total	474,622,592	9,811,321,700	8,657,999,086	11,194,174,800	5.2	94.8

* Quoted from the Statistical Abstract of the United States for 1900, p. 40.

B

STATISTICS OF COINAGE IN THE UNITED STATES *

Year	Gold	Silver
	Dollars.	Dollars.
1793–1795	71,485.00	370,683.80
1796	102,727.50	79,077.50
1797	103,422.50	12,591.45
1798	205,610.00	330,291.00
1799	213,285.00	423,515.00
1800	317,760.00	224,296.00
1801	422,570.00	74,758.00
1802	423,310.00	58,343.00
1803	258,377.50	87,118.00
1804	258,642.50	100,340.50
1805	170,367.50	149,388.50
1806	324,505.00	471,319.00
1807	437,495.00	597,448.75
1808	284,665.00	684,300.00
1809	169,375.00	707,376.00
1810	501,435.00	638,773.50
1811	497,905.00	608,340.00
1812	290,435.00	814,029.50
1813	477,140.00	620,951.50
1814	77,270.00	561,687.50
1815	3,175.00	17,308.00
1816	.....	28,575.75
1817	.....	607,783.50
1818	242,940.00	1,070,454.50
1819	258,615.00	1,140,000.00
1820	1,319,030.00	501,680.70
1821	189,325.00	825,762.45
1822	88,980.00	805,806.50
1823	72,425.00	895,550.00
1824	93,200.00	1,752,477.00
1825	156,385.00	1,564,583.00
1826	92,245.00	2,002,090.00
1827	131,565.00	2,869,200.00
1828	140,145.00	1,575,600.00
1829	295,717.50	1,994,578.00
1830	643,105.00	2,495,400.00
1831	714,270.00	3,175,600.00
1832	798,435.00	2,579,000.00
1833	978,550.00	2,759,000.00
1834	3,954,270.00	3,415,002.00
1835	2,186,175.00	3,443,003.00
1836	4,135,700.00	3,606,100.00
1837	1,148,305.00	2,096,010.00

* Quoted from Laughlin's "History of Bimetallism in the United States," p. 249, and the "Statistical Abstract of the United States for 1900," p. 44.

STATISTICS OF COINAGE IN THE UNITED STATES.—*Continued*

Year	Gold	Silver
	Dollars.	Dollars.
1838	1,809,595.00	2,333,243.00
1839	1,355,885.00	2,176,296.00
1840	1,675,302.50	1,726,703.00
1841	1,091,597.50	1,132,750.00
1842	1,834,170.00	2,332,750.00
1843	8,108,797.50	3,834,750.00
1844	5,428,230.00	2,235,550.00
1845	3,756,447.50	1,873,200.00
1846	4,034,177.50	2,558,580.00
1847	20,202,325.00	2,374,450.00
1848	3,775,512.50	2,040,050.00
1849	9.007,761.50	2,114,950.00
1850	31,981,738.50	1,866,100.00
1851	62,614,492.50	774,397.00
1852	56,846,187.50	999,410.00
1853	39,377,909.00	9,077,571.00
1854	25,015,962.50	8,619,270.00
1855	29,387,968.00	3,501,245.00
1856	36,857,768.50	5,142,240.00
1857	32,214,040 00	5,478,760.00
1858	22,938,413.50	8,495,370.00
1859	14,780,570.00	3,284,450.00
1860	23,473,654.00	2,259,390.00
1861	83,395,530.00	3,783,740.00
1862	20,875,997.50	1,252,516.50
1863	22,445,482.00	809,267.80
1864	20,081,415.00	609,917.10
1865	28,295,107.50	691,005.00
1866	31,435,945.00	982,409.25
1867	23,828,625.00	908,876.25
1868	19,371,387.50	1,074,343.00
1869	17,582,987.50	1,266,143.00
1870	23,198,787.50	1,378,255.50
1871	21,032,685.00	3,104,038.30
1872	21,812,645.00	2,504,488.50
1873	57,022,747.50	4,024,747.60
1874	35,254,630.00	6,851,776.70
1875	32,951,940.00	15,347,893.00
1876	46,579,452.50	24,503,307.50
1877	43,999,864.00	28,393,045.50
1878	49,786,052.00	28,518,850.00
1879	39,080,080.00	27,569,796.00
1880	62,308,279.00	27,411,693.75
1881	96,850,890.00	27,940,163.75
1882	65,887,685.00	27,973,132.00
1883	29,241,990.00	29,246,968.45
1884	23,991,756.50	28,534,866.15
1885	27,773,012.50	28,962,176.20
1886	28,945,542.00	32,086,709.90
1887	23,972,383.00	35,191,081.40

STATISTICS OF COINAGE IN THE UNITED STATES.—*Continued*

Year	Gold	Silver
	Dollars.	Dollars.
1888	31,380,808.00	33,025,606.45
1889	21,413,931.00	35,496,683.15
1890	20,467,182.50	39,202,908.20
1891	29,222,005.00	27,518,856.60
1892	34,787,222.50	12,641,078.00
1893	56,997,020.00	8,802,797.30
1894	79,546,160.00	9,200,350.85
1895	59,616,357.50	5,698,010.25
1896	47,053,060.00	23,089,899.05
1897	76,028,485.00	18,487,297.30
1898	77,985,757.00	23,034,033.45
1899	111,344,220.00	26,061,519.90

C

STATISTICS OF COINAGE IN FRANCE *

Year	Gold	Silver	
		5 Francs	Total
1803	10,209,840	22,827,000	23,171,998.00
1804	38,463,980	42,303,315	47,517,195.75
1805	20,474,500	39,181,990	46,385,909.50
1806	38,533,760	22,428,245	25,241,651.50
1807	18,019,920	4,022,115	5,008,903.00
1808	32,311,260	46,911,430	67,833,922.25
1809	15,206,440	39,927,225	44,296,494.00
1810	46,070,600	51,722,400	57,170,216.50
1811	132,135,740	244,737,480	256,399,040.00
1812	97,717,880	155,228,065	160,786,409.50
1813	62,659,680	130,014,265	134,900,313.50
1814	64,544,720	60,788,535	61,244,121.00
1815	55,379,840	37,660,240	37,673,806.00
1816	15,151,280	34,183,345	34,917,526.50
1817	52,197,080	35,044,790	37,143,579.75
1818	95,410,460	12,099,695	12,406,076.25
1819	52,410,660	20,944,005	21,235,077.25
1820	28,781,080	18,061,460	18,436,620.50
1821	404,140	66,775,910	67,533,866.00
1822	4,718,100	98,441,395	100,679,137.75
1823	408,180	80,340,750	82,911,680.00
1824	7,071,700	111,572,835	114,476,007.75
1825	45,616,360	72,869,470	75,203,291.50
1826	925,540	88,732,310	90,835,623.00

* Quoted from Willis's "A History of the Latin Monetary Union," pp. 301–307.

STATISTICS OF COINAGE IN FRANCE.—*Continued*

Year	Gold	Silver	
		5 Francs	Total
1827	3,160,940	149,580,405	153,868,978.25
1828	8,025,740	157,130,665	161,466,133.75
1829	1,118,180	99,645,450	102,642,617.25
1830	23,516,640	118,696,115	120,187,089.75
1831	49,641,380	203,292,395	205,223,764 00
1832	2,046,260	134,305,315	141,353,915.00
1833	16,799,780	154,425,595	157,482,863.00
1834	30,231,200	211,534,020	218,288,384.75
1835	4,550,060	95,811,105	99,666,149.25
1836	5,097,040	41,518,825	43,242,399.25
1837	2,026,740	109,202,540	111,858,697.75
1838	4,940,140	86,240,080	88,489,324.25
1839	20,670,000	71,538,785	73,637,742.00
1840	40,998,240	61,305,885	63,795,527.00
1841	12,375,060	73,299,680	77,517,941.00
1842	1,852,720	65,879,910	68,391,170.25
1843	2,826,600	71,858,950	74,148,998.25
1844	2,742,260	66,975,560	69,134,980.00
1845	119,140	83,903,290	89,967,609.50
1846	2,086,420	42,211,015	47,886,145.50
1847	7,706,020	71,610,030	78,285,157.00
1848	39,697,740	119,052,945	119,731,095.25
1849	27,109,560	203,831,545	206,458,663.90
1850	85,192,390	80,603,390	86,458,485.20
1851	269,709,570	57,496,450	59,327,308.90
1852	27,028,270	69,951,000	71,918,445.50
1853	312,964,020	19,458,160	20,099,488.20
1854	526,528,200	53,075	2,123,887.20
1855	447,427,820	24,305,865	25,500,305.50
1856	508,281,995	45,777,405	54,422,214.00
1857	572,561 225	467,030	3,809,611.30
1858	488,689,635	133,950	8,663,568.70
1859	702,697,790	16,825	8.401,813.80
1860	428,152,425	.....	8,084,198.60
1861	98,216,400	110,490	2,518,049.50
1862	214,241,990	105,645	2,519,397.70
1863	210,230,640	108,435	329,610.50
1864	273,843,765	160,840	7,296,609.90
1865	161,886,835	485,670	9,222,394.50
1866	365,082,925	189,465	44,821,409.00
1867	198,579,510	54,051,560	113,758,539.70
1868	340,076,685	93,620,550	129,445,268.00
1869	234,186,190	58,264,285	68,175,897.00
1870	55,394,800	53,648,350	69,051,256.00
1871	50,169,880	4,710,905	23,878,499.50
1872	.....	389,190	26,838,369.50
1873	.....	154,649,045	156,270,160.00

STATISTICS OF COINAGE IN FRANCE.—*Continued*

Year	Gold	Silver	
		5 Francs	Total
1874	24,319,700	59,996,010	60,609,988.50
1875	234,912,000	75,000,000	75,000,000.00
1876	176,493,160	52,661,315	52,661,315.00
1877	255,181,140	16,464,285	16,464,285.00
1878	185,318,100	1,821,420	1,821,420.00
1879	24,610,540	.....	.....
1880	.....	.....	.....
1881	2,167,000	.....	6,733,445.00
1882	3,742,000	.....	1,159,859.50
1883	.....	.....	.....
1884	.....	.....	.....
1885	289,400	.....	.....
1886	23,586,700	.....	154,379.00
1887	24,668,190	.....	8,910,583.00
1888	554,140	.....	5,763,624.00
1889	17,477,800	.....	370.00
1890	20,602,800	.....	.....
1891	17,422,020	.....	.....
1892	4,514,120	.....	.....
1893	50,943,360	.....	.....
1894	9,831,060	.....	4,000,000.00
1895	108,006,930	.....	8,000,000.00
1896	112,538,240	.....	.....
1897	221,379,540	.....	44,000.00
1898	177,326,540	.....	40,000,000.00
1899	38,639,490	.....	14,852,874.00
Totals, 1803–1899	9,550,127,530	5,060,606,240	5,601,571,998.35

D

SURPLUS OF IMPORTS OF GOLD AND SILVER INTO BRITISH INDIA *

Years	Gold	Silver
1835–1836	$ 1,694,590	$ 8,059,480
1836–1837	2,098,620	6,694,410
1837–1838	2,154,350	9,834,720
1838–1839	1,294,625	13,225,650
1839–1840	1,133,215	8,252,355
1840–1841	686,560	7,008,350
1841–1842	828,115	6,416,140
1842–1843	1,055,805	14,762,225
1843–1844	2,032,615	18,477,210
1844–1845	3,550,500	9,942,805
1845–1846	2,722,380	4,662,450
1846–1847	4,234,745	6,891,245
1847–1848	5,195,580	2,470,955
1848–1849	6,744,590	1,569,520
1849–1850	5,584,965	6,368,035
1850–1851	5,766,470	10,586,125
1851–1852	6,338,065	14,326,785
1852–1853	5,861,505	23,025,120
1853–1854	5,307,215	11,528,720
1854–1855	3,656,450	148,000
1855–1856	12,531,225	40,971,875
1856–1857	10,456,070	55,366,235
1857–1858	13,915,365	61,094,740
1858–1859	22,132,265	38,641,710
1859–1860	21,421,170	55,737,815
1860–1861	21,162,845	26,640,045
1861–1862	25,922,125	45,432,280
1862–1863	34,240,795	62,750,755
1863–1864	44,491,530	63,983,595
1864–1865	49,199,820	50,393,990
1865–1866	28,622,380	93,343,365
1866–1867	19,211,640	34,815,370
1867–1868	23,047,335	27,969,805
1868–1869	25,796,760	43,005,110
1869–1870	27,960,585	36,601,685
1870–1871	11,410,605	4,709,685
1871–1872	17,826,720	32,564,135
1872–1873	12,716,810	3,523,220
1873–1874	6,913,190	12,256,915
1874–1875	9,367,675	23,211,010
1875–1876	7,725,655	7,776,775
1876–1877	1,036,750	35,994,360
1877–1878	2,340,645	73,381,675
1878–1879	4,480,865	19,853,470
1879–1880	8,752,470	39,348,715
1880–1881	18,275,995	19,462,870
1881–1882	24,219,920	26,895,250
1882–1883	24,654,355	37,401,135
1883–1884	24,316,580	32,030,765

* Quoted from Laughlin's "History of Bimetallism in the United States," pp. 252–3.

E

ANNUAL AVERAGE RATES OF DISCOUNT OF THE BANKS OF FRANCE AND GERMANY FROM 1844 TO 1878 *

Date	Bank of France. An. Aver. of Min. Rate Discount			Bank of Germany. An. Aver. of Min. Rate Discount		
	£	s.	d.	£	s.	d.
1844	..	..	..	..	..	..
1845	4	0	0	4	7	0
1846	4	0	0	4	13	7
1847	5	0	2	4	16	10
1848	4	0	0	4	13	3
1849	4	0	0	4	0	10
1850	4	0	0	4	0	0
1851	4	0	0	4	0	0
1852	3	3	7	4	0	0
1853	3	4	9	4	5	0
1854	4	6	6	4	7	5
1855	4	8	11	4	1	5
1856	5	10	2	4	18	10
1857	6	3	3	5	15	7
1858	3	14	0	4	2	7
1859	3	9	4	4	4	3
1860	3	12	7	4	0	0
1861	5	11	1	4	0	0
1862	3	15	1	4	0	0
1863	4	13	1	4	1	6
1864	6	10	7	5	6	5
1865	3	13	11	4	18	11
1866	3	13	6	6	4	5
1867	2	14	2	4	0	0
1868	2	10	0	4	0	0
1869	2	10	0	4	4	11
1870	3	19	8	4	17	7
1871	5	14	3	4	2	9
1872	5	2	9	4	5	8
1873	5	2	10	4	19	4
1874	4	6	2	4	7	8
1875	4	0	0	4	13	7
1876	3	8	2	4	3	3
1877	2	5	3	4	8	7
1878	2	4	2	4	6	9
Average rate of 34 years	4	1	5	4	8	10

*Quoted from Palgrave's "Bank Rate in England, France, and Germany," pp. 88–91 and 98–101.

APPENDIX III

THE PAR OF EXCHANGE AND GOLD POINTS OF THE CHIEF CENTRES OF FOREIGN EXCHANGE *

LONDON

Name of Centre	Par	Gold-importing Point	Gold-exporting Point
Berlin	20.43	20.53	20.32
Amsterdam	12.107	12.17	12.02
New York	4.866	4.90	4.83
Paris	25.225	25.34	25.12½

PARIS

London	25.225	25.12½	25.34
Berlin	123.46	122.90	124.14
New York	518.26	515.75	523.05
Amsterdam	208.32	207.16	210.16

NEW YORK

London	4.866	4.83	4.90
Paris	5.182	5.23	5.16
Berlin	95.28	94.50	96.25

BERLIN

London	20.43	20.33	20.53
Paris	81.00	80.56	81.37
New York	419.79	415.25	423.30
Amsterdam	168.74	168.25	170.50

* Quoted from Haupt's "Rehabilitation de l'Argent," p. 9.

INDEX

Acceptances: regulation of federal reserve act concerning, 200; markets for, 205, 206.
Accounts: book as a form of credit, 95.
Arbitrage Business: 129.
Associated Banks: of New York City, 302.
Balance of Trade: 121, 122.
Balance of Indebtedness: between communities, 121-123; international, 128, 129.
Balance Sheet: analysis of a bank, 147-150.
Bank: of Amsterdam, 105, 106; of Hamburg, 105; of North America, 153, 154; of Nuremberg, 105; of Maryland, 154; of Massachusetts, 154, 155; of Providence, 154; of Prussia, 286, 288; of State of New York, 154.
Bank Accounts: analysis of typical balance sheet, 147-150.
Bank Acts: Canadian, see Canadian Bank Acts; English, see English Bank Acts; French, see French Bank Acts.
Bank Correspondents: 118, 119; as suppliers of cash to other banks, 140.
Bank Currency: advantages of, 111-115; elasticity of, 112-115; how issued, 112, 113; how retired, 113, 114.
Bankers: private, see Private Bankers.
Bankers' Balances: how determined, 120, 121; as an item of the international balance sheet, 130.
Bank für Handel und Industrie: 295.
Banking: literature on regulation of, 151; free in New York State, 170-172; free in western states, 173-175; national, see National Banking System; state since the war, 183-187; concentration of in the United States, 186, 187; in Canada, see Canada; free banking experiment in Canada, 228-230; steps toward the uniform regulation of in Canada, 230-234; relation to of British North American act of 1867, 233-237; literature on Canadian, 247; country in England, 249-251; literature on English, 265; present organization of the business in Germany, 298, 299; literature on in Germany, 300; provincial in France, 270, 271; literature on in France, 284; stages in the history of German, 285; in Prussia, 286-288.
Bank Inspection and Supervision: in United States, 145-146; in Europe, 146.
Bank Investments: considerations governing, 134, 135; notes and bills as, 135, 136; no fixed rules regarding, 136; bonds and stocks as, 136, 137; difficulty of regulation by law, 137; how restricted in case of national banks, 137, 138.
Banking Institutions: origin of, 105-108.
Banking System: defects in that of the United States, 187-197.
Bank-notes: form of, 96; as currency, 110; compared to deposits as currency and as obligation of banks, 111; reserves for special protection of holders of, 142; methods of safeguarding, 142-144; relative advantages and disadvantages of different methods of safeguarding, 144, 145; as rivals of government notes, 182; how se-

cured in Canada, 244; limitation on issues of Bank of France, 274; in Prussia, 288; and the money market, 309, 310.
Bank of England: origin of, 248; terms of original charter, 248, 249; branches of, 251; modified by Peel's act, 254; uncovered note issues of, 254, 256; government of, 258; departments of, 258; special customers of, 259, 260; its business with other banks, 260, 261; capital and surplus of, 261; average percentage of reserves to deposits in, 261.
Bank of France: origin and original constitution of, 266, 267; modifications effected by acts of 1803, 1806 and 1808, 267-269; experiences of during Napoleonic régime, 269, 270; branches of, 269, 271, 276, 277; since 1848, 273-277; capital of, 273; surplus of, 273, 274; limit on note issues of, 274; statutes regarding investments of, 274, 275; relations to the French Government, 275, 276; present position of, 281-284; operation of issues of on money market, 318, 319; use of five-franc pieces in protection of gold reserve by, 318, 319.
Bank of Germany: see Imperial Bank of Germany.
Bank of the United States: First, see First Bank of the United States; Second, see Second Bank of the United States.
Bank Rate: definition of, 304; its influence on the reserves, 308, 309; effect of manipulation of that of London, 315.
Banks: origin of, 105-108; development of functions of, 106, 107; as agents in the conduct of foreign exchanges, 107; relative importance of functions of, 107, 108; literature on, 115; earliest in United States, 153-155; state in period 1791 to 1811, 157, 158; nature of the business of early state, 157, 158; in Massachusetts before the war, 164-169; in state of New York before the war, 169-174; state owned, 175-176; state since the war, 183-187; Joint Stock, see Joint Stock Banks; of deposit in England, 251, 252; local in France, 270, 271; Prussian, 285-287; mortgage in Germany, 295, 296; coöperative in Germany, 296-298.
Banks of Discount: in Germany, 289.
Banks of Issue: in Prussia, 288; German, see German Banks of Issue.
Barter: difficulties of, 2, 3, 7-9.
Berlin: the financial center of Germany, 295; as a central money market, 301.
Berlin Money Market: compared to those of London and Paris, 319; as a free market for gold, 320; how affected by great private banks, 320.
Bills of Exchange: definition of, 97; sight, short, long, bankers, cotton, grain, etc., 97; checks and drafts as, 97, 98; as investments for banks, 135, 136.
Bimetallism: definition of, 323; essentials of, 324-326; weak points in the theory of, 330-334; national and international, 335; literature on, 336, 372; in middle ages, 338-342; in France, 345-352, 361-363; in the United States, 352-357, 363-365; international conferences concerning, 365-369; present status of, 369-371.
Bimetallists: objections to monometallic system, 326, 327.
Bland Act: 364.
Bonds: as instruments of credit, 97; as investments for banks, 136, 137.
Book Accounts: as a form of credit, 95.
Borrowing: need for means of borrowing and lending, 8 and 9.
Brassage: definition of, 76.
Canada: epochs in history of, 219,

220; early economic and social conditions in, 220-222; the first banks in, 222-225; influences restraining banking excesses in, 225-227; charter provisions of early banks of, 226, 227; bank acts of 1870 and 1871, 237-239; of 1880, 241; of 1890, 242-246; bank failures in, 240; crisis of 1873 in, 240.
Canadian Bank Acts: of 1870 and 1871, 237-239; of 1880, 241; of 1890, 242-246; of 1900, 246, 247.
Canadian Bankers' Association: 219.
Capital: as a means of safeguarding commercial banking, 132; requirements of our national banks, 132, 133; investment of, 133, 134.
Cash: need of a bank for, 140; function of correspondents in furnishing, 140.
Centesimo: 70.
Centime: 70.
Central Reserves: 302, 303; relation to bank rates, 304, 305.
Certificates: gold and silver, 81, 82; of deposits, 96, 97.
Chevalier, M: 76.
Clearing House: functions of, 117; literature on, 130; London, 252.
Coins: definition of, 66; manufacture of, see Coinage; influences determining those which shall be minted, 71, 72; size, weight and fineness of, 72, 73; gold, 72, 73; silver, 72, 73; copper, 72, 73; nickel, 72, 73; "sweating," 74; clipping, 74; naming and stamping of, 74, 75; need for various denominations of, 19 and 20; disappearance from circulation of undervalued, see Gresham's law; standard and subsidiary, 28-30; means of making subsidiary, 29, 30.
Coinage: purpose and importance of, 66-69; definition of, 66; importance of honesty and accuracy in manufacture of, 67, 68; in middle ages, 68; monopoly of by government, 69.
Comptoir d'Escompte de Paris: origin of, 272-273; history of, 277, 278.
Comptoirs d' Escompte: 270, 272, 273.
Conferences, International Monetary: 365-369.
Coöperative Banks: in Germany, 296-298.
Cotton Bills: 97.
Credit: definition of, 92, 93; instruments of, see Instruments of Credit; foundations of, 99-102; relation to prices, 102, 103; literature on, 104; its relation to exchange, 92; advantages of to the individual, 93, 94; advantages of to the nation, 94, 95; book, 95; peculiarities in the use of the various instruments of, 98, 99; relation of good condition of trade and character of debtor to salability of, 100, 101; its relation to money, 101, 102; as a substitute for money, 103; relations between communities, 122; use as a medium of exchange, 11, 12.
Crédit Foncier: 280, 281.
Crédit Lyonnais: origin of, 278; history of, 278, 280.
Crédit Industriel et Commercial: origin of, 277; history of, 278-280.
Crises: in France, 269.
Currency: importance of an accurate, convenient and safe, 14-16; characteristics of a good, 16-18; composition of modern, 18-19; classification of metallic, 19; paper, see Paper Currency; cost of shipments of, 124, 125; literature on movements of, 130; defects in elasticity of in the United States, 196, 197; United States act of 1792, 353; United States act of 1834, 355; United States act of 1853, 356.
Currency Reform: in England, 342-345; in Germany, 358, 359.
Decimal System: of reckoning, 70.

Demand for standard of value: importance of distinction between demand for primary and secondary standards, 50; peculiarity of monetary, 51; how affected by substitution of other forms of currency for, 52, 53; magnitude of, how determined, 53, 54; relation of prices to, 54, 55; arbitrary modification of, 55, 56.
Deposits: certificates of deposit, 96, 97; nature and classification of bank, 108; as currency, 109, 110.
Depreciation: of secondary standards, 35, 36, 41, 58-61.
Deutsche Bank: 294.
Discontogesellschaft: 295.
Discount Brokerage: as a special branch of banking in England, 252, 253; business of in England, 264, 265.
Dollar: United States, 70.
Domestic Exchange: literature on, 130.
Double Standard: compensatory action of, 327-330.
Dresdner Bank: 294.
English Bank Acts: of 1826, 250; of 1833, 251; of 1844, 253-256.
Exchange: meaning of in political economy, 92; bills of, 97, 98; technical meaning of in banking parlance, 116; rate of, 123-125; foreign, 125-130; par of, 125; sterling, 126; importance of London, 127, 128; medium of, see Medium of Exchange.
Exchanges: local, 116, 117; out-of-town, 117-120.
Federal Reserve Act: analysis of, 198-205; probable effects of, 205-207; first year of operation, 207-217; literature on, 218.
Federal Reserve Banks: government of, 199; functions of, 199-205; directors of, 199; rediscountable paper of, 200; reserves of, 200, 201; clearing functions of, 201; note issues of, 201, 202; open market operations of, 202-204; organization of, 208, 209; first year's business of, 207-217; statement of, 214, 215; rates of discount, 216, 217.
Federal Reserve Board: composition and powers of, 198, 199.
Federal Reserve Cities: list of, 207, 208.
Federal Reserve Districts: description of, 208.
Finance Bills: 97.
First Bank of the United States: origin of, 155; details of charter, 156, 157; branches of, 157.
Florin: Austrian, 70.
Foreign Exchange: literature on, 130; principles of, 125-130.
Franc: French, 70.
Frederick the Great: and the Bank of Prussia, 286; and the Seehandlungs-Sozietät, 286, 287; and Prussian land banks, 287.
French Bank Acts: of 1800, 266, 267; of 1803, 1806 and 1808, 267-269; since 1848, 273-275.
Friedrich d'ors: Prussian, 74.
George d'ors: English, 74.
German Banks of Issue: early 286, 288; relation to Imperial System, 292, 293.
Gold: coins for which it is suitable, 20, 72, 73; explanation of its importance as a money metal, 20, 21; as standard of value, 40, 41; certificates, 81, 82; points, 126; import and export points, 126; imports and exports in France, 348; production of after 1850, 351, 352; increased use of in Europe, 360, 361.
Gold Points: 126.
Government Notes: depreciation of French, 41; inconvertible, 79-81; convertible, 81-90; disadvantages of depreciated, 79, 80; Greenbacks and Sherman notes, 83; their use during colonial period of history of United States, 152, 153; as rivals of bank notes, 182; in provinces of Canada and Nova Scotia, 235.
Greenbacks: 83.

Gresham's Law: explanation of, 24-26; disadvantages of its operation, 26, 27; its relation to prices, 27, 28; antiquity of, 27, note; illustrations of operation of, 26; literature on, 31.
Gresham, Sir Thomas: 27.
Heller: Austrian, 70.
Imperial Bank of Germany: origin of, 290; definition of business of 291, 292; its relation to the Empire, 292; growth of, 293, 294; untaxed note-issues of, 293, 294.
Incorporation: as as means of safeguarding commercial banking, 131, 132.
Independent Treasury System: 162, 163; modification of, 192-193; how affected by Federal Reserve Act, 204.
India: as an absorber of silver, 359.
Instruments of Credit: importance of security back of, 99; peculiarities in the use of the different varieties of, 98, 99.
Interest: charges allowed to banks by laws of Canada, 246.
Investments: for banks, see Bank Investments.
Joint Stock Banks: provincial in England, 251; of deposit, 251, 252; of issue, 255, 256; and concentration, 257, 258; classification of, 257; functions and business of, 262, 263; in France, 266.
Joint Stock Companies: in Germany, 288.
Kopeck: Russian, 70.
Kreutzer: Austrian, 70.
Krone: Austrian, 70.
Latin Union: 361-363.
Law: Gresham's, see Gresham's Law.
Lending: need for means of borrowing and lending, 8, 9.
Line of Credit": in banking practice of the United States, 188-190.
Lira: Italian, 70.
Loan Operations: defects of in banks of the United States, 188-191.
Loans and Discounts: the making of as a function of banking, 108, 109.
Lombards: as bankers in England, 248.
London and Westminster Bank: 251.
London: as clearing house for international commerce, 314; bank rate of, 308, 309, 310; influence of stock exchange on money market of, 318.
London Money Market: how affected by international commerce of London, 314; effect of manipulation of bank rate on, 315; its command over gold resources of the world, 316; how affected by stock exchange, 316.
London Stock Exchange: and the money market, 316.
Mark: German, 70.
Market Rates: definition of, 304; classification of in New York, 305, 306; charts showing fluctuations of in New York, 305, 306; classification of in London, 307; maximum and minimum in New York, 312.
Medium of Exchange: definition of, 6; needs which it satisfies, 7-9; how it satisfies commercial wants, 9-11; importance of accuracy, convenience and safety in, 14-16; characteristics of a good, 16-18; composition of modern, 18, 19; relation to standard of value, 13; literature on, 13.
Methods of Reckoning: English, 69, 70; decimal, 70.
Monetary Commission: report of, 197, 198.
Monetary Conference: Paris, 365, 366; Brussels, 368, 369.
Money Markets: central, 301, 302; New York, see New York Money Market; London, see London Money Market; Paris, see Paris Money Market;

Berlin, see Berlin Money Market.
Money: two functions of, 1; indefinite meaning of term, 1; concurrent circulation of paper and metallic, 30-31; See also Currency, Medium of Exchange, and Standard of Value.
Monometallism: definition of, 323; arraignment of by bimetallists, 326, 327.
Mortgage Banks: in Germany, 295, 296.
Napoleons: French, 74.
National Bank für Deutschland: 294.
National Banking System: origin of, 176, 177; act of 1863 concerning, 177-179; slow progress of in early years, 179, 180; act of 1864 concerning, 179, 180; act of 1870, 1874 and 1875 concerning, 181.
National Banks: decline in circulation of in period 1875 to 1879, 183; conflict with state banks and trust companies in functions and legal regulations, 187, 188, 207.
National Discount Company: 253.
National Reserve Association: report concerning, 197, 198.
New York City: as a central money market, 301.
New York Money Market: effect on of inelastic note issues, 311, 312; how affected by Independent Treasury System, 311; fluctuations of rates on, 312; effect of greenbacks on, 313, 314; effect on of mass of silver dollars, 313.
Notes: Government, see Government Notes; Treasury, see Treasury Notes; bank, see Bank Notes; promissory, as investments for banks, 96, 135, 136; Federal Reserve, 201, 202; provincial in Canada, 232, 233.
Paper Currency: classification of, 19; utility of, 21-23; secret of its circulation, 11, 12; inexpensiveness of, 22; superiority of in respect to convenience and safety, 23, 24; elasticity of, 23, 24.
Paris: as a central money market, 301.
Paris Money Market: how affected by issues of Bank of France, 317; protection of gold supply on, 317, 318; stability of rates on, 319.
Par of Exchange: 125.
Pfennig: German, 70.
Prices: definition of, 32; relation of standard of value to, 33, 34; interpretation of, 46-49; statistics of, 47-49; interpretation of average, 47, 48; how related to demand for standard commodity, 54, 55; relative as influenced by currency movements, 123.
Private Bankers: in England, 249, 250, 251; diminution in number of English, 255, 256; functions of English, 363, 364.
Quantity Theory: explanation of, 61-63; criticism of, 63-65; literature on, 65.
Rate of Exchange: domestic, 123-125; foreign, 125-130; relation to of costs of shipments of currency, 124; differences between on different classes of bills, 126, 127.
Rates: Bank, see Bank Rates; market, see Market Rates.
Ratio between Gold and Silver: in 1803-1893, 346; causes of fluctuations in, 350, 351.
Redemption Fund: for bank circulation in Canada, 244.
Reserves: regulation of, 138-141; seasonal variation in, 139; how related to demand for hand-to-hand money, 139, 140; regulations concerning imposed by national banking act, 140, 141; objections to legal regulation of, 141; central, see Central Reserves.
Reserve System: defects of in the United States, 193-196.

Resumption of Specie Payments: act of 1875 concerning, 180.
Revolution: of 1830 in France, 270; of 1848 in France, 271, 272.
Ruble: Russian, 70.
Safety-Fund: as a method of protecting holders of bank notes, 142, 143; experience with in New York State, 169-171; Canadian, 244.
Saving: means for promoting, 8.
Second United States Bank: its charter compared to that of First, 160; branches, 161; defeat of bill for recharter of, 161, 162.
Seehandlungs Sozietät: 286, 287.
Seniorage: definition of, 75; arguments for and against, 77, 78.
Sherman Act: 338.
Sherman Notes: 83.
Shortt, Adam: 220, 224.
Silver: coins for which it is suitable, 20; explanation of its importance as a money-metal, 20, 21; certificates, 81, 82; imports and exports of in France, 347; fall in value of after 1875, 357, 358; production of after 1865, 358; sale of by Germany, 358, 359; limitation of monetary use of, 358, 359.
Société Générale: origin of, 278; history of, 278-280.
Specie Payments: resumption of in United States, 180; suspension of in 1814, 159; resumption of aided by United States Bank, 169.
Standard of Value: definition of, 2; functions of, 2-6; capacity to serve as, 6; relation to medium of exchange, 13; literature on, 13, 49; relation to prices, 33, 34; distinction between primary and secondary, 34-37; characteristic features of, 37-40; history of, 40-43; importance of stability of value of, 43-46; difficulty of securing stable standard of value, 46; serviceability as medium of exchange, 38, 39; importance of high degree of utility for purposes of ordinary consumption, 37, 38; depreciation of secondary, 35, 36, 41, 58-61; relation to debts, 45-46; value of, 50-65; demand for, see Demand for Standard of Value; supply of, see Supply of Standard of Value; secondary, 58-61.
State Banks: conflict with national banks and trust companies in functions and legal regulations, 187, 188, 207; and the federal reserve system, 198, 217.
Stockholders: double liability of, 134, 197, 210.
Stocks: as investments for banks, 136, 137.
Sub-treasury: New York, 311.
Suffolk Bank System: 167-169.
Supply of Standard of Value: definition of, 56, 57; effect of durability of the precious metals on, 57, 58.
Surplus: accumulation of as a means of safeguarding commercial banking, 133; requirement of national banks, 133; investment of, 133, 134; of Bank of France, 273, 274.
Thalers: German, 326 note.
Treasury Notes: convertible, 82-90; Greenbacks and Sherman Notes, 83; their defects as currency, 83-90; contrasted with gold and silver certificates, 83; their lack of elasticity, 84; possible expensiveness, 85-87; United States experience with, 87, 88; comparison with subsidiary coin, 89; literature on, 90, 91.
Treasury Operations: defects of, 191-193.
Trust Companies: conflict with national and state banks in functions and legal regulations, 187, 188, 207; functions of, 186; their development in the United States, 186, 187; literature on, 218.
Unit of Value: definition of, 32; its relation to prices, 32, 33;

weight of in United States, 32; history of, 42, 43; need not be the same in different countries, 70-72; determination of size of, 70, 71.

alue: language of, 2-6; importance of certainty of in the medium of exchange, 18; standard of, see Standard of Value; unit of, see Unit of Value; stability of in the standard, 43-46; quantity theory of, see Quantity Theory.

Wealth: need for means of accumulating, 8; salability of in its relation to credit, 100.