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THE PRINCIPLES OF

MONEY AND BANKING

BY

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ONE of the most important factors in the mechanism of modern finance is the use of credit. Credit has so greatly economized the use of money that it has led in some quarters to the belief that it was capable of superseding money entirely. The use of credit in one form or another has become so nearly universal that money, if it did not retain the important function of the standard of value, would be to a great extent reduced to the subordinate rôle of settling retail transactions. The greater part of the commerce of the world is carried on by a refined system of barter, in which banking credits of one sort or another are the chief factors; but sound banking involves the promise to pay metallic money, and, therefore, is based upon such money.

Credit consists in placing capital at command of another to be repaid at some future time. One of the simplest definitions of credit is that of Devas—"Agreed postponement of payments in currency."[1] An exchange involves delivery of an equivalent, but where credit enters into a transaction the person who surrenders to another goods or services receives as his equivalent only a right to demand something in future. According to the definition of Perry, therefore,[2]—

"A present equivalent is always rendered by both parties in every commercial transaction; but the present equivalent in the case of a credit transaction is the right to demand something of somebody some time in the future."

The equivalent rendered on one side might conceivably be a merely oral promise; but it is usually a written instrument, and it is such instruments with which the profession of banking usually has to deal. The fundamental elements of credit are confidence and time. The word itself is derived from Latin *credere*, to believe. The term used on the European continent for the credit circulation of banks of issue is the *fiduciary circulation*, the former word being derived from Latin *fiducia* (trust), related to *fides* (faith).

While confidence plays an important part in operations of credit, it is not the only element of importance which they involve. Indeed, the amount of credit given purely as the result of confidence is but a small part of the volume of credit transactions. Such transactions are usually accompanied by guarantees and securities which reduce risk to a minimum. The other element which plays a dominating part in credit transactions is that of time. From these elements arise the best definitions of what credit is. Tucker says that it is "the transfer of something valuable to another, whether money, goods, or

[1] *Political Economy*, p. 351.
[2] *Principles of Political Economy*, p. 273.

services, in the confidence that he will be both willing and able, at a future day, to pay its equivalent."[1] Block also makes the influence of time the dominant factor of credit.[2] He says:

"Credit is a sale, purchase, exchange, loan, or other transaction in which the delivery of a merchandise and the payment of the price, the rendering of a service and its remuneration, the advance of capital and its repayment, *are separated by an interval of time.* In other words, credit is an affair which begins in the present and ends in the future. . . . Whatever may be the differences which mark different species of credit, they have this in common—that the act which terminates the transaction is separated by time from the act which begins it. This is its distinctive sign."

If it were possible for capitalistic production to be carried on without money or credit, the only methods of accumulating a surplus would be by hoarding one's own product or exchanging it against the raw material or finished goods of another, and hoarding these. The use of money first made it possible to hoard the fruits of surplus production in the precious metals. This is still done in India and other semi-civilized countries and was done on the continent of Europe down to a very recent time. But the supply of metallic money would be inadequate to the great volume of command over commodities which is constituted by banking credits. The existence of these credits, therefore, affords a means of keeping the capital of the individual in a more fluid state than if it had to be kept in goods. So far as such credits represent only working capital of active producers, they are likely to be applied at an early date either to purchases of additional raw materials for production or to purchases for consumption. Bohm-Bawërk truly says that the stock of capital in hand is essentially "nothing

[1] *The Theory of Money and Banks Investigated*, p. 121.
[2] *Les Progrès de la Science Économique*, I., p. 481.

else than an aggregate of consumption goods in a transition state."[1] The basis of commercial credit, as an outgrowth of industrial relations, is well set forth by Coquelin in the following passage:[2]

"In all countries the greatest number of acts of credit is consummated within the circle of industrial relations—that is, from worker to worker, and from merchant to merchant. The producer of the raw material advances it to the manufacturer who is to work it up, and accepts from him an obligation payable on time. The latter, after having performed the process belonging to him, in his turn hands over this material thus advanced on the same terms to some other manufacturer who is to subject it to a new process. Credit thus extends from one to another up to the consumer. The wholesale merchant makes advances of goods to the retail merchant, after having received them from the manufacturer or the commission merchant. Each borrows with one hand and lends with the other—sometimes money, but more often products."

Consideration of this chain of credit will show, however, that the parties who have delivered goods without immediate payment in currency have in their hands only a promise of payment in the future. They have parted with their products without receiving money or other capital in return. In doing this they would be compelled to suspend further production until the credit matured and money was paid, unless they had a sufficient fund of capital for continuing production. It is at this point that the bank intervenes to intrust to them an amount of capital equivalent, or nearly equivalent, to the postponed payment. This is done by purchase by the banker of the paper promise of the postponed payment. The bank is enabled to deliver capital in the form of gold in exchange for this promise. The bank derives this capital

[1] *The Positive Theory of Capital*, p. 93.
[2] *Crédit et les Banques*, p. 60.

from its own resources, or those which have been intrusted to it. It is able for a compensation in the form of discount to await maturity of the promise to pay the original obligation.

The manufacturer or wholesale merchant who sells goods on credit, accepting in payment documents which he can convert into money only at a certain cost, usually takes this charge for credit into account in fixing his prices. Pierson even goes so far as to say:[1]

"A credit sale is a transaction of a composite character; it is not an ordinary sale, but a sale involving a credit operation. And in this operation interest is reckoned, the interest being concealed in the price. It may safely be said that the profits made by wholesale dealers consist almost entirely of interest on capital advanced, but they always have the appearance of differences in price."

A bank does not create capital by making a loan. It must derive actual capital from the deposit with it of gold or titles to gold, or it must place its obligations to pay gold in the hands of the person from whom it takes the original obligation. If this is done in the form of printed bank-notes, these notes enable the person who receives them to obtain in exchange for them the capital of others, because others believe that the notes can in their turn be converted into gold on presentation to the bank.

Money represents stored purchasing power. Banking credit represents stored purchasing power in the same way as money. But it is a question which has undoubtedly puzzled many thinkers, Where are the present goods which this purchasing power represents? How can real purchasing power be stored in the intangible form of entries on a banker's books? Is such purchasing power, in the possession of the depositor, a draft upon the future or only a title to existing goods?

The answer to these questions will best be found by

[1] *Principles of Economics*, I., p. 191.

proceeding from the most simple phenomena in banking to the more complex. The simplest form of banking is that represented by the system of the Bank of Amsterdam, where against every paper obligation which was issued by the bank actual metallic money was held. In the wider sense of the term, credit did not enter into the operations of the bank. The man who had a deposit there was actual possessor of the quantity of silver represented by his deposit receipt. These receipts passed from hand to hand in settlement of transactions, but it was known that the entire amount of silver which the receipts purported to represent was actually held in the vaults of the bank. The holders of receipts might have kept in their own counting-rooms and vaults the silver which the receipts represented and paid it over in kind when they had an obligation to discharge. The deposit receipts issued by the bank simply afforded a convenient means of transferring this silver from hand to hand without physical delivery. They corresponded to the gold and silver certificates now issued by the government of the United States, secured in full by deposits of coined metal.

A more complicated step in the development of the functions of the banker is taken when he lends a part of the money against which he has issued deposit receipts. When a banker thus loans his deposits he transfers to the borrower the stored command over commodities which money represents. In the simplest form of this operation he would simply hand over to the borrower metallic money which he received on deposit. This money in the hands of the borrower would give to the latter the power to command commodities which had belonged originally to the depositor and was transferred by him to the bank. The function of the banker in this case is to so manage his use of the metallic money representing command over commodities as to have it ready at all times for those who have need for it. The banker binds himself by his

deposit receipt to provide money for the depositor whenever the latter calls upon him for it. It is his function to study conditions of the market and average needs for money so as to be able to adapt his operations to calls from both borrowers and depositors which are made upon him.

Mere mechanical convenience is the principal element in the operations of such an institution as the Bank of Amsterdam. Such an institution, so long as it did not lend or advance money, did not reduce the total demand for metallic money in the community, but did permit a business man to keep and use receipts for money instead of coin. It did not permit the bank to keep less coin than the combined amounts intrusted to its care by individual depositors, and therefore did not cause any direct economy in the supply of currency needed in commerce. But, when a bank proceeds to lend half or three-quarters of the currency in its possession, while holding out its ability and willingness to pay currency to all depositors who ask for it, the power of a given amount of currency is multiplied nearly fourfold. Other things being equal, a country which changes at once from the system of a simple deposit bank, like the Bank of Amsterdam, to a credit bank holding only twenty-five per cent. in currency against its obligations to pay currency, would economize the use of currency by three-fourths.

The more complex forms of commercial banking are extensions and modifications of these simple principles of the economy of money. The banker is a dealer in money more precisely than some writers have been willing to grant. He is a dealer in money, because money is, in the ultimate analysis, the commodity which he promises to deliver on demand.[1] If he receives paper certificates of

[1] How clearly this is understood by the practical banker appears from the definition of Ruotte of the *Crédit Lyonnais:* "The only matter with which the banker deals is money. It is money which he sells and which he buys, which he lends and which is

other banks and bankers on deposit in lieu of coined money, it is because those other bankers are pledged, like him, to redeem their receipts on demand in metallic money. If he delivers his own promises to pay coined money to borrowers instead of delivering coin, it is because those receipts are exchangeable for money and money's worth in the hands of their holders. Because they possess such exchangeability, they are passed from hand to hand as a substitute for money, in the same manner as the deposit receipts of the Bank of Amsterdam, where little or no credit element was involved, were passed from one Dutch merchant to another.

The essential fact underlying the use of credit is the existence of saved capital. Only the manufacturer who has surplus capital can afford to grant credit to his patrons. If he recurs to a bank for such credit, it is because the bank has been intrusted with the saved capital of its depositors. If the bank obtains its capital by issuing printed notes, it is because the holders of the notes are willing to surrender their capital for promises which they are confident of being able to exchange for the capital of others.

The many refinements which have been introduced into the use of credit and the extent to which promises to pay gold can be substituted for actual delivery of the metal, taken with the enormous extension of credit in modern commerce, have led to much confusion of thought on the subject. It has been contended by more than one writer that the creation of credit is the creation of new capital, adding greatly to the capital in land, labor, and their products which would be available for the purposes of production if credit was not employed.

intrusted to him; which he exchanges, which he receives or delivers at a given point or at a distance by way of his connections. In a word, it is money alone which is the basis of all the business which he does and all the operations which he conducts."—*Opérations et Travaux de Banque*, p. 12.

MacLeod has made this proposition the leading theme of his economic works. He has endeavored to convict earlier economists of having acknowledged that credit is purchasing power, that purchasing power is wealth, and that, therefore, credit is wealth, independently of the resources of a country in land, labor, and material things. He declares "that the only true definition of wealth is—everything whose value can be measured in money, or which can be bought and sold—*everything* which has *purchasing power*." As "personal credit can be valued in money," and is purchasing power, it follows, in his opinion, that personal credit is wealth.

The contention that personal credit is wealth turns largely upon the use of terms. There is no doubt of the value of the personal qualities—training, intellectual acquirements, and character—which enable a man to obtain credit. They are a form of wealth to him and to the community. But the contention of MacLeod goes beyond this, and insists that credit itself is wealth, independently of both material things and the personal qualities which command credit. After defining the character of abstract legal rights to money in the form of credit, he declares that "by the fundamental laws of natural philosophy these *abstract rights* are all *wealth*."[1] This is true, so far as relates to the position of the individual. The possession by him of titles to wealth gives him substantial ownership of wealth under the legal rules of civilized nations. But the question is different when this wealth is considered in its relations to the wealth of the community. The creation of a mass of abstract rights does not add to the wealth of the community, unless they are rights to property in other communities.

Looked at from the personal and legal point of view, possession of credit is in many cases equivalent to possession of capital. From the economic point of view, how-

[1] *The Theory of Credit*, I., p. 22.

ever, the question should be regarded from the standpoint of the aggregate physical capital of the community. This capital consists of buildings, machinery, and materials of production. Credit may facilitate their use, but the granting of credits does not increase their quantity. This is the cardinal fact to be kept in view in following the tortuous course of credit through its manifold forms—that physical capital cannot be increased by issuing documents against it or by exchanging these documents one against another. If this could be done, as Gide points out, it would be only necessary for the people of France to exchange with each other titles to their existing wealth to raise the total wealth of the country at a stroke from 200,000,000,000 francs to 400,000,000,000 francs.[1] Credit does much to facilitate the transfer of capital, but it is not in itself capital, and the creation of credit is not creation of capital. As Garnier correctly declares, "Instruments of credit are only representative signs, giving a right to money, but they are not capital apart from such money."[2]

Credit consists in ability to command money. Commodities are more or less efficient means of credit according as they approximate the peculiar quality of money, that they can be readily exchanged for other things. The usual forms of banking credit are promises and orders to deliver gold. Where there is no doubt of the solvency of the parties, so that there is no doubt that gold will be delivered for the full amount specified in the order, such instruments acquire much of the character of money. They can be transferred from one person to another without deduction for lack of exchangeability. This is true of bank-notes, certified checks, and some forms of drafts.

[1] *Principes d'Économie Politique*, p. 329. MacLeod insists that credit claims represent at least future wealth; to which Gide replies: "Precisely; but it is precisely because they are future that one should not count them now."

[2] *Traité d'Économie Politique*, p. 78.

The articles which come next in order in degree of exchangeability among instruments of credit are those which can be sold most readily without loss. Inevitably the articles which rank first in this class are those for which there are wide and well-known markets, like domestic and foreign bills of exchange, commercial paper of well-established houses, and negotiable securities. If they are accepted at a slight discount, it is because they lack a little the quality of universal and immediate exchangeability belonging to money, but such a discount can be calculated with reasonable certainty in accepting them in financial operations.

Articles which are not money, but which have a wide market, are more negotiable than those which have a narrow market. This is true of cotton and wheat, which can be sold in standard grades on the produce and cotton exchanges. These articles are valuable as security for credit to the extent that they can be turned into money without loss—that is, they are available for credit up to the limit of the minimum price at which the owners of money believe that they can be sold in organized markets. Hence it comes that bankers, who deal in promises to deliver gold, will exchange such promises for other articles which can be readily turned into money at some ascertainable price. In order to guard against loss, they will deliver money and orders for money in exchange for these articles only to the minimum sum at which they believe they could be turned into money by an immediate sale. Hence come the margins between market value and the amount loaned by bankers on securities, warrants for cotton and wheat, bills of exchange, and silver bullion.

A banker's loan on a commercial bill is a title to present use of the capital of others, in the expectation of repayment by the maker of the bill from the products of the capital acquired from the person in whose favor the bill is drawn. If the capital of the maker of the bill is convertible into money value sufficient for the bill, he is

solvent and will pay the bill in capital or titles to capital when it matures. Thus in a certain sense credit rests upon commodities, but is subject always to the test of the money value of commodities as available security. It often happens in practice that an unsuccessful operation in production and exchange of goods fails to result in loss to the bank which has advanced money upon the documents growing out of such transactions, because the parties who are responsible for the documents have other resources, which they prefer to utilize in meeting their banking obligations rather than confess insolvency. In a broad sense, however, credit rests upon the money value of the commodities. The value of gold in exchange for goods is the test which is instinctively and automatically applied by the banker to security offered by the borrower. He measures the value of the security by its exchangeability for money. As Bonnet correctly declares:[1]

"Metallic money is the basis upon which all transactions rest, the pivot around which they revolve. By skilful combinations and the methods of credit one may extend the field of such transactions, but one cannot do away with the base nor sensibly impair it without great injury to the community."

It is this close connection between banking credits and their convertibility into money which discredits such theories as those of Laughlin, that to get credit "is to obtain a transfer to one's self of commodities under an obligation (variously expressed, according to different habits and circumstances) to return an equivalent amount at a fixed date in the future."[2] An obligation of this sort would not be attractive to a banker, because it would throw upon him the risk of the fluctuations in prices of commodities. The intelligent banker does not deal in obligations to return equivalent amounts of commodities;

[1] *Études sur la Monnaie*, p. 5.
[2] *The Principles of Money*, p. 73.

he deals in obligations to pay standard money. When he departs from this rule and exchanges his own promises to pay standard money for promises to pay commodities (without certainty that he can convert these commodities without loss into money) he invites insolvency. In the opinion of most students of monetary problems, the commodity theory of credit has too often broken down in practice to be any longer considered tenable. Joseph French Johnson admirably punctures this loose reasoning by his clear-cut definition:[1]

"Credit is an executory contract to deliver money, and is accepted as a means of payment because the acceptor believes the maker will be able and willing to deliver the money if called on to do so."

There is a general relationship between volume of production and quantity of banking credits. If production is extensive, there is a greater demand for credit, more bills are created, and more bank-notes are issued. When the activity of production diminishes, fewer bills are presented for discount, bank-notes in the hands of the public come into banks on deposit, and there is less demand for their reissue. The credit of borrowers from a bank upon bills of exchange, moreover, while it is a personal credit in form, and may not constitute a direct lien upon a particular bill of goods, does in fact depend in a large measure upon the volume of business done by borrowers, the quantity of goods they produce, and the available assets in the form of goods and raw materials which are in their hands or are believed by the grantors of credit to be there. Leroy-Beaulieu rightly declares that purely personal credit, not supported in any manner by goods, is rare, and is more often extended for purposes of consumption than for those of production. He says:[2]

"Credit should not be a simple anticipation upon future and uncertain wealth; it should have for its basis a thing

[1] *Political Science Quarterly* (September, 1903), XVIII., p. 424.
[2] *Traité d'Économie Politique*, III., p. 358.

real and actual — goods which are finished and which have not been sold; goods which having been sold have not yet been paid for; goods even which are in process of manufacture and of which all the elements have been gotten together; an enterprise which is not terminated, but which is already in a certain degree of advancement."

Different forms of banking credit are simply devices for transferring capital from hands where it is not needed to those where it may be put to use. The individual who has gold for which he has not present use intrusts it to a bank. The bank transfers this capital to others who have use for it, and takes in exchange promises to repay this capital in the form of money from the proceeds of the sale of goods and from other profits based upon the processes of production. If the bank is enabled to go a step further, by drawing capital in small amounts from scattered individuals, which would otherwise be idle, and thereby affording a means of exchanging various forms of capital in ordinary business transactions by its own promises to pay gold, an extension is given to the use of credit which economizes the investment of capital in a metallic currency and almost justifies the contention that banking credit is a creation of capital. How this is done through the mechanism of bank-notes it will next be our object to examine.

II

THE THEORY OF A BANKING CURRENCY

Essential character of the bank-note—The common-law right of issue—How the issue of notes draws capital out of individual hands into productive use—The right to issue notes under proper regulations the same as the right to convert bullion of the standard metal into coin—Necessity for payment of notes in coin on demand—They should not bear interest and should be transferable without formality.

THE bank-note is only one of several forms in which a bank may grant its credit, but it has attracted the special attention of writers and law-makers because of its use as a substitute for money. The issue of notes was a common-law right in England until the passage of the Bank Act of 1844. When it was finally thought proper, upon grounds of public policy, to limit future issues of bank-notes to the Bank of England, the vested right of banks already issuing notes was not assailed, and they were permitted in perpetuity and without regulation as to reserves or guarantees for the safety of their notes to keep in circulation as many notes as the average amount outstanding for each bank during the twelve weeks preceding April 27, 1844. In France the right of private note issue was declared to exist by a competent writer as recently as 1866,[1] and in Belgium the government, while restricting the issue of notes to corporations authorized by the state, has reserved the right to create such corporations at any time as rivals of the National Bank.[2]

[1] Horn, p. 385 *seq.*

[2] Noel, *Banques d'Émission en Europe*, I., p. 481.

This original status of the bank-note is a fact which should not be overlooked in following its later development. The view which has been industriously encouraged by the critics of a banking currency, that the issue of notes is equivalent to the coining of money and should be an exclusive right of the government, is not based upon historical precedent. The bank-note was early recognized as one of several forms of issuing banking credit, subject in the nature of the case to no other restrictions than those imposed upon the issue of deposit receipts or the granting of loans. How closely the one form of credit resembled the other is suggested by the following passage from MacLeod:[1]

"Bankers' notes were at first merely written on paper, like any other promissory notes, and they were for any sums. In 1729, Child & Co. introduced the practice of having their notes partly printed and partly written like a modern check. But still they were not like modern bank-notes for even pounds, but just for any odd sums that might be required, like a check. London bankers appear to have issued their own notes till about 1793, when, perhaps, the panic of that year may have shown them the danger of having their notes in the hands of the public; and it seems that they discontinued issuing them about that time. But they were never forbidden to issue notes till the Bank Charter Act of 1844."

The origin of the bank-note only partly covered by the metallic reserve is shrouded in the uncertainty which surrounds the creation of any instrument of modern civilized life which has been a natural growth from certain conditions rather than an isolated event. MacLeod finds that certificates representing deposits of gold and silver were issued in China under the dynasty of Thang as early as 807 of our era. A later issue in 960, under the

[1] *The Theory and Practice of Banking*, I., p. 331.

dynasty of the Soung, was known as *pianthsian*—"flying" or "current" money. A joint-stock company of rich merchants was authorized in 1021 to issue notes payable in three years. This seems to have been the first case of partly covered notes. The company met with disaster and the emperor forbade the future formation of such banks.[1] The origin of the bank-note in Europe is usually attributed to Palmstruch, the founder of the Bank of Sweden, in 1658, but Block declares that "bills to bearer have been without doubt invented several times and in different countries." The manner of this evolution he thus describes:[2]

"There can be only conjectures upon the origin of the bill payable at sight and to bearer, called the bank-bill or bank-note. It is probable that receipts (*bulletins*) or certificates of deposit became a medium of circulation by the custom which was established of passing them from hand to hand without endorsing them, which naturally resulted in replacing the name of the depositor by a formula which ascribed the certificate to the bearer. . . . Certain authors credit the birth of the bank-bill to Sweden about 1660, at least as a government measure, but paper to bearer is much more ancient. It is evident that it springs from the usage of certain bankers in offering their paper, already known upon the market, for the paper of their client. As they paid punctually, the circulation strengthened by their signature was a powerful aid to them. The bill of the small merchant has three defects: (1) The signature is unknown; (2) the amount of the bill is not even, and hence is inconvenient for exchanges; (3) the maturity is relatively distant. The remedy consisted in avoiding these three inconveniences, and the τραπεζέται, or Greek bankers, as soon as they had acquired sufficient standing, were able to replace the certificate of deposit (uniformly or at the will of the de-

[1] *The Theory of Credit*, I., p. 85.

[2] *Les Progrès de la Science Économique*, II., p. 89.

positor) by direct engagement to pay at sight to the bearer, divided into bills for round sums."

The bank-note is described by Leroy-Beaulieu as a "promise made by a banker to pay a definite sum to bearer at sight."[1] This is equally true whether the note is fully covered by coin or partly covered by commercial securities. In the first instance the only advantage of the note is the greater convenience of handling and transporting paper as the representative of coin. This advantage is important and is illustrated by the large use of notes in France, England, Russia, and other countries, notwithstanding the fact that nearly their equivalent in coin and bullion is in the custody of the banks. The handling and counting of gold coin in large amounts is not only much less convenient than the counting of piles of notes, but wears out the coin and requires the testing of each piece showing wear, in order to determine if the reduction of the weight is within the limit of tolerance allowed by law.

It is the bank-note partly covered by the metallic reserve and partly covered by commercial securities which has been, during the present century, the chief subject of discussion by economists and around which the warmest controversies have waged. Such a note is simply an engagement to deliver metallic money. In this respect it does not differ from an engagement to deliver wheat, except that the article promised is of more general acceptability. Both engagements represent value, and either is capable of exchange for other commodities. It is not necessary in either case that the signer of the engagement should possess the full amount of the commodity which he promises; it is only necessary that his reputation and other forms of property should inspire confidence in his ability to fulfil the promise. As the wheat broker possesses money and credit with which he

[1] *Traité d'Économie Politique*, III., p. 463.

knows that he can obtain wheat at some price for fulfilling his engagements, so the banker possesses securities of various sorts maturing within short terms, for which he knows he can obtain money for fulfilling demands upon him for money. In the promise to deliver money, the partly covered note does not differ from the deposit receipt, if the promise is fulfilled. In the language of Horn, "The reason of their more or less general acceptance or their ability to circulate is the same—the receipt or the bill is accepted because of the certainty or the supposed certainty that the bank is able and willing to honor its engagements."[1]

The functions of the well-secured bank-note are similar to the functions of metallic money. The bank, by means of its note issues, is able to accumulate the small capitals of individuals, convert them into a form divisible into small and even amounts, guaranteed by its endorsements, and by this means to distribute through the whole community a form of credit which becomes a convenient medium of exchange.

The operation of issuing bank-notes by a commercial bank is by the discount of notes and bills of exchange. A bank, having been established with adequate capital, is able by means of its note issues to do a large business without receiving direct deposits. The typical manner in which its notes are put in circulation is by loaning them to traders. The loan is made upon a bill of exchange brought to the bank by the trader. The bill represents goods sold for which the cash has not been received. The title to property exists, but cannot be converted by the holder into a negotiable and divisible form generally acceptable as currency. The bank provides the equivalent of cash for the use of the borrower, pending final payment by the purchaser of the goods upon the maturity of the bill. The bank may do this by issuing its credit,

[1] *La Liberté des Banques*, p. 226.

which may be either by bank-notes or by the power to draw checks. In the great money centres, where banks are within easy reach and large transactions are carried on by well-known establishments, the need for bank-notes is not felt, because other forms of credit are generally acceptable. Metallic money suffices for small transactions, and checks are employed for larger credit operations. The disadvantages of restrictions upon note issues in certain cases, however, have been forcibly set forth by Gage:[1]

"If the banker has money in hand he can supply his customer's need. If his supply of money on hand be only adequate to form a proper reserve against his own outstanding liabilities, money he cannot lend. His credit, however, he may extend. He can give to the proposed borrower a credit upon his books against which the borrower might check; but, unfortunately, the borrower must make use of the credit at outside points where his credit is not known and where his checks upon the banker would not be received. He desires to buy wheat, or cattle, or lumber, or employ labor, so that, in the case I have just supposed, as he cannot borrow the money of the banker, who has not the money to spare, and as he cannot avail himself of the banker's credit because of the disability just pointed out, his purpose is defeated and his enterprise to the community is by so much lost."

The actual capital represented by bank-notes is obtained from the public. If the power of issuing notes does not exist, this capital can be obtained only by the deposit of cash or titles to cash with the bank by depositors. Where the power of issuing notes exists, the loan is equally made by the public to the bank, and by the bank to the borrower from the capital belonging to the public, but it is made in a less direct and conscious manner. Each producer who surrenders goods to another

[1] Address before Virginia Bankers' Association, at Richmond. —New York *Bankers' Magazine* (March, 1899), LVIII., p. 374.

for a bank-note has given up real capital for a promise by the bank to deliver capital. He is thus in a sense a lender to the bank, as he would be if he made a direct deposit there. But these evidences of the indebtedness of the bank are exchangeable for the commodities of others and they are based upon real capital, because they are issued in the first instance upon the evidences of title to real capital intrusted to the bank by the borrower. The manner in which the bank facilitates transactions and makes it an advantage to the public to accept its evidences of indebtedness is well set forth in the report of the Monetary Commission of the Indianapolis Convention:[1]

"The real function of a bank is thus to assist the man of business who has property, and whose credit is good where known, to secure an advance of current funds which he can use in his business. Those selling commodities to him may not be willing to let him owe them, for they may not know what his credit is, or, even if they do, may insist on being paid because they need the money, and those to whom they must make payments would not know the merchant's credit, and hence would not be willing to take his notes. They know the bank, however, and are willing to have it owe them (either as evidenced by bank-notes or deposits), because they know that the customs of the community make such bank liabilities a form of money. The members of the community, therefore, are willing to leave funds with a bank which they can call for; and on the strength of these, and with the aid of the bank's capital as a guarantee, the bank makes the advance to the merchant who needs means of payment. The bank's promises are convenient and useful to the community, since they are currency, while an individual's promises are not usually sufficiently well known or guarded; and, third, the one is more acceptable and valuable than the other. For this reason the merchant

[1] P. 169.

is willing to pay the bank for giving him immediate means of payment for his note, even though what he receives may be only the bank's promise instead of his own. So long as the bank's promises are convertible into money and are accepted by the public as equally as good as money and even more convenient, they are currency and means of payment, which his own promises are not."

There are reasons, which will be hereafter discussed, why the state should so regulate the issue of bank-notes as to insure their security and thereby promote the convenience of the public in passing them freely from hand to hand. These reasons are substantially the same as those for regulation by the state of coinage of the standard metal. In both cases the government should intervene only for the purpose of supervision, not for the purpose of controlling the quantity of the tools of exchange.[1] It is a curious confusion of ideas which finds in the minting of gold by government arguments against the issue of notes by banks and arguments in favor of government paper money; but it is a fallacy which has perverted many able minds. Thus, Jevons says that "the issue of notes is more analogous to the royal function of coinage than to the ordinary commercial operation of drawing bills,"[2] and proceeds thereupon to argue against giving to banks the privilege of issuing notes. But it is not true, in the sense he puts upon the words, that "almost every one has long agreed to place the coinage of money in the hands of the executive government."

The state does not "coin money," in the sense in which the words are understood by Jevons, when it opens its mints to free coinage of the standard metal. The in-

[1] "The state, it is true, strikes money, but in reality it only converts into specie at a legal rate the bullion of individuals. For the bank-note it would be otherwise, the royal right of issue would be equivalent to the right of manufacturing false money." —Cauwès, II., p. 343.

[2] *Money and the Mechanism of Exchange*, p. 317.

dividual who brings metal to the mint to be coined and the banker who brings to the proper government official evidence of his ability to issue credit instruments upon a solvent basis receive substantially the same service from the state. In the case of the coin, the government puts upon it an official stamp, which is simply a declaration that the coin contains a certain weight of metal of standard fineness.[1] The absence of any guarantee of value is indicated by the fact that worn coins are not universally redeemed at their face value by the issuing power, but are received for the weight of gold which they contain. If the state sees fit, as in the case of Great Britain, to raise a fund by taxation for making good from time to time the deficiencies in gold coins, this action is similar to that of the Canadian government in regard to bank-note issues in constituting a general safety or guarantee fund. In the one case the fund is raised by taxation upon the public, in the other by taxation upon the banks.

The vital point of similarity between free coinage of the standard money metal by the state and freedom of credit issues, under the necessary regulations for uniformity and security, is that the option of determining the quantity of currency lies in both cases with the banker and not with the state. The state could properly be said to coin money, in the sense in which the expression is used by the opponents of a banking currency, only in the case that purchases of the necessary bullion for coinage were made exclusively by public officials and the coinage was regulated in amount by them. A power like this would be the same as the power to coin paper

[1] "In coining exclusively metallic money do governments pretend to regulate the quantity needed by commerce? No; governments raise no pretension of this sort. They limit themselves to setting forth that such a coin of gold or silver, produced at the demand of commerce, is coined of such a fineness and possesses such a weight."—Courcelle-Seneuil, *Traité des Opérations de Banque*, p. 216.

money and would give to the state a monopoly of the issue of currency and complete control over its volume. This is not the actual condition in commercial nations, where the ebb and flow of gold regulates monetary relations between different communities. The system of free coinage of the standard metal which prevails in these countries gives the option to any owner of the metal to present it for coinage or to withhold it. With these owners of the standard metal, therefore, as their action is influenced by the state of trade and the demand for money, lies the control of the volume of metallic money. The principle of a banking currency, subjected to proper regulation but not absolutely controlled by the state, is the same. The volume of the currency is governed by those who deal in credit through the organization of banks, as they are influenced by the demand for currency to increase their issues of notes or to curtail them. It is proper enough in the case of bank-notes, as in the case of coins, that the stamping should be done by public officers, but this is only an incident of public control designed to insure uniformity and guard against fraud.[1] Proper regulation by law has been a part of nearly every recent project for a more flexible bank-note currency, but such regulation should not contravene the fundamental rule that the demands of business determine the volume of currency in use, for coin and paper alike, when the government offers to affix its stamp without partiality to all such currency which conforms to reasonable rules for its security.[2]

[1] The doctrine that the state should control credit for its own benefit is a heresy which survives from the period of mercantilism. Thus Espinas says, "At the end of the seventeenth and beginning of the eighteenth century were discovered the resources offered by credit for the multiplication of exchanges, and in accordance with prevailing ideas it was proposed to remit it into the hands of the royal power as a new means of producing wealth." —*Histoire des Doctrines Économiques*, p. 155.

[2] The notes of national banks in the United States are printed

While bank-notes, therefore, are only one form of expressing banking credit, they may be the form most useful in a given community. Let us now examine some of the principles which are necessary to the orderly operation of a banking currency and some of the restrictions which are justified or enforced upon the freedom of its movements. The definition of a bank-note given by Comptroller Hepburn in his Annual Report to Congress in 1892 (page 14) is as follows:

"A bank bill or note is a non-interest-bearing obligation payable to bearer upon demand, in lawful money, title to which passes by delivery. The value of such note depends upon the financial credit of the bank issuing the same, the special provision of law for its redemption, the security set apart for such purpose, the fidelity with which such laws are enforced, as to redemption, the character of supervision, and the degree of conservative banking thereby insured."

From this definition may be deduced the following summary of the qualities required in bank-notes, in order that they may attain their highest usefulness as substitutes for money:

1. Bank-notes should be payable to bearer on demand in standard money.

2. They should not bear interest.

3. They should be issued in uniform style in bills for round sums, such as are likely to prove convenient in daily transactions.

4. They should be transferable to bearer without formality and without recourse on the part of the holder to any prior holder except the issuing bank.

I. The essential condition laid down in this definition, and in all sound definitions of bank-notes, is that they

and issued under the supervision of the Treasury officials, and some such supervision is exercised by government officials in most European countries, but in every case the determination of the quantity issued lies with the bankers.

shall be convertible on demand into standard money. This standard money is usually gold or silver coin.[1] Redemption in standard money on demand is the essential condition of a sound banking currency, because bank-notes are issued in lieu of money. Metallic money possesses the character of exchangeability in the highest degree. It is the pre-eminent function of money that it gives command over commodities, with the option of the commodity in the holder. It is necessary that bank-notes should possess an equally exchangeable character, in order to make them the equivalent of money. When they cease to be convertible into metallic money, they sink to the character of other merchandise, which may have value in exchange, but which is not universally desired because it does not give the option of acquiring at once any other article. When bank-notes, therefore, cease to be convertible into metallic money, they usually cease also to command commodities in the same degree that metallic money does. Their exchange value depends upon a variety of influences, among which are the probabilities of their future exchange for metallic money and the demand for them as a medium of exchange which may be created by the scarcity of other means of making exchanges.

It is because bank-notes are substitutes for money that conversion into money without loss and without delay is the fundamental condition of a sound banking currency. The business of a commercial bank is not carried on mainly with the capital of the banker, but with the capital of the community. If the banker employed his own capital, he might invest it as he might

[1] In the United States and some other countries the legal-tender notes of the government are employed as standard money and their use is permitted in the redemption of bank-notes. For the sake of simplicity, it will be assumed in the discussion of the theory of note issues that redemption in coin is the required condition of sound banking.

think proper, because the option would lie with him when to convert it again into money. He obtains use of the capital of others, whether consciously by deposits or unconsciously by acceptance of notes, because he furnishes owners of capital with a convenient tool of exchange. But it is the condition of the contract that the lender of capital to the bank may reclaim it at any time. It is his right to obtain the conversion of his deposit or his bank-note into money on demand, without preliminary notice. It is the necessity of meeting such demands which determines the limits of commercial banking credits. In the language of Leroy-Beaulieu, "Banks no not distribute all credit, but only certain classes of credit," and the wherefore of this distinction he thus sets forth:[1]

"Banks obtain their resources generally from the most mobile part of a country's capital—from funds scarcely constituted, destined for an investment whose character has not been determined or for consumption slightly postponed. In view of this origin of the larger part of banking resources, it follows that the capital lent by banks ought always to remain in the condition of circulating capital, easily convertible into money, and should not be transformed into fixed and inconvertible capital. *Banks are instituted to make capital circulate, not to lock it up.*"

The public accepts the printed notes of the bank in exchange for goods and services. These notes are accepted in the belief that they can be exchanged for goods and services without loss, in the same manner and with the same ease with which metallic money could be thus exchanged, and because they afford a convenient medium for daily transactions. The bank holds the pledges of responsible business-men to pay their commercial paper, and this paper is based upon property in process of production and exchange. A great mass of

[1] *Traité d'Économie Politique*, III., p. 479.

tangible property thus lies behind every bank-note—not in the form of a security specifically pledged, but in the form of an obligation of the owner of the property to meet the paper by which the bank-note is secured. The bank-notes issued, therefore, upon the commercial transactions of a community rest upon its exchangeable wealth, in the proportion that members of the business community avail themselves of banking facilities. If all business-men are engaged in obtaining discounts, the property of all business-men is pledged for the redemption of the outstanding obligations of the banks. The solidity of bank-note issues upon commercial assets is thus set forth by the Report of the Monetary Commission:[1]

"These assets are the result of loans made by the banks to those carrying on the business of the country; they represent in the main marketable products or commodities in the process of exchange and distribution. They are made by bankers whose interest it is to see that they are sound, inasmuch as the first loss, if any, must fall on the bank and its stockholders. These assets, therefore, are based on and secured by the best business of the country; their character rests on that which is a condition precedent to all solvency, individual, corporate, and governmental. Should the time ever come, in this or any other country, when the best business assets were not worth on the average thirty-five cents on the dollar, a time will have come when government and municipal bonds will likewise be practically valueless."

Bank-notes, although redeemable on demand in standard coin, represent in some respects a safer investment on the part of the issuing bank than acceptance of deposits. The notes, within certain limits of amount, are always in demand as currency. The most acute panic or

[1] P. 233.

the most severe depression of industry does not destroy such a demand, so long as the public have confidence in the security of the notes.[1] The movements of the circulation differ from those of the deposits, and the note-issuing power often proves a safeguard against the contraction of banking power when deposits are withdrawn. The owner of a deposit may be compelled to withdraw it to meet obligations, but the owner of a note is not subject to such an influence, so long as the note commands public confidence, because the note itself performs the functions of money.

The distinction between the movement of notes and of deposit accounts has become marked as the banking system has acquired a firm status in commercial countries. Lack of confidence sometimes operated in early stages of banking history to cause both the presentation of notes for redemption and the withdrawal of deposits. The former influence has ceased to be a factor in recent economic crises. This has left the need for currency as the controlling influence upon both movements. But this need operates in contrary directions upon the demand for deposits and the demand for notes. Deposit accounts decline because of the unusual needs of their owners for a medium of exchange at a time when there is a general demand for the fulfilment of money contracts, while note issues increase as a result of this very demand. The impression obtained a certain degree of currency early in the century that crises were caused by excessive issues of bank-notes. Figures were presented which showed a large increase of bank-note circulation

[1] This is especially the case where the notes are a first lien upon assets, as under the Canadian banking law. — Breckenridge, p. 394. Heavy withdrawals of deposits were made from the Western Bank of Scotland when its affairs became involved in 1857, for the purpose of establishing relations with other banks, but the notes of the Western Bank were freely accepted for this purpose. —MacLeod, *Theory and Practice of Banking*, II., p. 230.

at about the time of such crises. It required careful investigations and elaborate arguments by Tooke and other economists to demonstrate the fact that the largest increase of note issues occurred after a crisis in meeting the demand for liquidation, and therefore could not be a cause of the crisis. Courcelle-Seneuil sets forth the contrary movements of the deposit and note-issuing accounts where freedom of banking prevails in the following terms:[1]

"The movements of the entry and withdrawal of capital represented by notes in banks of firm credit follow an inverse course from the movement of individual deposits, in a manner which acts as a sort of compensation. When the activity of affairs withdraws individual deposits, the notes remain in circulation; when affairs languish, deposits return and the monetary service requires fewer bills. In commercial crises, the deposits flow out at the same time that the circulation of the bills increases. An active demand for specie for exportation alone can at once draw down deposits and send bills in for redemption."

The possession of short-term commercial paper gives the assets of a bank an essentially liquid character. Every day in times of normal business should bring into the bank nearly as many persons with money for payment of maturing bills as it brings persons asking the redemption of notes or the repayment of deposits. The cash brought in by the trader to pay maturing paper supplies cash for

[1] *Traité des Opérations de Banque*, p. 212. It should be noted that the decline of deposits after the acute stage of a crisis is not due entirely to the direct withdrawal of money, but to the fact that fewer loans are made. The deposits are made up in part of the proceeds of loans put to the credit of the borrower. As MacLeod expresses it, "There are fewer bills for the banks to purchase; and if they have no bills to buy, they cannot create deposits. Hence this diminution of deposits is *not a diminution of deposits in cash:* it is a *contraction of credit.*"—*Theory and Practice of Banking*, I., p. 330.

making new loans or for redemption of notes. Under modern banking methods both transactions are largely made by transfer of credits rather than by payment of cash, but the effect is substantially the same upon the accounts of the bank in reducing or increasing its liabilities. If, for instance, a trader has secured the discount of a promissory note for $1000 at the bank, for which the bank has advanced him the amount, the note constitutes a claim against him and an asset of the bank. If $1000 in bank-notes was issued when the loan was made upon the paper, these notes constitute a liability of the bank. If the trader brings back to the bank, for the purpose of taking up and paying the paper, a sum of $1000 in notes of the bank—whether those originally issued to him or others which have reached his hands in the course of business—the bank does not receive cash, but only evidences of its own indebtedness. The effect upon its accounts is the same, however, as if cash had been received, for its outstanding liabilities are reduced by the amount of its notes paid in. The notes cease to be a liability when they are in the custody of the bank, whether they are at once cancelled and destroyed or are laid aside to be issued again.

It is obvious that if the resources of the bank were of a less liquid character there might be occasions on which it would be receiving less cash than it was paying out. If, for illustration, $5000 was loaned upon a mortgage for three years, this amount would be "locked up," in banking parlance, and would not afford any resources to the bank until the expiration of the three-year period. The notes issued might be presented again and again in the mean time for redemption and the money loaned upon the mortgage would not be available for meeting them. On the other hand, when the securities of a bank consist of short-term commercial paper, money is constantly pouring into its hands. If there is a special demand for cash, it is within the ready and usual resources of the

bank to increase its cash and diminish its outstanding indebtedness. This can be done by retaining the cash paid in and diminishing the number and amount of new discounts. A few days of this policy make a radical difference in the accounts of a bank having a great number of pieces of commercial paper in its portfolio. Pieces mature daily, and it is only necessary to restrict new loans in order to change the proportion of cash reserve to outstanding liabilities.

The statement of the true character of bank-notes and money affords explanation of the reason why a banking currency must derive its value from metallic redemption in the first instance and from quickly convertible securities as its ultimate resource. The absence of a basis like this is not made good by any amount of substantial wealth behind the notes. Even the existence of a considerable metallic reserve will not maintain the value of circulating notes if the reserve is not employed for redemption of the notes on demand. Gold locked up in reserves and not employed for redemption purposes does not differ, in the language of Léon Say, "from a vein of unmined gold a thousand meters deep in the bowels of the earth." The logic of this distinction is well defined by Arnauné:[1]

"In establishing a reserve for banks or for the Treasury as a special reserve, without communication with the great reservoir of the general circulation of the country, one absolutely prevents gold from flowing into the circulation and hence taking flight abroad. But it is exactly this obstacle to the free flow of gold which gives birth to the premium. When the day of payment comes, gold is necessary to meet commercial paper. The paper of banks or the state, even if secured by gold, does not supply gold, if the bearer cannot obtain redemption in gold at will. It is not the existence of gold, it is the free command

[1] *La Monnaie, Le Crédit et le Change*, p. 427.

over gold which counts; gold which is not obtainable by commerce is as if it did not exist. Not being exportable, it cannot prevent the rise of exchange above the export point."

Immediate convertibility into coin is the test of a sound banking currency. Ultimate convertibility by the sale of securities through a receivership is not a proper basis for any paper intended to circulate as money. This is the essential weakness of the argument for paper money issued by the government. It is not that the government could not finally find resources for redeeming its paper issue from the proceeds of taxation, but that it cannot be equipped in an economical and efficient manner with the ability to provide coin for meeting all demands at the precise moment when they are made. As Pareto declares:[1]

"It is often thought that paper guaranteed by the state by a hypothecated pledge, or in some other manner, can be substituted for real money. But this guarantee, which will take effect only at an indeterminate date, does not eliminate the risks of the transformation of present into future goods of which one has the option of enjoyment at a definite date."

It was because of the lack of comprehension of this distinction, and not because of any inherent defect in the system of banking by means of note issues, that many of the early banks came to grief. The attempt to base

[1] *Cours d'Économie Politique*, I., p. 172. One of the higher courts of Italy in 1895 declared that "simple good sense and experience demonstrate that the immediate or *proximate* power of converting notes and other credit paper into silver is the adequate guarantee of the acceptance and circulation of such money." Pareto comments upon this by reminding the court that if, when they were about to seat themselves at table, their dinner should be snatched from them with a promise to return another in a year or two, "simple good sense and experience" would teach them that there is some difference between a present and a future good.

circulating notes upon land and other wealth of unquestioned value, but not of immediate exchangeability, was the defect of the French *assignats*. A like experiment failed in Norway early in the present century, and the leading banks of Belgium were compelled to suspend payments in 1838 and again in 1848. The principal bank of Belgium, the *Société Générale*, was a strong institution and was well conducted in the main, except in respect to its note issues, which were not secured by a sufficient proportion of liquid assets. The bank, in the language of Courcelle-Seneuil, "had become by degrees the centre of all the credit enterprises of the country and ended by becoming essentially an investment bank. Treasurer of the state, depositary of the sums amassed by saving and foresight, lender alike upon mortgages, public securities, and merchandise, as well as commercial paper, shareholder and founder in almost all the great enterprises of the country, it issued side by side money bills and interest-bearing time obligations, combining thus almost every banking operation."[1] Even the new Bank of Belgium, which was founded under the encouragement of the government to take over the work of the Treasury, pursued the same methods, and both banks found their liquid resources inadequate in the hour of business disaster. The note-issuing function was practically taken away from both in 1850 by the organization of the National Bank of Belgium, which conducts a legitimate banking business of the character required for sustaining the value of circulating notes. The two older institutions were eminently successful within their proper sphere and are still among the strong banking companies of Belgium, but their assets are not of a character to give convertibility to note issues.

The banking system of Italy was subjected to a similar

[1] *Traité des Opérations de Banque*, p. 382. See an article by the present writer on "The National Bank of Belgium," New York *Bankers' Magazine* (October, 1898), LVII., p. 620.

experience within the last generation. A law of June 14, 1866, authorized the Bank of Naples and several other institutions to make loans upon real estate and to issue negotiable bonds, such as are issued by the *Crédit Foncier* of France and other land-credit banks. The same privilege was extended at a later date to the Bank of Sicily, and in 1885 to any banking institution with a capital of 10,000,000 lire ($2,000,000).[1] Such corporations were permitted to issue mortgage obligations to the amount of ten times their paid-up capital. The National Bank of the Kingdom of Italy availed itself of this authority to set aside 25,000,000 lire as a capital for mortgage operations. The result was a demand for loans in the first year amounting to 272,901,000 lire ($54,000,000), of which 61,898,500 lire were granted, and other applications were pending at the close of the year. The Bank of Naples within a few years locked up 35,000,000 lire of its capital in a similar manner. This was the situation when the banking scandals of 1892 came to light and it was found that the Bank of Italy, the Roman Bank, the Bank of Sicily and the Bank of Naples—all banks of issue—had issued circulation beyond the limit fixed by law and had among them 628,620,686 lire ($121,000,000) locked up in investments which were not readily convertible into cash. The Roman Bank was compelled to liquidate, and the entire financial system was so shaken that exchange became heavily adverse, subsidiary silver fled across the border, and the government was finally compelled to issue paper scrip for the smallest amounts in order to provide small currency.[2]

These incidents were due in some degree to the facts that the country was already upon a paper basis and the Treasury showed an almost constant deficit, but the condition of the banks was made much worse by their heavy

[1] *L'Économiste Européen* (January 20, 1899), XV., p. 76.

[2] See the author's *History of Modern Banks of Issue*, pp. 30–35.

mortgage loans than if their funds had been in readily convertible form.

The law of 1893 reorganizing the banking system required the banks of issue to cease to conduct mortgage operations. Eventually a mortgage bank was formed with a capital of 100,000,000 lire, partly contributed by the banks of issue and partly by German and Swiss financiers, which undertook to take charge of the mortgage business of the older banks. The mortgage bank, the *Instituto Italiano di Credito Fondiario*, which was constituted by a law of May 6, 1891, has no other important form of obligations than its mortgage bonds, and is not required, therefore, to maintain a large cash reserve for the purpose of meeting demand liabilities.

Lack of discrimination by the early bankers regarding the limited classes of banking securities upon which the issue of notes could be safely based has led to much misconception regarding the security and benefits of a banking currency. A currency actually based upon commercial assets, in the form of short-term paper, affords practically the best security in the world for its immediate redemption on demand and for its ultimate redemption within a short time out of the assets, in case of default in redemption on demand. It was because many of the early banks in the United States did not base their issues upon commercial assets that they were unable to redeem their notes and the notes fell below par in coin. Banks were founded and issued notes upon all manner of securities which were not of a character to be quickly converted into money. They loaned their resources to every form of speculation and took risks which no bank in a more settled country would have taken, even if the basis of note issue had not been clearly understood. Upon this subject the Report of the Monetary Commission has the following instructive paragraph:[1]

[1] P. 287.

"The feature of the earlier banks, which was probably the most destructive to them, was their use as auxiliaries in all sorts of speculations. The banks were not regarded as regular institutions founded for the sole purpose of furnishing loanable capital to persons of unquestioned credit. This speculative use of the banks was not so marked in the case of the state-owned institutions as in that of private corporations, but the former frequently lent their assistance in operations of a doubtful character. Thus, in 1837, an extended scheme of internal improvements in Illinois led to the increase of the capitals of the two state banks by $1,000,000 and $2,000,000 respectively. A state loan of $3,000,000 to pay for the new stock was authorized, but the bonds could not be sold for par, and had to be taken by the banks themselves in payment of the instalments of the stock. Private banks sprang up in immense numbers wherever there was a doubtful speculation to be carried on. Those who had no capital sought to acquire it by starting a bank and utilizing its 'credit.' Many who could not obtain loans at reputable banks were among those who established new institutions."

II. One of the most important distinctions between bank-notes and other instruments of credit is that the bank-note does not draw interest. It is this quality which assimilates bank-notes to money and leads the holder to pay them out as soon as possible, instead of holding them for a profit, as he does commercial bills, bonds, mortgages, and other interest-bearing documents. The function of money is to circulate, not to constitute a fixed investment which yields profit from holding it. As Jevons declares:[1]

"A bank-note being payable on demand bears no interest, and is never bought at a discount, except when the ultimate payment is doubtful. Hence the

[1] *Money and the Mechanism of Exchange*, p. 240.

holder of a note has, like the holder of ordinary coins, no motive in keeping it, except to make future purchases. If a man has more notes than he expects to pay away in the next week or two, he will do best to deposit them in a bank, where they will be safer and at the same time bear interest. There is thus an inherent tendency in notes to circulate like coins, and to be kept down in amount to the lowest quantity consistent with the accomplishment of retail purchases."

This essential character of the bank-note is supported by the arguments derived from the inconvenience of computing interest every time a note might be used to make a payment. As Leroy-Beaulieu declares: "To fulfil the office of money and effectively supplement it, the bill should, like money, be deliverable at a glance, without the necessity for a pencil or for ten seconds of reflection."[1] The allowance of interest on bank-notes was practised by some of the earlier banks, but fell into disuse as their true function as a medium of exchange was developed. The first notes of the Bank of England drew interest at the rate of two pence per day, and, in the language of Rogers, "so drew money out of the goldsmith's hands, in exchange for bills, and this naturally made the goldsmiths their enemies, as they allowed no interest on deposits."[2]

III. Bank-notes should be issued in round sums and uniform styles in order to facilitate handling and prevent counterfeiting. Much time would be lost in examining and adding together the amounts of bills for various odd sums. The evolution of the bank-note has adapted the denominations to the habits and requirements of the community in which they are issued. The minimum denomination is large in most countries where specie payments are maintained. The note for £5 ($25) is the smallest in England, fifty francs ($10) in France and

[1] *Traité d'Économie Politique*, III., p. 471.
[2] *First Nine Years of the Bank of England*, p. 22.

Belgium, and ten florins ($5) in Austria-Hungary. Among the countries upon a specie basis permitting the lowest denominations of notes are Scotland, where the amount is £1, and the United States and Canada, where the amount is $5.[1]

It is a frequent device when specie payments are suspended to authorize the issue of notes for very small denominations in order to take the place of coin, which disappears from circulation when its value rises above that of depreciated paper. Notes for £1 were authorized in England after the suspension of specie payments in 1797, and the authority to issue them was withdrawn from the Bank of England in 1819, and from the English country banks in 1833.[2] The government of Austria undertook to obtain resources for the war with Italy in 1859 by authorizing the national bank to issue 133,000,000 florins in notes for five florins ($2.50); and the French government, after the suspension of specie payments following the Franco-Prussian War, authorized the Bank of France in 1871 to issue notes for five francs ($1) and ten francs ($2).

Some degree of uniformity of design is desirable in the bank-note issues of a country in order to enable the receiver to rely upon the goodness of the notes and escape fraud. It is here that the legitimate function of the state begins in respect to bank-notes. The intervention of authority for giving uniformity and security to the notes, in order that they may pass from hand to hand without endorsement and without requiring research as to the credit of the issuer, is for the same purpose as the imprint of the government stamp upon coins. It simply gives the public guarantee to the assertion that the coin or the note is what it purports to be—in the one case, a given weight of fine metal; in the other, the promise of a

[1] The government reserves for itself the privilege, in the latter two countries, of issuing notes for smaller amounts.

[2] See *A History of Modern Banks of Issue*, p. 115.

solvent bank or association of banks to deliver a given weight of metal on demand. The intervention of the state does not differ in principle in either case from its intervention in other occupations — by establishing standard measures, by laws regulating contracts and enforcing judgments—for the purpose of insuring the honest fulfilment of obligations. The function of money and its substitutes is such, however, that misconceptions have arisen regarding the true function of government, and governments have availed themselves of these misconceptions to load the paper instruments of credit with onerous restrictions and to pervert the form of the paper note to their own needs by making forced loans upon the community and debasing the monetary standard.

One of the merits of the National Banking law enacted for the United States in 1864, followed by measures driving the notes of state banks from circulation, was the uniformity which it introduced into the bank-note circulation. Bank-notes were dragged below parity with gold by the ups and downs of public credit, with which they were absolutely linked, but within these limitations the value of one bank-note was uniform with that of all others through the length and breadth of the Union. The convenience of the public under modern conditions justifies Federal regulations to insure uniformity and safety. The lack of uniformity, growing out of the absence of Federal regulation, was one of the greatest inconveniences of the issues of state banks in the United States before the Civil War. Horace White says:[1]

"The bewildering state of the paper currency before the Civil War may be learned from the numerous bank-note reporters and counterfeit detectors of the period. It was the aim of these publications to give early information to enable the public to avoid spurious and worthless notes in circulation. These were of various kinds: (1) ordinary

[1] *Money and Banking*, p. 351.

counterfeits; (2) genuine notes altered from lower denominations to higher ones; (3) genuine notes of failed banks altered to the names of solvent banks; (4) genuine notes of solvent banks with forged signatures; (5) spurious notes, such as those of banks that had no existence; (6) spurious notes of good banks, as 20's of a bank that never issued 20's; (7) notes of old, closed banks still in circulation. . . . Bicknall's counterfeit detector and bank-note list of January 1, 1839, contained the names of fifty-four banks that had failed at different times; of twenty fictitious banks, the pretended notes of which were in circulation; of forty-three other banks, for the notes of which there was no sale; of two hundred and fifty-four banks, the notes of which had been counterfeited or altered; and enumerated thirteen hundred and ninety-five descriptions of counterfeited or altered notes then supposed to be in circulation, of denominations from one dollar to five hundred."

IV. The bank-note should be transferable to bearer, without formality, without necessity for endorsement or any other writing, and without responsibility on the part of prior holders. This condition is necessary to make the note a convenient substitute for money. Endorsement and recourse to each successive holder in case of the default of the bank would make the bank-note simply a bill of exchange, and would detract much from its efficiency as a substitute for money. Many of the laws governing bills of exchange also govern bank-notes, but it is declared by Cooley, "The property in these notes follows possession; grace is not allowed upon them, and they bear no interest until after demand of payment and refusal." [1]

Another condition is added by Cooley, which is one of the most important attributes of bank-notes: "They never become overdue in the law and the statute of

[1] Cooley's *Blackstone*, Third Edition, II., p. 470, note.

limitations does not apply to them." The reason for this lies in the nature of the note. It is payable on demand and not within any fixed time. Having no date of maturity, the time never comes after which failure to present it constitutes negligence on the part of the holder. The holder has a right which it lies with himself to assert by presentation of the note; until that time his right is inchoate and imprescriptable.[1] In this respect bank-notes differ from other promissory notes and checks, whose holders lose some of their rights if they fail to exercise due diligence in presenting them for payment. The Bank of England received 1400 notes of the denomination of £1 in 1843 which had been hoarded for at least twenty-four years, since the suspension of the issue of notes of that denomination. The same year witnessed the presentation of a £20 note which had been issued 125 years before.[2] They were all promptly redeemed in full. If these amounts had been in other forms of commercial paper, the right to recover would have been impaired by neglect to present them.

[1] "The bank-bill is not prescriptable—this is one of its essential features, for there is no prescription possible where the obligation has neither point of departure nor fixed maturity."—Bouché, *Dictionnaire du Commerce, de l'Industrie et de la Banque*, I., p. 533.

[2] Turner, p. 150.

III

THE SECURITY FOR CIRCULATING NOTES

Necessity that assets of a commercial bank should be readily convertible into money—Character of commercial paper—Proportion of negotiable securities permissible in the assets of a note-issuing bank—Disadvantages of such securities in times of panic—Failure of systems of note-issues secured specifically by bonds—The national banking system of the United States—Success of the guarantee fund system in Canada.

THAT the fundamental requisite for the prudent conduct of a commercial bank, whether issuing notes or paying deposits on demand, is that its assets should be of a character quickly convertible into money, has been set forth in the preceding chapter. It remains to discuss more in detail the character of the securities which should be held by a bank to insure this ready convertibility of its assets, and especially the security which should be held against circulating notes. There is only a slight distinction in character between the obligation to pay a deposit on demand and the obligation to pay a circulating note. More stringent regulations have been established in most countries, however, regarding the guarantee for circulating notes, in order to add to the greater convenience of the notes in ordinary transactions, that they may pass from hand to hand without inquiry as to the solvency or resources of the issuing bank. These regulations have been made so stringent in many cases that they have unnecessarily fettered the movement of credit and in some cases have required guarantees for the security of the circulation which have not been of a readily convertible character.

The conditions which tend naturally to keep circulating notes as well as other forms of credit upon a safe basis and within proper limits of volume are that their issue shall depend upon the requirements of business and their ratio to the supply of the precious metals. These two conditions tend to support each other. It does not afford sufficient assurance of safety that notes should be governed only by the needs of business, without being governed in some degree by the movement of the precious metals. It is necessary that notes should not lose the character of engagements to deliver coin on demand, which is so essential to proper fulfilment of their function as substitutes for money. These two requirements are substantially the only ones which should govern the volume of a bank-note currency, and towards their rigid enforcement should be directed all regulations restricting the operations of note issue.

Bank-note issues are secured by the general assets of the issuing bank. This is almost universally true, whether any part of the assets are specially set aside for protection of the notes or not. The assets of a bank consist of its resources in money, in loans secured by commercial paper, stocks and bonds and individual notes, and in various other forms of credits. In the strict sense of the words, all bank-notes which are not fraudulent are secured by the assets of the issuing bank, whether such notes are issued upon the general faith and credit of the bank or upon some particular portion of its assets. In the discussion of the subject in the United States, however, the term "banking on assets" has been quite generally applied to the system of note-issues upon the general resources of the issuing banks as opposed to a system where the issues are secured by some part of the resources specifically set aside for the purpose, as in the case of United States bonds deposited with the Treasurer of the United States to secure notes issued under the national banking law. The opinion of students and experts has

been almost universally pronounced in favor of "banking on assets" in the sense thus understood; but among practical bankers feeling has grown slowly against the bond-secured system of note issues.

Experience has shown that the security for notes redeemable on demand should consist of commercial paper coming due at short intervals or of other property and titles to property which can be converted quickly and without loss into cash. The scientific rule for the character of banking securities is that laid down by Walras — "that the representative titles should correspond in duration to the titles represented."[1] The issue of a bank-note in exchange for commercial paper is the substitution of one form of credit for another, the substituted form being more convenient in exchanges. The maturity of the paper thus purchased by the bank should guard against the possible maturity of the notes issued in exchange. If the bank-notes were made payable at fixed dates, they might be taken up in each case by the proceeds of the commercial paper when it was paid at maturity. As the notes are issued payable on demand, it becomes the duty of the prudent banker to so arrange his purchases of commercial paper that its maturity will afford upon the average liquid resources sufficient to pay the notes which may be presented for payment. Any departure from the average, by the presentation of notes in excess of the amount realized from maturing paper, the banker guards against by means of his cash reserve and by classes of securities which he can negotiate readily in the open market without awaiting maturity, if he finds it necessary.

Short-term commercial paper forms the most trustworthy and available security for a bank-note currency. The obligation of a trader to pay his commercial paper is of such a high character and has been surrounded by so many special safeguards of law in commercial countries,

[1] *Théorie du Crédit*, in *Revue d'Économie Politique* (1898), XII., p. 139.

that a bank can safely count upon payment by the trader up to the last moment before his complete insolvency. The losses upon such paper are trifling in proportion to the volume of business done by banks. The other chief resource which can be considered as meeting the requirements of quickly convertible assets is negotiable securities —the stocks and bonds of governments and corporations.

Commercial obligations which are due and payable within ninety days, or a less period, are required as the security for note issues and for deposits payable on demand in most cases where any regulation is made by law. The period of ninety days is the maximum limit set by the charters of the Bank of England, the Bank of France, the Imperial Bank of Germany and the Austro-Hungarian Bank.[1] In practice, however, the assets of these banks in commercial paper are convertible within a much shorter time than that fixed by these maximum limits. The Bank of France and the other central note-issuing banks do much buying of paper and rediscounting for other banks. This brings short-term paper into their hands some time after it begins to run and often only a few days before maturity, so that, according to Nitti, "in none of the great banks of Europe does the average of bills of exchange notably exceed forty days, and in the best never exceeds thirty days." The average does not vary greatly from year to year, as may be seen from the average period in days for representative years at several of the great banks:[2]

	1886.	*1890.*	*1893.*	*1896.*
Bank of France	....	27.0	24.5	27.2
Bank of Germany	31.0	27.0	29.0	28.0
Austro-Hungarian Bank	57.0	55.0	49.0	49.0
Bank of Belgium	....	....	40.0	41.0
Bank of Italy	...	45.0	....	....

[1] Noel, *Banques d'Émission en Europe*, I., pp. 51, 138, 302, 430. The limit at the National Bank of Belgium is one hundred days. —Noel, I., p. 508.

[2] Nitti, *Essai sur les Variations du Taux de l'Escompte*, in *Revue d'Économie Politique* (1898), XII., pp. 386–389.

THE SECURITY FOR CIRCULATING NOTES

The banking charters recently granted on the continent of Europe have generally recognized the importance of maintaining a supply of short-term commercial paper for the security of banking operations, and especially as the guarantee of note issues beyond the amount covered by the metallic reserve. The charter of the Imperial Bank of Germany requires that portion of the authorized circulation of the bank which is not covered by cash to be covered by bills of exchange (ordinary commercial bills) maturing in not more than three months and bearing not less than two solvent names. The original statutes of the Austro-Hungarian Bank in 1817 imposed no conditions upon the issue of circulating notes.[1] They were treated as drafts drawn by the bank upon itself. The statutes of 1863, which adopted several restrictions from the English Bank Act, were more explicit. They provided that circulation not covered by coin should be protected by commercial paper, by securities deposited for advances, by coupons of mortgages matured and payable, and by mortgage bonds of the bank, the latter not exceeding 20,000,000 florins ($8,000,000) and accepted at only two-thirds of their face value. The latter provision recognizes the danger of carrying as banking securities obligations for long terms, but is based upon the theory that a certain portion of the reserve is never likely to be trenched upon and that such bonds could be marketed for the amount for which they are held.[2] A decree of 1868 authorized the inclusion among

[1] Noel, *Banques d'Émission en Europe*, I., p. 397.

[2] "When a bank of circulation is well established, it may consider its minimum circulation as a permanent deposit and with the capital of this deposit make investments for long terms. I do not say that this ought to be done, nor especially that there ought not to be much reflection before entering upon such a course, but only that it need not give rise to prejudices nor superstitious fears. The banks of Scotland make current loans on mortgages. The Bank of England and even that of France have made some investments of this character, in derogation of

the securities for circulation of bills of exchange payable abroad.

These foreign bills of exchange are one of the classes of securities which find much favor with some of the Continental banks. Such bills are considered the equivalent of gold coin, because they are payable in gold in the countries upon which they are drawn. Any domestic crisis, which might compel a bank to realize these bills, would not be likely to affect their immediate exchangeability for gold. The fact that they bear interest—and often a higher interest, when they are drawn upon England, than that which can be earned at home—makes them in some respects preferable even to gold coin and bullion. The Bank of Belgium usually carries an amount of these bills drawn upon foreign countries nearly equal to its metallic reserve.[1] The Imperial Bank of Russia has also held at times a considerable volume of foreign bills, which are counted as a part of the metallic cover for the note issues.[2]

Advances upon securities have become a growing element in banking business in recent years with the great increase in the number of such securities on the market. The statistics of increase in such holdings are difficult

their statutes and in exceptional cases, and this circumstance has not impaired their credit."—Courcelle-Seneuil, *Traité des Opérations de Banque*, p. 226.

[1] The reserve of the Bank of Belgium at the close of 1899 was 107,901,447 francs for the metallic reserve and 108,883,362 francs in foreign bills. *Vide* article by the present author on "The National Bank of Belgium," New York *Bankers' Magazine* (Oct., 1898), LVII., p. 637; and New York *Bankers' Magazine* (April, 1900), LX., p. 509.

[2] The credit balances of the Treasury abroad on January 1, 1898, were 138,532,000 rubles ($70,000,000). — *Bulletin Russe de Statistique* (Oct.-Dec., 1897), IV., p. 638. These bills were largely realized upon after the resumption of specie payments in 1897. The credit balances abroad of the Bank of Russia on July 1, 1904, were 99,142,033 rubles ($50,000,000).—*Bulletin Russe de Statistique*, 1904, p. 52.

to reduce to a common basis of comparison for different periods, because of the different methods of making up bank reports. The increase is less striking in the case of the great issuing banks, moreover, than it would be if these banks continued, as they did a generation ago, to do the larger part of the banking business of their respective countries.

A general classification of the business of all the great European banks in 1875 and later years showed the following ratio of increase in loans on commercial paper and advances on securities:[1]

DECEMBER 31	*Note circulation*	*Commercial loans*	*Advances on securities*
	(in francs)	(in francs)	(in francs)
1875.....	9,699,000,000	4,027,000,000	828,000,000
1880.....	10,482,000,000	3,384,000,000	1,112,000,000
1885.....	11,662,000,000	4,050,000,000	1,231,000,000
1890.....	13,194,000,000	5,192,000,000	1,549,000,000
1895.....	15,896,000,000	5,328,000,000	3,669,000,000
1899.....	14,992,000,000	8,352,000,000	4,037,000,000
1900.....	15,906,000,000	8,514,000,000	4,171,000,000
1902.....	16,215,000,000	6,939,000,000	4,178,000,000
1903.....	16,539,000,000	6,147,000,000	4,129,000,000

These figures exhibit a remarkable growth within the last quarter of a century in all classes of banking business, but the increase is most significant in the advances on securities. The increase in note circulation, while considerable, is only about sixty per cent. from 1875 to 1900, and in about the same ratio from 1880 to 1904. The loans on commercial paper increased more than 100 per cent. from 1875 to 1900, but in later years fell off somewhat as the result of a reduced volume of mercantile business. The loans on securities, on the other hand, were multiplied fivefold from 1875 to 1900, and showed but a slight decline with changes in commercial activity. From

[1] *Économiste Européen* (April 29, 1904), XXV., p. 546.

being in 1875 equal to about one-fifth, the advances on securities became in 1903 equal to two-thirds of the loans on commercial paper.

The relative progress in recent years of loans upon negotiable securities and upon other paper among the national banks of New York is indicated by the following table:[1]

CLASSIFICATION OF LOANS AT NEW YORK

Date	*Loans on commercial paper*	*Advances on securities*
October 7, 1886	$146,238,820	$107,493,556
October 2, 1890	151,499,745	145,610,806
September 30, 1892	160,830,916	183,369,025
October 2, 1894	168,154,139	192,146,320
October 6, 1896	151,795,029	162,361,654
September 20, 1898	181,632,651	260,073,904
September 5, 1900	185,197,112	384,375,938
September 15, 1902	210,562,653	396,495,832
September 9, 1903	239,716,949	391,848,875
September 6, 1904	268,918,235	538,345,467

A marked tendency towards the increase of the proportion of banking loans on transferable securities has been caused within a few years by the consolidation of private enterprises and small corporations into the combinations known as "trusts." These consolidations have withdrawn from the loan market many firms and corporations, and so far reduced the supply of good commercial paper that the banks, in order to find employment for their capital and deposits, have been compelled to seek permanent investments in transferable securities.[2] The trusts have not as a rule taken the place

[1] These figures are compiled from the Annual Report of the Comptroller of the Currency for the fiscal year 1904, p. 189, and reports for previous years. The classification in the reports is not exactly the same for all years, and includes in some cases loans for small amounts of a special character, but the table affords a general idea of the growth in loans on securities.

[2] "This is especially the case in those parts of the West where there have been large consolidations of iron and steel interests. Bank officers in those sections report that old customers have

of smaller establishments as seekers of loans from the banks. Their stock and bonds were so generally purchased from private savings that they have been able to buy their own raw materials and carry on other incidental transactions of their business with their own resources.

Negotiable securities constitute of themselves an important means of giving mobility to capital and form a large part of the basis upon which banking credits rest. They are one of the best forms of security for loans under normal business conditions, because default of the borrower enables the lender, in order to recoup himself, to sell the securities for cash. This can be done through any broker in a few hours, and the lender is fully protected against even a fractional loss by the margin which he allows between market value of the securities and the amount which he lends. Under normal business conditions such securities seem to possess even greater safety than commercial paper. The paper depends upon the solvency of two or three individuals, who have given it their endorsement; the securities depend upon the solvency of governments or great corporations, which is not open to question in the case of those securities which are usually accepted by a prudent banker. MacLeod declares, in speaking of the banks of Scotland, where crises have been few: [1]

"The safeguard of the Scotch system has been the uniform practice adopted of retaining a large portion of the capital and deposits invested in government securities, capable of being converted into money, at all times and under all circumstances. This requires a

paid up their indebtedness with the moneys they have received for their plants from the combinations. These payments have been considerable of a loss to those banks, as many of the accounts have been running along year after year. While always considered to be good, they were seldom paid entirely off, but were renewed as soon as they matured."—*New York Journal of Commerce*, March 2, 1899.

[1] *The Theory and Practice of Banking*, II., p. 222.

sacrifice, because the rate of interest is small, and, in times of difficulty, the sale involves a loss, but it has given the Scotch banks absolute security, and enabled them to pass unhurt through periods of great discredit."

The relative merits of these two classes of securities—commercial paper and stocks—change somewhat in times of panic or depression. Loans made upon negotiable securities in the money centres are now largely made to brokers for purposes of speculation and are nominally "call loans," subject to repayment on call. The brokers, however, have no other assets than their personal capital, their securities, and their speculative profits. In a time of panic the securities in their hands become unsalable, and they have no means for obtaining cash or credit for meeting liabilities to the banks. On such occasions commercial paper is likely to prove the better rather than the worse security. Even if the trader has not the means for taking up his obligations in full without delay, he is usually able to make a partial payment, which increases the cash reserve of the bank. An illustration of this principle occurred in the panic of 1873, when the New York banks were called upon to repay large proportions of the deposits of the "country banks." The situation in which they found themselves is thus described by Bolles:[1]

"The $60,000,000 of call loans on which they relied for an emergency of this kind 'were entirely unavailable.' The banks held collaterals, it is true, for their loans, but these shrank so rapidly in value that the banks could not sell them except at a large sacrifice. This is one of the

[1] *The Financial History of the United States from 1861 to 1885*, p. 350. This manner of employing banking assets was criticised as early as 1840 by Raguet, who referred to "The practice adopted by many of the banks of New England, and perhaps of other places, of lending to brokers on interest, repayable on demand, a large proportion of the amount which banks in other places consider themselves bound to keep on hand, in coin, to meet possible demands."—*Treatise on Currency and Banking*, p. 109.

peculiarities of that kind of loan. In good times nothing is safer, because the bank daily knows the worth of the collateral, while an ordinary borrower may deceive a bank concerning his real condition. In bad times the entire list of stocks is apt to shrink, but the credit and ability of merchants do not, and so the banks have learned from much experience that while both kinds of loans have their advantages, the ordinary mercantile ones, in the long aggregate, are the safest."

The situation was once a similar one in England. Securities could not be sold in a panic, even where they were of the best character. As Bagehot defined the reason, in discussing the manner in which the Bank of England may protect its reserve: [1]

"The Bank at such a time is the only lender on stock, and it is only by loans from a bank that large purchases at such a moment can be made; unless the Bank of England lend, no stock will be bought,—there is not in the country any large sum of unused ready money ready to buy it. The only unused sum is the reserve in the Banking Department of the Bank of England; if therefore in a panic that department itself attempted to sell stock, the failure would be ridiculous; it would hardly be able to sell any at all,—probably it would not sell £50 worth."

The conditions of the modern stock market, with its immense fund of capital seeking temporary or permanent investments, and eager to take advantage of small margins of profit, have somewhat modified the situation which existed when Bagehot wrote. The large private banking credits whose owners may be tempted to exchange them for securities, if the price of the latter falls, and the money which may be attracted from abroad by the same influence, have narrowed the margin of fluctuation in the prices of the best securities in the financial centres, even under the

[1] *Lombard Street*, "Works,

least favorable conditions. In New York, for instance, loans by banks "on call" are subject to repayment within an hour or two after notice is given that repayment is desired. As the more conservative banks make loans only on securities which are quoted on the Stock Exchange, and advance only about eighty per cent. of the market value of such securities, they are able to market such securities readily, if required, and are rarely subject to loss.[1] It is of the highest importance, however, that loans of this character should be made only upon those securities having a wide market as well as secure in themselves, in conformity with the warning of Sayous, that "the locking-up of capital, of which sufficient notice is not often taken in periods of economic prosperity, arises generally from the fact that securities and merchandise have no market or only one which is too narrow."[2]

The restrictions imposed upon the character of the securities held by the leading banks of Continental Europe are for the most part only such as are suggested by the rules of sound banking and such as the banks themselves would observe without specific requirement of law in the present state of financial knowledge. They can hardly be considered as restrictions in the same sense as the special guarantees which are required in certain countries. There is not one of the great banks of issue in Europe where the securities required are not in the custody of the bank, subject constantly to its supervision, and capable of being sold or exchanged for cash or other securities of a proper character at the option of the bank officials.[3] The requirement that special guarantees shall

[1] For the similar policy of trust companies, see the author's *Wall Street and the Country*, p. 220. Even as early as the panic of 1866, Consols did not fall on "Black Friday" so much as one per cent., and on the next day regained what was lost.—*Vide* Hansard in London *Bankers' Magazine* (March, 1901), LXXI., p. 413.

[2] *Les Banques de Dépôt*, p. 95.

[3] Even in the case of the rigid restrictions imposed upon the issues of the Bank of England, there is grave doubt whether the

be set aside against note issues is onerous in itself and becomes more onerous when the securities are taken out of the custody of the bank and placed under the charge of some public official.

The most notable and in some respects the most successful case of a specially secured circulation is afforded by the national banking system of the United States. This system was an outgrowth of some of the state systems, of which the best known was that of New York, called the "free banking system." This system authorized individuals or associations to receive from the comptroller circulating notes in blank, upon depositing with him the stocks of the United States, of the State of New York, and of other states, when approved by the comptroller and subject to certain conditions, or bonds and mortgages on productive real estate.[1] The result of this provision, which enabled any person to issue notes without relation to the needs of trade, without doing any other branches of a banking business, and without any requirement for redemption in coin on demand, was a banking mania which soon wrecked the currency system of the state. Within six years ninety-three banks had sprung into existence, with a circulation of about $6,000,000, of which eight had voluntarily retired, and twenty-six had failed with average payments to note-holders of seventy-six cents on the dollar.[2] It was found that the acceptance of certain stocks tended to create a market in New York for securities which were otherwise comparatively unsalable. These securities failed to realize the amount for which they were pledged when sold in case of liquida-

government securities held are legally set aside against the notes, and "whether, in case of the failure of the bank, the note-holders would have a preferential claim."—Nicholson, *Principles of Political Economy*, II., bk. iii., p. 172.

[1] Act of April 18, 1838. The operation of the New York system is set forth by Root in *Sound Currency* (February 1, 1895), II., pp. 299–305.

[2] *Ibid.*, p. 302.

tion, and the danger of their depreciation in the hands of the bankers restrained in some degree their use as the basis for circulation.

The experience of Illinois under the system of bond securities for notes was also unsatisfactory. The notes of failed banks were for the most part redeemed at par up to 1861, but the system promoted speculation in the same manner as a rigid government currency.[1] When the Civil War broke out, the stocks of Southern states on deposit to secure notes rapidly depreciated, and in 1864 the report of the state auditor showed twenty-three banks in operation and ninety-eight in suspension.[2] Wisconsin had a similar experience. The comptroller of the state was compelled to call upon nearly all the banks to make good the depreciation of their stocks, and reported in 1863 a list of fifteen failed banks whose notes he was redeeming at from sixty to ninety-five and a half cents on the dollar in depreciated United States notes.[3] These unfortunate conditions were not entirely the result of speculative conditions which were beyond control, but were directly due to the system of basing note issues on something other than standard coin and short-term commercial assets. The fact that sound banking was possible, even in the uncertain conditions of the new West, was demonstrated by the conspicuous success of the state banks of Indiana and Ohio, which based their note issues essentially on coin reserves and legitimate banking obligations.

An effort was made in framing the National Banking Act of the United States, in 1863, to combine the best features of the New York and other state systems, where special security was required for notes, and to avoid their defects. The act of June 3, 1864, which gave def-

[1] *Hunt's Merchants' Magazine*, Dec., 1854.

[2] Garnett, *Sound Currency* (May 1, 1898), V., p. 143.

[3] Report of the Secretary of the Treasury on Condition of the Banks at the Commencement of 1863, p. 204.

inite form to the new system, provided for deposit with the Comptroller of the Currency of United States bonds, upon which he was authorized to issue notes to the banks to the amount of ninety per cent. of the face value of the bonds deposited. Circulation was not authorized beyond the capital of the bank, and at least fifty per cent. of the capital was required to be paid up before beginning business. It was the plan of Secretary Chase that the notes should be payable after resumption "in specie, but by the association which issues them, on demand; and if not so paid will be redeemable at the Treasury of the United States from the proceeds of the bonds pledged in security."[1] No steps were taken to carry out this intention, and the notes circulated at par with the paper money of the United States, but not at par with gold coin.

The result of the combined policy of issuing government paper money which was not redeemable, making bank-notes redeemable in such money, and securing them by bonds which were sold for the same money, was to subject the bank-notes to all the fluctuations of the public credit. This fact is an important one in considering the security and efficiency of a secured circulation, and is often overlooked by those whose memory of financial events does not extend back of the resumption of specie payments in 1879. Whatever fluctuations occurred in the price of paper money in gold were fluctuations in the value of national bank-notes as well. The fact could not be otherwise when the notes were redeemable only in government paper and were secured by bonds which were quoted in the same paper. The chief purpose of the Bank Act was to make a market for United States bonds by forcing the banks to buy them as a basis of circulation.[2] The credit of the banks was thus linked

[1] Report on the Finances, 1862, p. 17.

[2] President Lincoln, in a message of January 17, 1863, declared: "The securing of this circulation by the pledge of United States

absolutely with the credit of the government, and under such a system it was not possible that private credit, as represented by the circulating paper medium, could fail to be subject to the political storms which shook national credit.

The system of requiring bond deposits as the special security for note issues has been tried in other countries without greater success than in the United States. It was tried in Japan upon substantially American models by the Bank Act of November, 1872, which was amended in 1876. The banks were authorized to issue notes to the amount of eighty per cent. of their capital by depositing in the Treasury what were called gold redemption bonds. These notes were made legal tender between individuals and were redeemable in government paper money, of which the bank was required to keep a reserve of twenty per cent.[1] The issue of a government loan of more than 174,000,000 yen (then equivalent to nearly $174,000,000) to pay off feudal pensioners resulted in a rapid extension of the national banking system. The number of banks organized within three years after 1876 was 153, with a total capital of 48,816,100 yen. Inflation of the currency by bank issues (whose amount had no tangible relation to the volume of business or of metallic money) caused a rapid rise of prices, and the situation was rendered worse by the decline in value of government bonds. It became necessary to call a halt. The legislation of 1882 and 1884 suspended the creation of national banks, and provided for the surrender of their issues and the unification of the banking currency under the control of the Bank of Japan. The outstanding issues of the national banks were reduced on April 1, 1897, to only

bonds, as therein suggested, would still further facilitate loans, by increasing the present and causing a future demand for such bonds."—Richardson, *Messages and Papers of the Presidents*, VI., p. 150.

[1] New York *Bankers' Magazine* (April, 1899), LVIII., p. 538.

13,610,995 yen ($6,800,000), and have now practically disappeared.[1]

The requirement of bonds and other special guarantees for note issues is sometimes urged as a necessary means for restricting issues and preventing speculation. It will be seen hereafter that restriction of issues within the limits of legitimate business demand should be sought by a system of prompt redemption for notes and by changes of the discount rate. Both these methods of regulation are directed to the vital point of keeping bank-notes exchangeable for coin at par and on demand. Arbitrary limits put upon the issue of notes, and the requirement of special guarantees other than coin, are not directed to this vital point. They have usually failed to accomplish their objects and have imposed needless fetters upon banking operations and general trade.

The subject of the guarantee for note issues and other liabilities of a commercial bank has been discussed thus far upon the assumption that the issues of each bank were secured only by its own resources. This is necessarily the case where the power of issue within any country is confined entirely or chiefly to a single great institution, like the Bank of England, the Bank of France, or the Imperial Bank of Germany. The absolute independence of each bank in respect to its liabilities is also the law governing the private and joint-stock banks of England, the thirty-eight note-issuing banks of Switzerland, the ten chartered banks of Scotland, and the six joint-stock banks of Ireland. In case of the failure of any of these banks, its creditors would have only the assets of the bank as security for the payment of their claims. These assets include in some cases a large or unlimited liability of the stockholders for the debts of the bank.[2]

[1] *Résumé Statistique de l'Empire du Japon* (1898), p. 147.

[2] In the case of the City of Glasgow Bank, in Scotland, which failed in 1878, there was no limit upon the liability of stockholders for debts of the bank. Calls were made upon them to the amount

Where the power to issue notes is distributed among a number of banks, however, it has been found prudent to protect creditors by combination among the banks for making good the full value of their notes in case of failure. This method of security, known as the guarantee-fund or safety-fund system, was tested in the State of New York under the law of 1829 and is now in operation in Canada. The plan failed to provide adequate resources under the New York law, because an interpretation of the courts held that all the obligations of a failed bank which could not be paid from the assets were chargeable against the guarantee fund. This was contrary to the intention of the framers of the law, who proposed that only losses on circulating notes should be paid from the guarantee fund.[1]

The principle of a guarantee fund has been subjected to a successful test under the Canadian banking law, in spite of the absence of severe official supervision. The Canadian banks were conducted successfully in most cases and with only small losses to note-holders prior to the creation of this fund in 1890. The notes were not a preferred lien before 1880, and the claims of the note-holder shared ratably with other claims in the distribution of assets. The failures between 1874 and 1879 compelled many note-holders to realize on their notes at a discount,

of £2750 for each share of £100, and the principal of deposits was reimbursed in full, but the majority of the shareholders were ruined by these heavy calls.—*Vide A History of Modern Banks of Issue*, p. 150.

[1] "The experience of New York with a system of note issues based on general commercial resources—even complicated as it was with the speculative transactions of the years 1835–1839—shows that in the whole history of the system the total loss which would have been thrown upon the safety fund, if it had been originally established in its finally perfected form, would have been less than $550,000, an amount which would have been met by an average annual assessment of less than one-tenth of one per cent. upon the capital."—Report of the Monetary Commission, p. 242.

in order to obtain immediate use of their money. It was accordingly provided, in the revision of the bank law in 1880, that notes should be a first lien upon assets. The total assets of each bank were from six to ten times its note obligations, and the note-holder was protected by still another provision of law, by which the shareholders in the banks were liable for the amount of their shares, in addition to the amount originally paid up.

The creation of the bank-circulation redemption fund by the act of 1890 added an additional safeguard, not only that notes should be paid in full, but that the holder should not be compelled to await settlement of the assets of the bank in order to recover the value of the notes. It was provided that the new fund should be raised by contributions from the banks, before July 16, 1892, to an amount equal to five per cent. of the average circulation of each contributing bank. The notes of failed banks are redeemable at once from the fund, in order to promote the convenience of the note-holder, but the amounts thus paid from the fund are required to be reimbursed from the assets of the bank when they are realized. In case the redemption fund should be exhausted, the minister of finance is authorized to call upon the banks for the amounts necessary to make good the deficit, but not in excess of one per cent. annually of the amount of their circulation. Amounts thus collected in excess of the usual tax are required to be reimbursed to the contributing banks when recovered from the assets of the failed bank. The prompt action of the government in redeeming notes from the redemption fund thus obviates the inconvenience which sometimes arose, prior to the creation of the fund, while note-holders were waiting for the adjustment of the assets of the failed bank. They are now protected by the redemption fund and by provision for interest upon notes while they remain unpaid. The operation of the guarantee fund up to 1898

was thus set forth in the report of the Monetary Commission:[1]

"Since the establishment of this system, in 1890, but two bank failures have occurred. In the case of the second failure, the notes of the bank were redeemed by the bank itself, without recourse to the redemption fund. In the case of the earlier one, the liability at the end of two months fell upon the redemption fund, though even here no notes were really presented for redemption from it. No doubt, however, was felt concerning the goodness of the notes, and, inasmuch as they drew interest at six per cent. from the date of suspension, they were regarded rather favorably as an investment, and were readily received by banks and others."

The proportion of banking losses can be calculated with reasonable precision when a long term of years is taken into account, covering periods of business activity and periods of panic followed by periods of depression. These losses bear a very insignificant ratio to the whole volume of business transacted by banks. An estimate of the liabilities of failed mercantile firms made in 1874 showed that they amounted to less than one-quarter of one per cent. of the commercial liabilities of the country for the year.[2] The net losses, after taking account of assets of the failed firms, would represent a much smaller fraction of the total operations. The losses suffered by banks as the result of bad loans are an even smaller proportion of the business of the country, because loans are made only to firms in good credit and do not extend to a great number of small traders, whose losses appear in the reports of mercantile failures, but which were never strong enough to obtain a general line of banking credit. The provision for losses by bank failures, therefore, may be reduced to a mathematical basis, like the ratio of fires and deaths in the business of insurance. Fires and

[1] P. 243.

[2] Dunbar, *Theory and History of Banking*, p. 25.

deaths occur, and banking failures occur, but they do not in the one case wreck the insurance companies, and need not in the other case impair the stability of the banking system if proper provision has been made for covering losses.

The data for an estimate of the possible losses which might fall upon a bank-note safety fund in the United States are afforded by the annual reports of the national banks from the foundation of the system in 1864. The average circulation of national banks from 1864 to 1899 was about $277,000,000. The total circulation of all national banks placed in the hands of receivers during this period was $21,328,197. Careful calculations made by Comptroller Dawes in 1898 showed that the average dividends of failed banks upon their general liabilities were 74.16 per cent. If the bank-notes had not been especially secured by bonds, but had simply shared ratably with other claims upon assets, the proportion of the note issues which would have fallen as a loss upon a guarantee fund would have been about $5,500,000. This amount, divided by the thirty-five years of the life of the national banking system, would have afforded an average annual loss of about $158,000. A tax of one-half of one per cent. upon the average circulation for thirty-five years would have brought into the Treasury $1,385,000 a year, or about eight times the average annual losses. The total collections for thirty-five years from such a tax would have created a guarantee fund of $48,475,000, from which the deduction of $5,500,000 on account of losses by the notes of failed banks would have left in the fund on June 30, 1899, the sum of $42,975,000. Statistics like these, based upon the business of any well-conducted banking system, show the wide margin of safety afforded by a small guarantee fund and the trifling amount of the demands likely to fall upon it.

The proper guarantee for the security of bank-note issues consists, therefore, in securities which are readily

convertible into cash and in a generous provision of cash actually in hand. The securities may consist in part of commercial paper, bills of exchange drawn upon foreign countries, or the negotiable securities known as stocks and bonds which are sold on the stock-exchanges. When these securities consist of commercial paper, such paper should be payable within a period of ninety days or less, in order that the bank may increase its cash resources by collecting such obligations from day to day in case of need. Listed securities should be accepted as the guarantee of advances in only limited proportions of the resources of a commercial bank and should be of such character that they can be sold without loss upon the stock-exchanges. All the assets of a bank, whether they consist of commercial paper or transferable securities, should be within quick and easy control by the bank. It remains to discuss the ratio in which these assets should consist of metallic money and the manner in which official supervision is justifiable to insure in a progressive commercial community the most flexible, economical, and efficient form of bank-note currency.

IV

THE RATIO OF CASH RESERVES

Why redemption of bank-notes in coin is essential—Why legal regulation of reserves is justifiable—Danger that competition for profit might otherwise force reserves below the limit of safety—Propriety of requiring metallic reserves against deposits and other obligations—Operation of "the one-reserve system" in England—Requirements of the National Banking Act of the United States—Propriety of fixed minimum reserves.

HAVING dealt thus far with the character of the assets which sound banking practice suggests against demand liabilities and which may properly be required by law, it remains to consider whether the law should interfere with the free movement of these assets, and with the profits which may be made by the bank, by requiring that any fixed portion of them shall consist of metallic money. All that portion of the assets held in money lies idle, in a sense, and reduces the profits which might be earned if the money was lent out. It has been contended by some of the advocates of freedom in banking that the law should not intervene by prescribing any fixed coin reserves, because the rules of sound banking would indicate what reserves should be kept, and those bankers who failed to observe such rules would suffer the consequences in the loss of popular confidence and the ruin of their business. Examination of the question, however, on both its theoretical and historical side, will, it is believed, justify the state in requiring specific reserves. The state, in seeking to insure the

uniformity, safety, and convenience of note issues, is bound to take special care that they are a safe and efficient substitute for money.

The fact that trade is the exchange of goods and services, and that credit has afforded the means for making such exchanges to a large extent without the intervention of metallic money, has sometimes led to the belief that metallic money might be dispensed with, even as a basis for instruments of credit. This error has taken several forms, among the most plausible of which was the theory of the directors of the Bank of England during the suspension of specie payments from 1793 to 1823, that bank-notes, even when irredeemable, would not fall below par so long as they were issued only upon good mercantile paper. The view then held was thus set forth:[1]

"Now, it will be found, that limiting the issues of bank paper, to the discounting of solid mercantile bills, payable at a fixed and moderate date, is an effectual means of returning all superfluous paper upon the bank that issued it, and of bringing the supply of circulating medium within the measure of the demand. When the bank discounts a real mercantile bill, it does not throw its paper gratuitously into the channel of circulation; it exchanges its notes for a just equivalent, it supplies a real demand; for the merchant, whose bill was discounted, was desirous of possessing the bank paper, and able to pay for it. Desire to possess, and ability to pay, are all that is necessary to constitute effectual demand. . . . The paper, issued upon such discounts, would not remain in the market, after the demand for it had ceased. When it had performed a few mercantile operations, and was about to become excessive, it would be returned to the bank, in payment of the bill, upon which it had been advanced."

This theory of the character and effect of bank-note

[1] Torrens, p. 125.

issues was based upon two naïve errors: first, in ignoring the fact that both loans by a bank and payments into it may be made by checks and other forms of circulating medium than coin and bank-notes; second, that exchanges of goods can be made in currency without subjecting their relative values to the test of the relation of each to the metallic standard. The theory of the bank directors reduced exchange to a system of pure barter, under which the notes were expected to retain equality with coin because their volume was determined by the requirements of trade and was based upon real transactions. This theory had so much of truth that it was several years before the notes of the Bank of England, though irredeemable, fell far below par. The foreign exchanges were only slightly adverse to England, and the directors congratulated themselves upon the adoption of the soundest and most conservative theory of banking issues. In the course of time, however, these issues gradually became redundant, the foreign exchanges became more adverse, and prices rose to meet the depreciation in the paper. The reason did not lie so much with increased distrust of the Bank of England (although this was a factor) as with the fundamental error of the theory upon which the notes were issued.

The objection to abandoning the requirement for metallic redemption of notes is that it takes away the one effective test of their value. As was pointed out in the Bullion Report at the time:

"So long as gold was demandable for their paper, they were speedily apprised of a depression of the exchange, and a rise in the price of gold, by a run upon them for that article. If at any time they incautiously exceeded the proper limit of their advances and issues, the paper was quickly brought back to them by those who were tempted to profit by the market price of gold or by the rate of exchange. In this manner the evil soon cured itself."

The redemption of paper currency in standard coin on demand has three essential objects:

1. To guard against distrust.
2. To insure equality of the paper with coin.
3. To insure immediate exchangeability of the paper for commodities at par value with the paper in coin.

Each of these requirements differs slightly from the other upon close examination. The degree of confidence or distrust in a bank-note is based upon estimation of the ability and willingness of the maker of the note to meet his obligations. Distrust may exist when redemption at par is going on; it may exist in only small degree, though redemption is temporarily suspended. The requirement of redemption in coin is for the purpose of maintaining the equality of the paper with the coin. The essential question, whether paper can be maintained at par with coin when it is not redeemable, arises out of the third requirement and involves the question whether the other two requirements can be met without direct redemption.

It is because paper which is not redeemable does not have the highest quality of exchangeability that it does not fully meet the first two requirements and circulate at par with metallic money. Gold and silver are the two commodities which possess the highest degree of exchangeability. They are sought in exchanges, because their possession gives command over all other commodities. When an evidence of credit is issued which purports to be exchangeable for other commodities, but is not exchangeable for gold and silver, it bears a sinister distinction at the beginning. So long as the paper note is required as a tool of exchange (because the higher value of the precious metals has driven them from circulation), and is not issued in excess, the fact of exchangeability for other commodities may long maintain the value of the note at a point only slightly below that which it would have if exchanged for metallic money. But the absence of redeemability on demand diminishes

the exchangeable value of the paper. Even the certainty of future exchangeability, growing out of the absence of distrust, does not make the note equal to metallic money. The note in such a case might possess the value of commercial paper payable at a future date, the discount representing the present price of a future good; but it cannot quite represent a quality which it does not confer —the immediate command over the most exchangeable of all commodities, metallic money.

The requirement that a bank shall keep in standard money a certain fixed proportion of its note issues is one of the regulations of banking which has been sanctioned by practical experience. It is a requirement capable of justification upon grounds of public policy. The natural tendency of banking, even where there is no intentional violation of sound principles, is towards the reduction of cash reserves to the lowest limit. This is a natural result of the law of marginal utility and of unrestricted competition. The law of marginal utility leads the community as well as the banker to employ paper as largely as possible as a medium of exchange in preference to coin, because of the economy in the amount of capital required and in transportation and handling. The practical determination how much coin shall be retained within the country as a basis of security for notes lies with the banker, where there is no restriction upon denominations of notes, because the public will continuously accept notes and rely upon the banker to keep a sufficient metallic reserve. The necessity for regulation is less obvious where the entire volume of notes is issued by a single great bank than in the case of competing banks, because such a bank is not, as a note-issuer at least, subject to competition, and its accounts attract more attention.

Where competition enters into the problem between banks otherwise upon equal footing, the bank which runs closest to the danger line in respect to the size of its

metallic reserve, without actually impairing public confidence, will make the largest profits. The tendency, therefore, among competing banks, will be to reduce their metallic reserves within narrower and narrower limits, until they may fall below the limits of safety. This is the natural result of the effort to render services to patrons for the lowest charges and earn profits for the bank by keeping at the minimum the amount of idle capital invested in reserves. The rectitude of any one banker, or even of a combination of bankers, will not guard against the improper reduction of reserves under the stress of competition, unless such a combination is strong enough to discredit the more reckless bankers among depositors and other patrons. The chances will favor the less prudently managed banks, because of their facilities for reducing charges for their services and attracting patrons, until the bankers of greater prudence are driven from business by the fall of their rate of profit below the normal return upon capital.

This process is almost certain to go on in a state of economic freedom, even though there is not conscious abandonment of sound banking principles. The more daring banks, especially if they are younger and smaller than the more conservative ones, will keep only the reserve required for meeting ordinary demands, and will rely upon the older and more prudent banks to aid them with their stronger reserves in case of unexpected demands. This will be still more the case if the larger banks are in the commercial centres and constitute the natural support of the smaller banks. Where no regulation existed, however, and pre-eminently where no one bank was large enough to feel the responsibility of sustaining the credit of the entire banking system, the tendency would be towards reducing the reserves of even the central banks to the minimum of safety under ordinary conditions. Reserves in such banks would be larger than in country banks, but not adequate to meet

unusual demands. This reduction of the reserves to the danger line would, moreover, while there was no marked adverse movement of the precious metals, pass unobserved except by a few students, whose warnings would attract little attention until a serious emergency arose.

The danger of such gradual impairment of the reserves would be much greater when there was no minimum limit prescribed by law or custom than if such a limit existed. The awakening to the fact that metallic reserves were inadequate to sustain business and credit would finally come at a time when country banks had reduced their reserves to the form of deposits in commercial centres and the banks in the commercial centres had reduced their reserves to a point which permitted the extension of little aid to their country correspondents. At such a moment the failure of a few country banks might carry with it the collapse of the whole banking structure, as one institution after another discovered that it was leaning upon a broken reed in relying upon other banks, and the banking and business community suddenly had revealed to them in a flash the slender foundation upon which credit rested.

Bank-notes are contracts to deliver metallic money. The tendency of modern banking development is to give the same solidity to notes and to other banking credits which belongs to metallic money. The necessity for excessive investment in metallic tools of exchange is thereby lessened and the severity of panics is mitigated, because of the larger volume of exchangeable instruments which are within reach of business men. It is only those bank-notes which are well secured, however, which are able to command this unquestioned confidence during crises of credit. It is the possession of this quality in their notes which gives value to the authority granted the Bank of England, the Imperial Bank of Germany, and the Austro-Hungarian Bank to exceed the usual limit of their note issues upon occasions of urgent necessity.

The fact that the notes inspire implicit confidence makes them substitutes for money at a time when the distrust of other forms of credit has swelled to an abnormal degree the demand for money. Such notes would suffer the same distrust as other instruments of credit if they were not well secured by a reserve of the precious metals. It is not necessary that such a reserve should equal or nearly equal the amount of notes issued, since the volume of available money would not in that case be increased by the issue of notes, but it is necessary that the reserve should be of such proportions as to inspire confidence that the issuer of the notes is capable of executing his contracts to deliver money for notes in response to all probable demands.

The question may be suggested, why fixed metallic reserves should be required by law against bank-notes if they are not required against checks and other forms of credit, which bank-notes so nearly resemble. The answer is twofold. The bank-note is more directly related to the metallic reserve than other forms of credit, and its maintenance at par with coin, in a manner which will not admit of question on the part of the holder, is much more important than the maintenance at par of any other instrument of credit. This requirement is not derived from an essential difference in character between the bank-note on the one hand and the check or deposit receipt on the other, but from the conditions of public policy which justify the intervention of the state to secure the uniformity, safety, and convenience of that form of credit which is employed in daily transactions by great numbers of people. The fact that the bank-note is employed as a substitute for money, and is capable of retaining this character even in times of acute panic, justifies the prescription by the state of regulations which will insure its convertibility with coin on demand.

The state has the right to make the same prescription in regard to other forms of credit, and it avails itself of

this power in the laws governing the payment of commercial paper and imposing the penalties of bankruptcy upon those who disregard these laws. The difference in the process is not so much one of kind as of degree. The bank becomes insolvent, as does the private citizen, when it refuses to pay its commercial paper; but one of the chief objects for which the bank is organized is that of issuing notes redeemable in coin on demand. It is organized for the purpose of issuing these notes under such conditions that they will pass without question from hand to hand. It differs in this respect from other corporations and private firms, whose pledge to pay their paper on demand is incidental to the other purposes of their organization. and whose paper is not intended to pass as a current medium of exchange. The state, therefore, on behalf of the business community, has the right to exercise special precautions that banks issuing commercial paper to circulate as substitutes for money shall so conduct their business that no doubt shall arise of their ability to fulfil their contracts.

It is highly desirable, moreover, that all forms of commercial credit should acquire the same solidity and inspire the same confidence as metallic money or bank-notes. To this end is directed the development of modern finance and legislation. The essential similarity of all forms of credit is indicated by the requirement in several countries that the metallic reserves against deposits shall be the same as those against notes, or at least that there shall be such reserves in fixed and definite proportions. The Bank of the Netherlands is required to hold a reserve of forty per cent. against the aggregate sum of its note issues and deposits.[1] The early Massachusetts banking laws placed notes and deposits upon the same footing in fixing the proportion of metallic reserve to be held.[2] The National Banking law of the United States even goes

[1] *Vide A History of Modern Banks of Issue*, p. 262.

[2] Report of Monetary Commission, p. 173.

so far in recognizing the substantial unity of all forms of banking credit that a cash reserve is required against deposits and no special reserve is required against bank-notes except the fund of five per cent. kept in the national Treasury for the purpose of renewing the notes.

The question how large a cash reserve shall be kept is one which cannot be answered in exact mathematical terms. Strong banks, whose credit is practically unassailable, can afford to count upon the circulation of their notes without question in the most acute panic, but the confidence which makes this possible requires that they shall keep an ample supply of metallic money for meeting demands for export, even when these attain an unusual amount. Banks in the commercial centres, moreover, require much stronger metallic reserves than banks in comparatively small communities, because the central banks are responsible for the ultimate cash reserve of the country. Where the issue of notes is not unduly hampered, the notes meet most demands for currency within the interior of the country, but periods of pressure often result in a drain of coin from the central banks to the country in order to strengthen reserves. This is a demand which should be counted upon and provided for by prudent bankers in commercial centres.

The tendency to reduce metallic reserves to a minimum, and even to permit them to pass below the limit of safety, has been illustrated in several countries where no minimum limit was fixed by law. The most conspicuous case of this character is that of the English banks during the last few decades. When bank regulation by law was seriously undertaken in 1844, public attention was centred exclusively on the question of issuing notes, and not on other methods of issuing credit. The result, tersely described by Nicholson, is that "bankers are practically left to themselves in the management of their deposits, advances, and reserves; and while the issues of notes are so strictly regulated, the use of checks

is, from the same point of view, altogether unregulated." [1] Hence an enormous increase in deposit liability in England has not been accompanied by a corresponding increase in metallic reserve held. The English banking system has tended more and more to what was described by Bagehot in 1874 as "the one-reserve system." The Bank of England early in the century, and even within a generation, was the regulator of the London money market and the rock upon which the joint-stock and private banks leaned in emergencies. The joint-stock and private banks were a comparatively small factor in the market at that time, but they have grown in volume of business until their operations in commercial paper and ordinary banking business overshadow those of the Bank of England.[2]

Notwithstanding these large obligations, the joint-stock banks have continued the policy of relying upon the Bank of England in emergencies instead of keeping a coin reserve of their own, and the Bank of England has not felt able to supply the deficiency by increasing its own reserve in the proportions recommended by prudent financiers. Even the publication of monthly statements by the joint-stock banks, which was secured by Mr. Goschen, the chancellor of the exchequer, after the Baring panic in 1890, has not had the expected effect of compelling the banks to strengthen their reserves. Their cash assets are represented by "cash in hand and at the Bank of England" and "money at call and short notice,"

[1] *Bankers' Money*, p. 67.

[2] It is declared by Lloyd that in their early days the joint-stock and private banks practically "regulated their rates and their modes of procedure by the action of the Bank of England, and they kept balances with the bank. Gradually the joint-stock banks have become so powerful that they now control the money market in ordinary times. For a considerable part of the year, when there is no excitement and when business is not abnormally active, the Bank of England practically does no banking business proper."—London *Statist* (June 10, 1899), XLIII., p. 911.

the latter representing loans to brokers. "Practically, then," it is declared by high authority, "the so-called reserves of the joint-stock banks, which are published with so much parade every month, are not reserves in any true sense of the word, and would not help the market in the least if there were to be another great crisis." [1]

The law of competition has prevented any individual bank from strengthening its reserve and has stood in the way of investment by the Bank of England in a large stock of the precious metals. Bagehot urged that the bank should either be compelled to strengthen its reserve or that the joint-stock banks should be required to keep a certain proportion of their deposits as a permanent minimum deposit with the bank. These suggestions have been repeatedly renewed, but without results. The stock of gold in the Bank of England rose rapidly in 1896, because London became the distributing-point for the large supplies of the metal from the South African mines. This reserve was not retained, because the banks of other countries were willing to bid a high price for the new gold and gradually drained it away from England.[2]

Experience has shown that while the Bank of England has been subjected to severe tests in times of crisis, it has been restriction of the note-issuing function rather than deficiency in the metallic reserve which has caused pressure. The restriction upon the issue of notes has been superseded as a means of influencing the exchanges by changes in the rate of discount, which will soon be discussed. In the mean time a source of strength has been found in the extension of modern methods of credit through the disposition of the joint-stock banks to increase their deposits with the Bank of England in times of stress rather than to diminish them. These "bankers' balances," as they are called, rose in 1857 from £3,400,000 on November 4 to £5,400,000 on November 25; in

[1] London *Statist* (June 10, 1899), XLIII., p. 911.

[2] The coin and bullion held March 1, 1905, was £38,994,989.

1866, from £5,000,000 on May 9 to £7,900,000 on May 15; and in 1875, from £7,274,000 on May 19 to £11,857,000 on June 2. The reason for these changes is found in the desire of the bankers to strengthen their position with the public by making a stronger showing of reserve money. No doubt a large part of the increase represented borrowings by other banks from the Bank of England, but, as Palgrave points out, "what has been borrowed from the bank, or a great part of it, has been deposited with the bank." [1]

The fact that it is difficult to lay down fixed rules for ratio of reserve to liabilities has lent arguments to those who oppose any definite requirements on the subject. But it is well suggested by Bagehot that there is a certain minimum below which the reserve cannot fall without causing anxiety. "The bank reserve, then, never ought to be diminished below the 'apprehension point'; and this is as much as to say that it never ought very closely to approach that point; since if it gets very near, some accident may easily bring it down to that point and cause the evil that is feared." [2] The ratio of reserve required for safety is determined to a large extent by the character of the demands likely to fall upon it. "The intensity of the liability," as Bagehot puts it, is as important an element as the amount of the liability. A reserve of one-third against all demand liabilities was recommended by the directors of the Bank of England in the inquiries made by parliamentary committees in the last century. A reserve of twenty-five per cent. is considered adequate by many writers and is probably sufficient for meeting most demands for redemption of notes alone, but either of these proportions might prove inadequate under certain conditions. A reserve of forty per cent. against notes, and in some cases against all demand liabilities, is required under existing law in the Imperial Bank of Germany, the

[1] *Bank Rate and the Money Market*, p. 27.
[2] *Lombard Street*, "Works," V., p. 208.

Austro-Hungarian Bank, the National Bank of Belgium, the Bank of the Netherlands, the Swiss banks, and the Bank of Japan, but in some cases, as already set forth, a part of this reserve may consist of bills of exchange drawn upon foreign countries.

Note circulation has come to be so small a part of the demand liabilities of modern banking institutions that most of the discussion which has taken place in recent years regarding the proper ratio of reserves has been based upon the tacit assumption that a strong reserve should be held against all demand liabilities. This is the case under the National Banking law of the United States, where a reserve is required to be held in a certain ratio against deposits rather than against notes in circulation. No discrimination would be made, however, against the use of the reserve for redemption of notes, if they were presented for this purpose, or for payment of any legitimate demand liability of the bank. It is proper, therefore, to discuss here the reserve requirements of the National Banking law, which are somewhat complicated and have been subjected in some quarters to serious criticism.

The national banks of the United States are divided in respect to reserve requirements into three classes—banks of central reserve cities, banks of reserve cities, and "country banks." The first class includes national banks of only three cities—New York, Chicago, and St. Louis. National banks in these three cities are required to keep reserves equal to twenty-five per cent. of their deposits. They are required to keep these reserves in lawful money—gold or silver coin, or government paper money—in their own vaults. The exception to this requirement is that the fund of five per cent. required to be deposited in the Treasury for the current redemption of circulating notes may be counted as a part of this lawful money reserve.[1]

[1] Revised Statutes, Section 5191.

These banks of central reserve cities, therefore, are required to be equipped with a considerable amount in cash for meeting emergencies. The requirements in regard to other reserve cities and country banks are less stringent. The other reserve cities, which now number twenty-seven, are required to have reserves of twenty-five per cent. against their deposits, but may keep half of their lawful money reserve on deposit in national banks in central reserve cities. The country banks are required to keep a reserve of only fifteen per cent. of their deposits, and may keep three-fifths of this amount with national banks in any of the reserve cities. The result of these provisions is to reduce the requirements of cash actually held to twelve and one-half per cent. of their deposits in the case of banks in the reserve cities and to only six per cent. of their deposits for the country banks.

The purpose of the permission given to keep a part of the reserve in reserve cities is to afford an exchange fund, for the convenience of the banks, by which they may make transfers of funds due outside their immediate locality by drafts upon their deposits in reserve cities. Such drafts have a higher character for security and negotiability than the check of a country bank upon funds in its own custody, because they can be collected at small cost or none in commercial centres. Many transactions in which country banks take part involve merchants and banks in these centres, and funds would be kept by them in such centres for convenience, even if there were no such requirement of law. The criticisms which have been made upon these deposits in reserve cities have related not so much to the propriety of some such deposits as to the proportion permitted by the National Banking law and the policy of the banks in reserve cities in attracting such deposits by payment of interest upon them.

The legal requirements in regard to reserves are usually much exceeded by the country banks and those of the

reserve cities outside the three central reserve cities. Thus, by the reports to the Comptroller of the Currency on April 26, 1900, the reserve required by the reserve cities outside of New York, Chicago, and St. Louis was $218,-118,418, and the proportion required to be held in cash was $107,989,263. The reserve actually held was $276,-246,863, or 31.66 per cent. of deposits, and the amount in cash was $122,664,576. In the case of the country banks the reserve required was $196,073,098, while the amount held was $387,621,879, or nearly twice the legal requirement. The amount required in cash was $75,151,415, while the amount actually held in the banks was $125,-913,186, or two - thirds more than legal requirements. These proportions are not unusual, and it may be said that a total reserve of twenty-five per cent., of which about half is in the actual custody of the bank, is the rule among country banks. Few, if any, permit the cash which they actually hold to fall so low as six per cent. of their deposits while they are doing a solvent business.

While the policy of the banks, therefore, is more conservative than the requirements of the law, there have been occasions on which the absence of the funds of a bank from its own custody has caused serious embarrassment. This was the case in the panic of 1893, when large and unexpected demands fell upon Western banks. The national banks of the country, on May 4, 1893, had $174,312,119 due from reserve agents, $121,673,794 due from national banks, and $32,681,708 due from state banks. Many banks were obliged to suspend because their reserves were not within ready reach. Out of a total of 158 national banks which were forced to suspend payments during the year ending October 31, 1893, eighty-six were authorized to resume business within a short time. Not one of these was east of the Ohio or north of the Potomac.[1] This is evidence that these

[1] *Vide* Noyes, "The Banks and the Panic of 1893," *Political Science Quarterly* (March, 1894), IX., p. 18.

Western and Southern banks would have been able to maintain their solvency if they had not been obliged to await the transmission of currency from their reserve agents in the reserve cities.

The character of the reserve law and the absence of elasticity in the system of note issue alike contributed to increase the liabilities of national banks and to weaken their command over their resources. Since country banks cannot legally lend their reserves to local patrons, but may obtain from one to two per cent. for them in reserve cities, they are offered a direct premium for keeping in reserve cities the whole of the three-fifths which they are permitted to keep there. In sudden emergencies the loss of time required for obtaining their funds is important. Another important defect of the system is its effect upon the banks in the reserve cities. They are suddenly called upon to meet unusual demands from the interior at a time when demands from their own patrons for accommodation are most pressing and when it is most difficult either to secure payment of their "call" loans or to realize upon the collateral by which these loans are secured.[1]

The fact that the law fixes a minimum limit upon the reserve has been a subject of criticism, upon the theory that the requirement prevents use of the reserve when needed. This is hardly a conclusive argument against requiring banks to keep reserves adequate for protecting the safety of their deposits, notes, and other demand liabilities. The criticism may afford reasons for giving

[1] Notwithstanding these causes for criticism, Noyes properly says of the policy of reserve deposits: "It is, however, practised as regularly in Great Britain as in the United States, and its purpose is legitimate—to give the widest employment to the country's money supply. The drain of currency from the cities to the interior in the harvest season, and its return after the crops are marketed, . . . are managed through this very system of redeposit of reserves."—*Thirty Years of American Finance*, p. 189.

some flexibility to the requirement and permitting banks to employ their reserves in emergencies, provided proper efforts are made to replenish them. The law of the United States on the subject prescribes that when the reserves of a bank fall below the legal limit, the bank "shall not increase its liabilities, by making any new loans or discounts otherwise than by discounting or purchasing bills of exchange payable at sight, nor make any dividend of its profits," until the required proportion of reserve has been restored. This restriction is not rigidly enforced at critical moments, when the employment of the reserve is more useful in sustaining business confidence than its retention would be if prompt payment of demand obligations were refused or evaded. The suggestion has sometimes been made that a bank might be required to show a reserve equal to the requirements of law upon the average of its reserve holdings throughout the year or for specified periods during the year. If new legislation were enacted on the subject, such a change would probably be advisable, but the method which has been pursued in enforcing existing law has seldom prevented the use of the reserve for meeting proper demands.

V

THE REGULATION OF BANKS OF ISSUE

Purposes of intelligent regulation—The advantages of uniformity under modern commercial conditions—Advantages of the greatest liberty consistent with safety—The limitation of issues—Its failure in Great Britain, Germany, and France—State regulation of the redemption system—Importance of frequent redemptions—The Scotch, Canadian and Suffolk systems—Official inspection and reports.

THE purpose of regulation of a bank-note currency is to make it an efficient and convenient substitute for metallic money — exchangeable for such money at par and equally exchangeable for commodities. A sound banking currency should not only be exchangeable for commodities upon the same terms and as the equivalent of coin in actual fact, but it should be so secured and regulated that its exchangeability will command at all times the implicit confidence of those who deal with it as a substitute for money. The acceptance of the note as the equivalent of coin should, moreover, be voluntary and due to its high character; it should not be the result of compulsion by law. Proper regulation of bank-note issues, therefore, involves the enforcement of the constant test of exchangeability of notes for coin at par and banking methods which maintain the assets designated for the protection of the notes in a form convertible promptly into cash. Regulations such as these may be in part the mandate of public law, as is the case to-day in the majority of civilized states, or they may be simply the result of sound principles and practices among

bankers, as was the case for a long time in Scotland prior to the legislation of 1845, and as is still the case to a large degree in the Dominion of Canada.

The regulation of a banking currency—how it shall fulfil its mission as a tool of exchange, without danger of loss to the note-holder and with the greatest benefits to the community—has been the subject of much discussion and many differences of opinion. The errors made by early bankers in their efforts to keep a banking currency redeemable in standard coin on demand, without the intervention of the state, produced results so disastrous in some cases that there was a reaction in favor of excessive restriction near the middle of the nineteenth century among a few economists and among a sufficient number of bankers and public men to leave its mark upon legislation. This reaction influenced especially the English banking law of 1844, some of whose restrictions were extended to Scotland and Ireland in 1845, and influenced in a considerable degree the legislation of the United States just prior to the Civil War and the enactment of the National Banking Act of 1864. It will appear in this chapter that some of these severe regulations were not required by sound theory and tend to impose needless and burdensome charges upon the community.

Regulation by law of the issue of bank-notes circulating as substitutes for money is justified upon the same grounds as regulation of other important services performed by private individuals and joint-stock companies, which nevertheless affect the interests of large numbers of people. The modern state, without adopting the theory of socialism, has assumed power to regulate in many cases the purity of food products, distribution of lighting and water supplies, and transportation by common carrier. In all these cases the intervention of the state is based upon the principle of the division of labor. The multiplicity of the demands of modern civilized life

make it impossible for the individual to inform himself personally upon all these matters. He welcomes, therefore, the assumption by the state of authority to protect him against counterfeits and fraud by the adoption of fixed standards, without intending to surrender in any degree his individual initiative. The intense absorption of the individual in his special interests, and the increased opportunity for research and recreation afforded by relief from personal investigation of all branches of trade and exchange for the purpose of self-protection, make it essential that some of these semi-public functions should be regulated by a recognized authority which will afford the guarantees of uniformity and convenience.

The reasons which justify the intervention of the state in other matters apply with peculiar force to the regulation of the tool of daily exchanges—money and its representatives. It is possible, even under existing law, in most countries, for the individual to issue his promissory note, payable to bearer. This was actually done by early private bankers, and their notes circulated upon the strength of their reputation for fair dealing and sufficient resources. But multiplication of exchanges made necessary a medium possessing such uniformity of character and such guarantees of security that it would pass readily from hand to hand without question and without research as to the standing of the issuer. It would be extremely inconvenient in modern society for each individual to have to inform himself of the standing and resources of hundreds of private bankers and examine every note tendered him in order to determine whether it was the note of a solvent issuer.

The unification of modern commercial life, extending business transactions on a large scale beyond the city to the nation and beyond the nation to other peoples, with the inconveniences and occasional losses resulting from purely private banking, gradually evolved the modern system of state regulation of banking. This regulation,

when kept within its proper limits, is directed towards three objects—uniformity of currency issues, security of the holders of bank-notes against loss, and convenience of the business community. These objects are substantially the only ones which should be sought by official regulation of banking, and the laws should be so framed that the utmost freedom should be allowed to bankers so long as these conditions of uniformity, safety, and convenience are not transgressed.

The rule that the greatest liberty should be granted to banking operations and the issue of notes which is not inconsistent with the security and convenience of the public rests upon the solid ground of advantage to the laboring and industrial community. The profits of banking will tend under any system of regulation to the level of the profits in other enterprises. If capital invested in manufacturing ordinarily pays five per cent., the tendency will be for capital invested in banking, due allowance being made for differences of risk and in the nature of the business, to pay the same return. This being the case, the banker will endeavor to add to his charges to the public any taxes or burdens imposed upon him by law. If the issue of notes is taxed one per cent., his charges to the public will tend to be one per cent. higher than if such taxes were not levied. The laborer, the producer of raw materials, the manufacturer of finished goods, and the merchant who buys them will have to pay a heavier cost for their banking credits than would otherwise be the case, and may be compelled to suffer diminished wages and profits because of such a tax. There is no sounder proposition in banking than that of Mr. Gilbart, "that restrictions upon banks are taxes upon the public."[1]

The greatest freedom of banking, consistent with security and convenience, requires that the mechanism

[1] *History, Principles, and Practice of Banking*, II., p. 217.

of credit shall be allowed to pursue its natural evolution along the lines of least resistance. If banking is as free as these conditions will permit, competition will confine the charges for credit and for the use of capital to the minimum rate of profit. In the language of Courcelle-Seneuil, "The issue of bills payable to bearer on demand, giving to the banker the gratuitous use of the sums which they represent, permits him to discount at a low price commercial bills for short terms."[1] If freedom to establish banks under general laws and to issue notes without unnecessary taxation promises large profits to the banker, he will soon encounter rivals by means of the attraction for the investment of capital in banking which such conditions will afford. If an excess of means for making exchanges, by the undue multiplication of banks and credit facilities, results from this competition, it will be corrected by the small profits which will be realized from banking.[2] Reasons of public policy may suggest that bankers should share with other members of the community in the support of the state, and a certain degree of taxation may be required to promote the great objects of security and public convenience; but the fact should be clearly kept in mind in imposing restrictions and levying charges upon banks and banking issues that a community which needlessly restricts the employment of credit in its various forms voluntarily puts fetters upon its industry in competition with communities where credit is permitted to develop without such restrictions.

It is the test of these principles which should be applied to the various measures which have been tried or proposed for regulating a banking currency, in order to determine how far they have been or may be beneficial

[1] *Traité des Opérations de Banque*, p. 108.

[2] The operation of this law has often been shown by the consolidation of banks which did not have a sufficient amount of business to justify their continuance. This was notably the case in 1898 and 1899 in New York and Boston.

in their operation, how far they may be injurious, and how far they have conformed to the requirements of an ideal banking system. The methods of regulating bank-note issues have been almost as numerous as banking systems. In addition to those fundamental questions relating to the character of the security for the notes and the management of the coin reserve which have already been discussed, the principal methods of such regulation may be grouped under the following heads:[1]

I. Limitation of issues.

II. Regulation of the redemption system.

III. Official supervision and reports.

I. The methods by which the note issues of banks have been directly limited in amount may be classified as a limit fixed by the supply of metallic money, an elastic limit, and an arbitrary limit. The first method of limitation, by which notes cannot be issued except for full deposits of coin and bullion, was the method of the Bank of Venice, the Bank of Amsterdam, and the Bank of Hamburg. Bank-notes in such a case do not possess the distinctive qualities of credit issues, but are in the nature of coin certificates. Their chief advantage over actual coin is convenience in handling, which was combined in the case of the banks mentioned with a uniform unit of bank money in place of a confusing variety of forms of metallic money.

The note system of the Bank of England since the passage of the restrictive act of 1844, which now governs the bank, is the same in its substantial operation as that of the mediæval banks. There is a limited amount of circulation, now amounting to £18,450,000 ($90,000,000), which is covered by government securities instead of coin, but this amount is far within the limits of the note cir-

[1] Jevons enumerates fourteen "methods of regulating a paper currency," but they are chiefly varieties of the form of security or of the methods set forth in this chapter.—*Money and the Mechanism of Exchange*, pp. 217–237.

culation of the bank. The only elastic element is derived from the deposit of gold at the bank, for which notes are issued to the value of the gold. The changes in circulation, therefore, are only such as are due to the ebb and flow of gold, and the notes are in substance (though not precisely) certificates of deposit of coin or bullion. The wide extension of other forms of credit and the multiplication of banking branches throughout Great Britain mitigate to some extent the defects of the note-issuing system in providing needed tools of exchange. The system has proved inadequate, however, on every occasion of panic, and the government has three times authorized the issue of notes in excess of the limit fixed by the act of 1844 and by new deposits of coin and bullion.

A modification of the English system of limiting issues beyond a fixed amount to the ebb and flow of the precious metals has been adopted within the present generation by Germany, Austria-Hungary, and Japan. The modification consists in permitting the issue of notes beyond the fixed limit, without the deposit of gold, upon the payment of a tax of five per cent. or more upon the additional issues. The avowed purpose of this provision was to afford a certain degree of elasticity which could be availed of in emergencies. It was not supposed, when the law was enacted in these countries, that additional issues subject to the tax would often occur. The provision for them appeared so obnoxious to the rigid supporters of the currency principle that it was condemned by two such authorities as Francis A. Walker and Stanley Jevons. Walker, after referring to the adoption in Germany of the rigid part of the English system, declared that "this check upon issues is greatly impaired by a provision that issues above the maximum may be made by the management under the penalty of a tax of five per cent. on all such excess."[1] Jevons said:[2]

[1] *Money*, p. 514.
[2] *Money and the Mechanism of Exchange*, p. 319.

"This provision appears to be designed to avoid the suspension of the law during times of crisis, and it is quite possible that we might with advantage introduce a similar modification into our own currency law. But the fine or tax upon the excessive issue ought surely to be much more than five per cent., and in this country should certainly not be less than ten per cent."

These utterances, made soon after the passage of the German bank law in 1875, were not supported by events. The authority to issue notes under the tax of five per cent. was indeed availed of, as Walker anticipated, to impair the check upon issues which an absolutely rigid limit would have imposed, but the necessity for additional issues to meet the growing volume of business in Germany was so great that for many months in the autumn of 1897 and 1898 notes were continuously kept in circulation subject to the tax of five per cent., and in the revision of the bank charter, made in 1899, to take effect in 1901, the limit of uncovered issues not subject to tax was raised from 250,000,000 marks to 450,000,000 marks ($107,000,000).[1] The necessity for long-continued additional issues, even under the penalty of five per cent., was evidence of the serious fetters which would have been imposed upon business operations in Germany if the tax had been fixed at ten per cent., and the increase of the maximum of uncovered issues demonstrated that the original limit had proved too narrow for the natural expansion of German trade.[2]

[1] The actual margin of authorized circulation not covered by coin and bullion was already 293,400,000 marks in 1899, having been increased by the surrender of the right of issue by many of the banks of the smaller German states, as provided in the law of March 14, 1875.

[2] The restriction of the note circulation proved also to have little effect upon the movements of the precious metals. As stated by Sherwood, "The limit of uncovered notes, at first adequate, became entirely too small to enable the bank to hold its proper place in the system. On the other hand, in order to

In the case of the Bank of Japan, also, it was found necessary to advance the original limit of uncovered issues. The limit was first fixed in 1882 at 70,000,000 yen ($35,000,000), but was advanced in 1890 to 85,000,000 yen, and in 1899 to 120,000,000 yen.[1] In the case of Austria-Hungary the expansion of business has been less rapid than in some other countries, and the limit of uncovered issues, which was fixed at 200,000,000 florins ($80,000,000) has not been advanced by law. The limit has been often exceeded, however, and the excess of taxed circulation for a time tended to become persistent. This excess reached a maximum of 101,260,000 florins ($40,000,000) for the week of February 23, 1898, and there was an excess of circulation subject to tax continuously from October 23 to December 31, 1898. The tax paid to the government on this account in 1898 was 214,683 florins, as compared with payments of only 24,318 florins for 1896 and no such payments for 1897.[2] More recently the influx of gold has to a considerable extent met the need for additional currency.

The fixing of an arbitrary limit upon note issues, when it has been adopted, without requiring that notes be fully covered by coin and bullion, has usually been an incident of the suspension of specie payments. The principal case where the limit has been continued after resumption of specie payments is that of the Bank of France. The law of August 3, 1875, under which specie payments were resumed on January 1, 1878, did not abolish the legal maximum for the circulation. This maximum, fixed by the law of July 15, 1872, at 3,200,000,-

protect the gold supply of the empire, the bank has often had to raise its rate of discount above five per cent., when its uncovered issues were far below the limit. In other words, there has not been that influence of the tax upon the discount rate which, it was believed, would exist."—*Quarterly Journal of Economics* (February, 1900), XIV., p. 272.

[1] *Financial and Economic Annual of Japan*, 1904, p. 106.

[2] New York *Bankers' Magazine* (April, 1899), LVIII., p. 528.

000 francs, was not changed until early in 1884, when the actual circulation had risen to 3,162,000,000 francs. The law of January 30, 1884, raised the limit to 3,500,000,000 francs. The circulation steadily increased, owing largely to the preference for bank-notes over silver five-franc pieces, until the amount on January 12, 1893, was 3,473,000,000 francs. The legal maximum was extended by the law of January 25, 1893, to 4,000,000,000 francs, and was again extended by the law of November 17, 1897, which renewed the charter, to 5,000,000,000 francs.[1]

The adoption of an arbitrary limit for note issues cannot be commended from a scientific standpoint, but has not been permitted in the case of the Bank of France to hamper the natural increase of credit issues with expansion of business. If the limit had any effect upon the policy of the bank or the conduct of banking business in France during suspension of specie payments, it was by way of setting a landmark, which tended to confine the governing board of the bank within prudent limits in the increase of its issues and to keep the notes close to par with gold. The maximum has been gradually extended as growth of commerce has created larger demands for tools of exchange and bank-notes have come to be preferred to coin. The objections to an arbitrary limit were forcibly set forth by Léon Say in the debate of 1884. He declared that when the legal maximum should be again approached, the bank would be compelled to pay out gold (thereby reducing the previous guarantee of the circulation), reduce its discounts, or seek a new extension of the limit. He predicted that it would do neither of the former two things, but would ask the setting of a new maximum.[2] His prediction was verified in 1893, when a run upon the

[1] *Bulletin de Statistique* (December, 1897), XLII., p. 583.

[2] Arnauné, p. 336. Arnauné observes that "The value of a legislative provision may well be doubted when the public authorities do not hesitate to prevent its enforcement at the moment when there is danger of its taking effect."

bank was threatened for notes, and again in 1897, when resistance to extension of the limit had practically ceased. The present limit of 5,000,000,000 francs has been fixed well beyond any possible demands upon the bank for some years to come, and will undoubtedly be raised again if there is a general demand for a larger volume of notes. No important object is attained by fixing a limit so far beyond present demands for notes, while the notes are redeemable in coin on demand, but it may find justification in the fact that no other specific restrictions are imposed upon the amount and method of note issues by the Bank of France.

A fixed limit for issues has some justification in the case of banks which are permitted to suspend specie payments, because it constitutes a safeguard against over-issues. In most cases, however, where suspension of specie payments has been long continued in time of peace, the limit fixed by the government has not been such as to promote an early return to a solvent basis. The futility of such arbitrary limits in the cases of Italy and Spain will be brought out in a later chapter, dealing with government interference with commercial banking.

II. One of the most important means of insuring parity of bank-notes with standard coin is an efficient system of redemption. Such a system has been established voluntarily by banks in several countries where banking has made the greatest progress, but has often been a subject of regulation by law. The regulations governing redemption have been directed not merely towards testing the ultimate solvency of the issuing bank and the security of its note issues, but also to preventing the depreciation in the value of notes which might arise from the cost or inconvenience of redemption at points far removed from the parent bank. If the cost of redemption is considerable, it may cause a fall in value of the notes below standard coin equal to the cost of sending them to a redemption office, receiving them back, and

losing the use of them during transmission. Regulations for redemption are usually less stringent and redemptions are more sluggish in the case of notes specially secured than in the case of those resting upon the general resources of the bank and depending for ultimate redemption upon their soundness. The frequent redemption of notes operates towards two ends—to test the solvency of the bank and to keep the volume of the currency adjusted to business conditions.

The test of solvency is constantly applied in an effective manner to the general business of a bank when the bank is required from day to day to pay standard coin or its equivalent for its notes. Such payments are among the best proofs that the bank is in a position to meet all its demand obligations when they are presented. Settlements between banks are usually made through clearing-houses, and ability to meet these settlements, whether notes or checks, proves the possession of adequate liquid resources.[1] In respect to bank-notes it is highly desirable that they should be presented often for redemption, especially where they constitute the chief means of circulation, in order that they may not fall below the standard and cease to be a convertible currency. In the language of the Report of the Monetary Commission, "It is only when the value of a promise to pay money on demand is being constantly put to test that there exists no danger of its depreciation. And it is through redemption, in the case of a bank currency, that this test is made."[2]

Constant redemption tends to keep the volume of bank-notes adjusted to the needs of business, because those notes which are not needed are thus received back by the issuing banks and are retired from use. They cannot

[1] It was largely the inability of the Western Bank of Scotland to settle its clearing-house exchanges which finally forced its suspension in 1857.—MacLeod, *Theory and Practice of Banking*, II., p. 230.

[2] Report, p. 326.

be kept in circulation in the face of a diminished demand for banking accommodation, because the amount paid into the bank in notes and other forms of money will exceed the amount paid out. If forced into circulation by the bank in lieu of coin kept in its vaults, the notes would constitute substantially coin certificates and would do no harm. If notes are paid out which are not desired by the community, they soon return under an efficient redemption system. It becomes obvious to the banker, after a series of unsuccessful experiments for forcing notes into circulation, that they are not desired and cannot be made to circulate at a profit. If the general body of notes issued by all the banks is in excess of the public needs for the purposes of ordinary exchanges, the notes come into the banks in the form of deposits, and each bank returns those of the other banks to them for redemption.

It may be asked what motives lead a bank to return notes of other banks for redemption, and whether there may not be a general agreement that notes shall not be so returned. The motive is found in the profit derived by each bank from the circulation of its own notes. A bank having received notes of another bank in the ordinary course of business, has the option of paying them out to borrowers and depositors or of paying its own notes. If it pays its own notes, it derives a profit from their circulation. It derives no profit from the circulation of the notes of another bank beyond what it would derive from the loan of gold. They are received for their full cost and do not afford any profit derived from credit.

The controlling motive of self-interest, therefore, leads prudent bankers to pay out their own notes whenever they will be accepted in lieu of money and to leave a vacuum for them by withdrawing the notes of other banks. More than this, notes of other banks, if exchanged for standard coin, enable the bank making the exchange to strengthen its reserves by the amount of

the coin obtained for the notes. No intelligent banker would think of holding the notes of another bank as a part of his current reserve any more than he would hold checks on the bank, even though he knew them to be good. Such an act, as suggested in the Report of the Monetary Commission, would be "a loan without interest to that other bank for the length of time the note was held or (being put in circulation) for the time it might be expected to remain outstanding."[1]

It is the direct interest of an issuing bank, therefore, to keep as many of its own notes in circulation as circumstances permit, but it is the interest of its rivals to send these notes back for redemption as rapidly as they come into their hands. It is the counter interest of the first bank to present for redemption the notes of its rivals. This does not occur in cases where the bank has in circulation all the notes which it is permitted to issue. The bank has then no opportunity for increasing its own issues and there is less motive for returning for redemption the notes of rival banks. This is the explanation of the sluggish operation of the redemption system under the National Banking law of the United States. The notes of national banks being based upon specific security, which cannot be increased or decreased without much formality, a bank usually has in circulation all the notes to which it is entitled upon the amount of this specific security, consisting of bonds which it has pledged for the purpose, and pays out in current business the notes of other banks which fall into its hands. Thus, redemptions under the National Banking law amount annually to only about fifty per cent. of the circulation, or at a rate which would result in the complete redemption of the currency in two years.[2]

[1] Report, p. 326.

[2] That the redemption would be many times more rapid if the notes received by national banks were presented for redemption, instead of being paid out, is indicated by the fact that statistics

The proof that redemptions would be much more rapid under a bank-note currency secured by the general assets of the banks and redeemable in coin is afforded by the history of such systems in actual operation. Under the Scotch system redemptions are so active that the entire circulation is redeemed twenty times over in the course of a year. Under the Canadian system, with its more scattered territory, redemptions average about twelve times a year, and under the Suffolk system, which was in operation in New England before the Civil War, the redemptions, in spite of the inferior means of transportation then available, amounted within a year to eight times the average circulation of the banks. The Scotch system was the earliest in which prompt and frequent redemptions were inaugurated among competing banks. The practice at the time of the investigation of banks of issue in 1875 was as follows:[1]

"By agreement among the banks, exchanges of notes are held in every town where two or more of the banks have branches; in every instance one a week, on Saturday; at the larger towns, twice a week; and at Edinburgh and Glasgow, three times a week. The settlement of the Glasgow and country exchanges is made by draft on Edinburgh, and the general balance of the whole exchange is settled at Edinburgh by draft on London."

A bank which cannot meet the test of these settlements is driven to suspension, as happened to the Western Bank in 1857. These constant exchanges of notes are the great regulator of the paper currency, and by their means, according to the admission of one of the most

collected by the Comptroller of the Currency in 1890, when the outstanding bank-note circulation was about $125,000,000, showed that the amount in notes received by the banks daily was between $4,000,000 and $5,000,000, but the amount which they presented for redemption was less than $250,000.—Report of the Monetary Commission, p. 339.

[1] Cited in Report of the Monetary Commission, p. 331.

radical opponents of free banking, "the average circulation of Scotch bank-notes is reduced to a term of a few days."[1] Notes which are not demanded by the convenience of trade quickly come back to the banks as deposits on current account and are returned through the exchanges to the issuing bank to be retired and cancelled.

The Canadian redemption system is substantially similar in its operation to that of Scotland. The system was not under legal regulation prior to 1890, and notes of each bank, while they were accepted without hesitation by other banks, were accepted in the same manner as other banking paper—at a discount determined by the prevailing rate of exchange.[2] This was remedied by amendments of the banking law in 1890, which required each bank to provide a redemption agency for its notes in each province. The notes are now presented for settlement at the clearing-houses, where they exist — at Montreal, Toronto, Halifax, Hamilton, Winnipeg, and St. John — and directly, where the issuing bank is represented and no clearing-house exists. Settlements through the clearing-house are made in Dominion notes and outside of clearing-house points by mutual arrangement, frequently involving a draft on a financial centre. The operation of redemption is carried on almost exclusively by the banks; it is rarely that a note is presented for redemption by a private individual.[3]

The operation of the Canadian system prior to 1890 illustrated on a small scale an evil which impaired the efficiency and convenience of bank currency in the

[1] Wolowski, *La Banque d'Angleterre*, etc., p. 515.

[2] Root, *Sound Currency* (May 1, 1897), IV., p. 15.

[3] "In consequence, the country through, there are frequent and thorough tests of the possibility to convert bank-notes into the money promised by them. The public take little active part in this; the banks do the work by presenting for payment whatever notes they receive in the course of their day's business."—Breckenridge, p. 401.

United States prior to the Civil War. The notes of state banks were at a discount when they drifted far from the issuing bank, because of the expense of returning them for redemption and putting to the test the solvency of the bank. This expense was greater at that time than it would be at present under the same system, in somewhat the ratio that the deficient facilities for transportation at that time bore to the cheap and efficient mail and express systems of to-day. The Bank of the United States, so long as it was solvent, improved materially upon these conditions, but did not maintain that prompt convertibility at par which is essential to a sound currency. The notes of the branches were not received at par at each other after August, 1818, and were at a discount of one per cent., or a fraction, even at the central office of the bank in Philadelphia, and at a greater discount at the branches.[1]

The national banking system provides at present only for direct redemption of notes at Washington, without other arrangements for redemptions between the banks except occasional direct redemption at the bank's counter; but as bank-notes are received for public dues and by all national banks, they have the qualities of the legal-tender money in which they are redeemable and have circulated at par with gold since such money became redeemable in gold by the Treasury on January 1, 1879.

III. One of the most important agencies of banking regulation developed in recent years is the publicity of their business and the official inspection of their papers and accounts. Publicity was considered for many years as exposing a bank to disturbing criticisms and as increasing the danger of panics. A special committee of the British House of Commons in 1832 reported the amount

[1] *Vide* Catterall, "The Issues of the Second Bank of the United States," *Journal of Political Economy* (Sept., 1897), V., pp. 443, et seq. The charter of 1832 contained a provision that the bank should receive its own notes for debts from state banks.

of bullion held by the Bank of England, while intimating a doubt in regard to drawing such publicity into a precedent,[1] but the act renewing the charter in 1833 for the first time required weekly returns to the chancellor of the exchequer, which were to be consolidated monthly and published in the London *Gazette*. These reports were required to show the amount of bullion and securities in the bank, notes in circulation, and deposits.[2] These reports have been continued until the present time and are now made public weekly, but they are much less in detail in the case of the Bank of England than they have become by degrees at central banks of issue on the Continent and at the chief joint-stock banks. The Bank of France,[3] the Imperial Bank of Germany, the Austro-Hungarian Bank, the Bank of Russia, and the Swiss banks, among others, all publish at weekly intervals complete balance-sheets, showing not merely the whole volume of their assets and liabilities, but the character of the loans made and of the obligations held to secure them.

Publicity is alone sufficient, in the case of the great monopoly banks of issue, to afford reasonable safeguards against unsound banking and undue reduction of reserves. The cash reserves of these banks, their loans, and their relation to their deposit liabilities are promptly telegraphed around the world and have become a barometer of monetary conditions which is eagerly awaited from week to week in every financial centre. They are scanned constantly by the most expert financiers and economic students as well as by business men and officials of the

[1] Gilbart, I., p. 76.

[2] *Ibid.*, I., p. 86. "The English private banks did not make full reports until 1891."—London *Bankers' Magazine* (January, 1899), LXVII., p. 9.

[3] "The Bank of France was first required by the law of 1840 to publish quarterly balance-sheets, and it was not until 1848 that weekly publication was inaugurated, midst much shaking of heads by the timid."—Leroy-Beaulieu, *Traité d'Économie Politique*, III., p. 573.

government. Government supervision of the monopoly banks of issue is practically limited to the requirement that these reports shall be made, since the reports themselves afford the evidence that the reserve and the character of securities held are in accordance with the charter of the bank.

Government influence over banks of issue is exerted in several countries by the presence among the governing officers of the bank of officials named by the state. This is the case with the Bank of France, where the governor and two deputy governors are appointed and their commissions are revoked by the government.[1] Official control goes further in the Imperial Bank of Germany, where two of the administrative boards are named by the government, one of them having the chancellor at its head.[2] The control over operations of the bank exerted in these cases is intended more for accomplishing broad economic and political ends than to insure merely the safety of banking operations, but incidentally it contributes towards the latter end so far as it is in danger of being disregarded.

Minute official supervision has been carried further in countries where the system of plurality banking prevails. Such supervision is almost a necessity for securing uniformity in note issues, and it is more needed than in the case of the monopoly banks for insuring safety and conservatism in banking methods. Isolated local banks cannot be subjected to such severe and constant scrutiny from experts in the banking and business community as where attention is concentrated upon a single institution, and local bankers may lack the wide knowledge, long experience, and high sense of responsibility which govern the managers of great national institutions. In the countries having many banks of issue, therefore, it becomes interesting to inquire what methods have been

[1] Noel, *Banques d'Émission en Europe*, I., p. 124.
[2] *Ibid.*, I., p. 293.

taken to insure solvency and sound banking under the supervision of the government. The principal countries where such a system prevails are the United States, Scotland, Canada, and Switzerland.

The United States have gradually developed under the National Banking law a comprehensive system of official supervision of banks of issue. The system is under the control of a Federal official, known as the Comptroller of the Currency, who has a large force of clerks at Washington and a corps of visitors to the local banks who are known as national-bank examiners. These examiners "have power to make a thorough examination into all the affairs of the association, and in doing so to examine any of the officers and agents thereof on oath; and shall make a full and detailed report of the condition of the association to the Comptroller."[1] These examinations have become much more complete and minute with the progress of time, until they now extend to the character of the commercial paper held by each bank, the amount of paper of a single firm or individual held by different banks, and generally all the details which might throw light upon the soundness of the methods pursued by the bank in granting credit and making loans. National banks are also required to make five reports of their condition to the comptroller, at dates selected by him without advance notice and varying from time to time, and may be called upon at any time for special reports.[2] While the system has sometimes been subjected to criticism, because of the failure of examiners to discover dishonesty and bad management on the part of banks which have failed, cases have often occurred where the inquiries of the examiner led to orders from the Comptroller of the Currency to close the bank and thus put an abrupt stop to fraudulent and unsafe banking.

The American system of examination is the most

[1] Revised Statutes, section 5240. [2] *Ibid.*, section 5211.

thorough in the world. This has been a natural and almost necessary outgrowth of the fact that the system is the most widely extended and contains the largest number of small independent banks. Safety, therefore, could be less easily secured by reliance upon the action of the banks themselves than in countries where the number of banks of issue is comparatively limited. Government supervision by public officials has not been adopted in Canada. It was always resisted by the banks upon the grounds that public inspectors could not ascertain accurately the real character of banking assets and that the existence of government inspection would mislead the public by inspiring confidence in the banks which might prove to be misplaced. The wisdom of some supervision, however, to protect each bank against the possible errors and bad management of others led in the revision of 1900 to the incorporation of the Canadian Bankers' Association as a supervisory body. The association was already in existence, but was for the first time in 1900 given a public character, authorized to establish clearing-houses and make rules for their operation, to take charge, through an officer called a curator, of the affairs of a suspended bank, and to make by-laws governing the printing and issue of notes. Several of these powers can be exercised only with the approval of the Treasury Board.[1] The large Canadian banks have a system of supervision of their own over their numerous branches, which is exercised by inspectors who are thoroughly familiar with banking methods and lines of credit. The chief inspector is the equal in character and position of the general manager and is not exposed to the temptation to overlook or connive at any errors which the latter may make.[2]

[1] The best summary of the reforms of 1900 is presented by Breckenridge in the *Quarterly Journal of Economics* (August, 1900), XIV., p. 543.

[2] "The general manager has his own opinion, he has informa-

The system adopted in 1900 in Canada, if thoroughly carried out, would combine some of the advantages of uniformity and impartiality belonging to official inspection with some of the advantages of flexibility and expert knowledge belonging to inspection by bankers. These advantages might be secured in the United States by examinations through the clearing-houses, which would enable the great body of the banks to exercise a conservative influence upon those admitted to their associations.[1]

The Scotch banks are practically without any official supervision except that derived from publicity of the weekly reports and their control over their branches. The absence of a proper inspection system probably contributed to prolong the period of immunity for the bad loans of the City of Glasgow Bank, which failed in 1857, and the Western Bank, which failed in 1878. The act of July 21, 1845, "to regulate the issue of bank-notes in Scotland,"[2] required weekly accounts by banks of issue relating to note issues to the commissioners of stamps and taxes, and monthly publication of such returns by the commissioners. Authority was also given the commissioners to inspect bankers' books for the purpose of ascertaining the accuracy of returns, but this

tion as complete as they can make it from branch managers; he needs the result of the inspector's observations as to the value and character of his bank's assets, and it is given him with fulness, courage, and independence. By comparing the three views, the general manager has a proper basis for deciding the policy he will pursue."—Breckenridge, *The Canadian Banking System*, p. 436.

[1] "Special bank examiners, assisted by trained experts, employed by clearing-houses, . . . might be useful to the members of a clearing-house, for the purpose of making examinations. . . . As these men would be in the employ of the clearing-house, they would not be subject to outside influences, and in this way the question of the supervision of banking institutions by directors would be dealt with effectively."—Cannon, *Clearing-Houses*, p. 25.

[2] 8 and 9 Vic., c. 38.

power has never been exercised.[1] The Scotch banks did not publish full reports of condition until about 1865, when the younger banks led off in giving annual balance-sheets, in order to inspire public confidence, and older institutions soon felt compelled to follow their example.[2] The bankers of Scotland always, however, kept a check upon unsound banking through the system of prompt redemption of notes which prevails there.

The Swiss banks of issue, which number thirty-four, are under the careful supervision of government officers in respect to their circulating notes, the maintenance of their metallic reserves, and the commercial securities which complete the cover for circulation. The government also requires each bank to accept at par its own bills and those of other Swiss banks which redeem their notes on demand.[3] Reports are required weekly, monthly, and annually, and while official control relates nominally only to circulation, the bank inspectors in their annual report do not hesitate to discuss the foreign exchanges, the discount rate, and other questions relating to the progress of Swiss banking. Actual inspection of securities by the inspectors takes place at least once a year, but seldom reveals any serious departure from the requirements of law.[4]

The principal methods of regulating the volume and safety of a bank-note currency having been set forth, a few words may be said in regard to the relative merits of these methods and the means of employing them. Some of the regulations which have been referred to are

[1] Kerr, *History of Banking in Scotland*, p. 176.

[2] Kerr, *Scottish Banking During the Period of Published Accounts*, p. 2.

[3] Georges-Lévy, *Mélanges Financiers*, p. 216.

[4] Thus the report for 1897 declares that "no case of infraction of the prescriptions of the law and regulations has occurred and no serious event has called for comment. In general, the relations between the banks and the organs of control have been normal."—*Contrôle des Billets de Banque, 1897*, p. 23.

established in certain states by public law, but, so far as they are the outcome of sound banking judgment, are just as binding upon the prudent banker where they are entirely in his discretion. Fixed limitation of the volume of note issues is not important so long as the notes are protected by an adequate coin reserve and by sound and convertible assets. It is proper, however, in the case of small banks that some definite ratio should be established between banking capital and note issues. The capital is in some degree the guarantee of all the obligations of the bank, over and above the resources obtained from the public, and should therefore bear some such reasonable proportion towards these obligations as will cover probable losses.

In the case of monopoly banks of issue, capital bears only a modest relation to amount of note issues, but represents a considerable amount in itself and is sufficient to cover the probable risks assumed in the course of general banking business. Thus the capital of the Bank of France is only 182,500,000 francs ($35,200,000), while the legal limit of the circulation is 5,000,000,000 francs. The capital of the Imperial Bank of Germany was increased by the charter of 1899 from 120,000,000 to 180,000,000 marks ($43,000,000), but the usual circulation is above 1,400,000,000 marks, the amount at the close of 1904 having been 1,599,784,000 marks ($380,000,000). In these cases the notes depend less for their security upon the capital of the bank than upon the large fund of metallic money and convertible resources which these banks possess. The circulation of the Bank of France is protected by a stock of gold and silver which usually reaches seventy-five or eighty per cent. of the volume of the outstanding notes, independently of other resources, and the metallic reserve of the Bank of Germany falls but little below forty per cent. of its note issues.

The more strict limitation of note issues is justified

by banking conditions in countries where there are many isolated local banks. The limitation of the issues to the whole amount of the capital, as under the National Banking law of the United States, while it is an arbitrary limit, is not an unreasonable one. The limitation in the case of the Swiss banks is twice the paid-up capital. These limits, whatever they may be, impose no serious restrictions upon banking development where they are not accompanied by other requirements and where there is no limit upon the creation of new banks or increase of the capital of old ones. Under these conditions the policy is not unreasonable, but only within the limits of sound banking policy, which requires also a customary ratio of the metallic reserve to the amount of notes issued. The same cannot be said of the more severe restriction of the National Banking law of the United States, which takes the security for the notes out of the custody of the banks and deprives them of that ready control of their note issues which permits their adaptation to business conditions. Such regulation hampers sound banking, tends to increase its cost to the community, and is not justified by experience for the purpose of insuring the safety of the notes.

The law is justified in enforcing upon all banks the rule that redemption of bank-notes shall be convenient, prompt, and certain. Few regulations for this purpose are required in countries having monopoly banks of issue, beyond the notorious willingness of the bank to pay standard coin promptly to any holder of its notes, without any sign of displeasure or the suspicion that discrimination will be made against the note-holder in his other business relations with the bank. Regulations of a more elaborate character are required where many small banks compete with one another and where their notes drift far from the issuing bank. The system adopted by the New England banks prior to the Civil War, the daily presentation of notes by the Scotch banks to one another, and the

redemption system of the National Banking law of the United States have many features which tend to apply with efficiency the test of the prompt redemption of bank-notes in standard coin. The American system is hardly stringent enough for a true bank-note currency, but might be made so by increasing the number of redemption agencies and affording a more direct profit to the banks in keeping their own notes afloat at the expense of those of their competitors.

Official inspection of banking accounts and the publication of detailed reports are necessary incidents of public regulation of banking. In the case of the leading monopoly banks, except the Bank of England and the Imperial Bank of Germany, regulation by law does not impose upon note issues any serious fetters which go beyond the requirement of sound banking judgment. In the case of the Bank of France, while there is a nominal limit on the circulation, the bank is only required by its charter to keep a combined amount in coin and commercial paper equal to its obligations—in other words, to be solvent.[1] In the case of the National Bank of Belgium, in spite of heavy burdens of taxation, the statutes embody this simple mandate of sound banking policy: "The amount of bills in circulation shall be represented by easily negotiable securities." At all these banks at the present day the details of their business are set forth in reports of many pages each year, and their methods are an open book for the inspection of all responsible inquirers.

[1] *Vide* Noel, *Banques d'Émission en Europe*, I., p. 168.

VI

THE BENEFITS OF A BANK-NOTE CURRENCY

Economy of the precious metals—A poor community able to obtain an adequate currency without restricting employment of its capital for necessaries—Accumulation and distribution of individual capital—How a bank-note currency tends to reduce and equalize rates of interest—How the distribution and seasonal movements of currency are adjusted to business needs—Special advantages of a bank-note currency in undeveloped countries.

A PROPERLY regulated bank-note currency affords benefits which have already been suggested in setting forth its principles and manner of operation, but which it is desirable to consider with directness and in greater detail. Some of these benefits are those which naturally arise from the banking function in distributing capital, with or without the power of note issue. This power, however, greatly quickens and promotes the process of bringing capital into active use, especially in communities where credit is not well developed and where a sparse population renders banks less accessible than in commercial centres.

The bank-note economizes the use of metal, and to this extent diminishes the amount of real capital required for the circulating medium. The benefits of the public are not limited to the mere convenience of paper in comparison with coin, but include a share in the lower discount rates and greater facilities extended to commerce by economy of the metals. The note-issuing function, moreover, affords a method of introducing

other forms of credit, and thus by degrees extends to an undeveloped country the benefits of the modern credit system. These advantages of bank-note issues may be set forth with more precision and detail under the following heads:

I. Economy of the precious metals.

II. Accumulation and distribution of capital.

III. Reduction of the rate for the rental of money.

IV. Adjustment of the currency to business needs.

I. The issue of bank-notes, even where they are protected by metallic reserves, results in economy in the use of the precious metals and in the cost of handling money. In so far as a paper medium of circulation will do the work of money, without involving question as to safety and exchangeability, the community gains by the amounts of the metals thus economized. A gold currency is a costly investment, which can be afforded only by countries having saved capital beyond the amount required for maintaining the machinery of production, the purchase of raw materials, and the expense of distribution. The law of marginal utility will almost inevitably reduce a poor country to the lowest minimum of metallic money required for exchanges and even below the minimum of convenience, because its available capital will be required for the material and machinery of production. How a bank of issue operates to economize the use of metallic money, even in a community already having a sufficient supply, is thus set forth by Pierson:[1]

"If the issue be effected at a time when there is no change in the demand for money, the balance of payments [with foreign countries] must become unfavorable, and a very salutary outflow of bullion must ensue. We call this outflow very salutary because it tends to increase the income of the nation. For what takes place?

[1] *Principles of Economics*, I., p. 553.

Money becomes redundant, the prices of a number of things go up, exports decline and imports increase; the place of the exported bullion is supplied by machinery, cattle, articles of consumption, and interest-bearing securities, an exchange which cannot fail to be beneficial to the country. The fixed capital of its manufacturers and agriculturists becomes somewhat larger, so also the stocks of its shopkeepers. The population does not become wealthier, and yet its condition becomes the same as if it had. But it has learned to make better use of its wealth. Its gold and silver have, to a certain extent, been replaced by more useful things."

The safeguard against abuses in the use of bank-notes is the adoption of a prudent banking policy, either by union among bankers or by the mandate of law, which shall not permit the metallic resources of the country to fall below the margin of safety. There is no reason, when this margin is ascertained, with a proper excess for emergencies, why the economy of paper credit should not be availed of to the entire amount consistent with this condition. The bank-note, although it has been the most useful form of paper credit in poor communities, is the only form which has become a subject of serious controversy, because it has not always been employed with moderation and skill. In its essence, however, the bank-note involves no greater danger in use than checks and deposit accounts, and still less danger when surrounded by the safeguards which have been provided in modern commercial states in order to permit its circulation as a substitute for money.

It is not merely a local advantage that a country should have an economical circulation. It may directly affect the competition of one nation with another. Assuming that this rivalry is reduced to the closest conditions, it is obvious that the economy of the currency may play the same part in facilitating competition as economy in any part of the machinery of production.

A nation which used old and cumbersome woollen machinery could not successfully compete with one which used modern and efficient machinery. Other things being equal, a nation which unnecessarily invested a large part of its capital in a costly and cumbersome tool of exchange could not compete upon favorable terms with one which adopted the most economical means of exchange. Undoubtedly the most economical means includes the safest means, but this safety need not be carried to excess in respect to the currency any more than machinery need be made unnecessarily cumbersome with the object of preventing breakdowns. The disadvantage which might result from an excessive investment of capital in currency becomes obvious if one considers how much capital would be required if the United States or any other country should decide to abolish other forms of banking credit as well as note issues. If every transaction had thus to be settled in coin instead of by checks and commercial bills, the savings of the country for several years would have to be applied to the acquisition of a sufficient supply of metallic money to the impoverishment of every other part of the machinery of competition. It is obvious that the country adopting such a policy would soon cease to be a serious competitor of the well-organized industrial nations.

So far as note issues exceed the metallic reserves held for their protection, they may be considered as an economy of capital. This economy is multiplied many times when the cost of the original investment in a gold currency is supplemented by consideration of the annual interest charge upon it. The cost of maintaining £95,000,000 in gold, silver, and copper money in circulation in Great Britain in 1876 was estimated by Jevons at £2,972,000 ($14,500,000) annually, of which £2,850,000 was for interest upon the principal at the rate of three per cent.[1]

[1] *Investigations in Currency and Finance*, p. 296.

The annual average circulation of European banks of issue at the close of 1903 was 16,539,000,000 francs, which was protected by a gold reserve of 8,995,000,000 francs, leaving an uncovered circulation of about 7,500,000,000 francs ($1,450,000,000). The interest upon the latter amount at three per cent. would amount to $43,500,000 a year. This is a material saving of capital for application to productive industry. The excess of uncovered note issues was much larger in proportion a score of years ago than at present. The great surplus of capital saved in recent years, and the extension of other forms of credit by the growth of banks of discount and deposit, have permitted a large investment in the gold supply from the mines without a corresponding extension of credit in the form of notes.

A considerable saving is obtained from the use of a bank-note currency in a more modest way, even where the volume of notes does not greatly exceed the metallic reserve. This saving results from the fact that the use of paper certificates in ordinary circulation avoids the wear of the metallic pieces. The loss by wear upon a gold currency is very considerable where it is in actual use as a medium of exchange. The coins surrendered by the Bank of England to the British mint for a period of about four and a half years, from March, 1893, to September 30, 1897, included coins under the legal limit of weight showing a loss of 134,294.8 ounces, or at the mint value a loss of £522,910 ($2,500,000). This represents a loss of about $500,000 per year upon the coins passing through the bank alone.[1] A portion of this loss is paralleled by the cost of printing and handling a

[1] London *Economist* (July 15, 1899), LVII., p. 1012. The British government, by the coinage act of 1891, established a coinage fund of £400,000 to cover the cost of the restoration of the gold currency. This fund, with the accumulated interest, was nearly exhausted by the operation of 1898, but was increased by a further charge upon the public revenues under an act of 1893.

paper currency, but on the other hand a small gain accrues to the issuers by the losses of such currency.

Bank-notes do not cease to have a high degree of usefulness, even in communities which have an ample supply of saved capital for investment in a metallic currency. The notes are more readily transferable than coin, and when exchanged in large amounts between banks and their correspondents cost much less for carriage.[1] The practical benefits of handling notes instead of coin were set forth in a forcible manner in a letter written in 1841 by Roger Aytoun, Esq., manager of the Renfrewshire Bank at Greenock, at the time of the proposals to abolish notes for £1 in Scotland. Mr. Aytoun said upon this point:[2]

"At present the business of the Highlands is transacted by means of bank-notes of £1, with some larger notes on occasions, and that with the greatest facility. Cattle dealers, and all others having to pay away money to any amount in small sums to a number of people, as in the instances mentioned, prepare themselves by a mixture of notes, some large and some small, accompanied by a few pounds of silver, and everything goes on well. These notes are preferred by the country people before gold, both because they are unable to distinguish between the genuine and base metal, and because coins are more liable to be lost from their pockets than notes; and they have no reason to repent their confidence in the stability

[1] It is a regular practice of the interior banks of the United States to direct the deposit of gold by their New York reserve agents with the Sub-Treasury of the United States in New York, in exchange for the shipment of notes from Washington to the interior point where they are desired. This method is preferred to the shipment of gold from New York, because the express rates upon gold are nearly double the rate upon notes. The Treasury express rate, for instance, from Washington to St. Louis is $1 per $1000 on gold, while the rate on currency is only sixty cents per $1000. Such shipments of currency against deposits of gold in New York were $35,15[illegible],000 in 1903. [2] Gilbart, II., p. 222.

of those banks whose notes they have been accustomed to receive for so many years in their transactions. But if small notes are superseded, and gold substituted, it is not easy to see how the supply of gold is to be kept up to carry on the business and transactions of this country. Should a quantity of it be received into the circulation, it would not remain long, but find its way into the banks, who will not give it out again in bills as they do their notes, and it will immediately become a scarce article in the country. A person, then, having to pay in small sums, will on every such occasion be obliged to send his large notes to the bank that issued them, perhaps a hundred miles off, to receive gold and silver in their place, to answer his purpose."

II. One of the benefits of a banking currency is its service in the accumulation and distribution of capital. This benefit is in some degree the consequence of all banking operations, which attract into the custody of banks the scattered savings of the community; but the bank-note is the form of credit which under certain conditions is most convenient and performs most efficiently the work of saving the use of metallic money. To quote from the exposition of the Monetary Commission:[1]

"A borrower at a bank will usually ask for that means of payment which his situation and the business habits of his community demand. If he cannot get it in that form, his loan is ineffective. Hence the habits of the community determine which form of liability the bank will make use of; it is not determined by the will of the bank. If the latter is not able to conform to the business habits of its customers it cannot loan in that district. In the interest of borrowers, therefore, a proper banking system should be so ordered that it can adjust itself to the needs of its constituency. If banks are given perfect freedom in conducting their business, whether they issue

[1] Report, p. 165.

notes or not is a question merely of convenience to their customers; to a large city bank the privilege of issuing notes is of almost no advantage."

Banks having the power of note issue have been, therefore, pioneers of credit in their respective localities. They have made owners of capital familiar with the note-issuing system, which required only passive action, and have paved the way for other systems of credit which appealed to the direct initiative of the small capitalist. The operation of this tendency is thus described by Leroy-Beaulieu:[1]

"It has been demonstrated by experience that the issue of bills, when they have been made under regular conditions, has served in a notable manner to render a banking system popular and to spread banking operations among the public, not so much by the advantage resulting to the banks by the absence of interest on the sums which they procure with their issues, as by the general notoriety given to their establishments, the confidence which the public place in them when they hold their obligations, and the habit which they acquire of recurring more and more to their aid for the various operations of payment and collection."

The issue of notes which pass into general circulation permits an extension of credit in a community which might not be possible if there was only a metallic currency. The manufacturer who is able to borrow from a bank-notes which are accepted by his employés and pass into general circulation thereby aids the bank in borrowing the capital of the community without obtaining it by direct deposit. The holder of a bank-note under such conditions has in a sense lent his capital to the bank in return for a printed promise to pay money; but he is not a loser by the transaction, since the promise serves his purposes as a medium of exchange with the same efficiency as

[1] *Traité d'Économie Politique*, III., p. 474.

metallic money. If he considers the substitute less efficient, it is within his power to demand the fulfilment of the promise by presenting the note for redemption in standard coin. The holder of the note, indeed, so far from suffering by lending his credit to the bank, is a partner with the whole community in the benefits derived from a larger medium of exchange than would be available if bank-notes were not issued, and in the increased activity of business transactions which such a medium of exchange allows.[1]

Freedom of bank-note issues is of more direct advantage in some respects to the wage-earner and small trader than to the manufacturer and capitalist. The latter classes are able to conduct most of their operations by means of other forms of credit and with only a limited use of bank-notes. Their individual credit is of such a character that their checks and promissory notes serve the purposes of a medium of exchange in their larger transactions. The bank-note, as Léon Say declared in a debate in the French Senate, in 1884, on the renewal of the charter of the Bank of France, "is the deposit account of humble citizens and small merchants. The rich obviate the use of money by taking a check-book; the humbler citizen deals in a sort of deposit account on the bank by taking its bills."[2]

The essential benefit of a bank-note to the wage-earner or farmer over other forms of credit lies in the fact that he can exchange it almost anywhere for what he wishes without discount. A wage-earner who is paid weekly or monthly earnings in a single check often has difficulty in

[1] "The entire community is enabled to profit by that which tends to facilitate exchanges and circulation. If the founders of a bank are the first, perhaps, to benefit by their creation, the durable success of such an establishment is possible only so far as the public finds an advantage in it, as the bank responds to a real need and well fulfils its office."—Horn, p. 440.

[2] Arnauné, p. 333.

converting it into money in a community where currency is scarce, even though the maker of the check is well known and of unquestioned credit. A small commission is likely to be charged by any storekeeper to whom the check is tendered in payment for the necessaries of life. The situation is still worse for the wage-earner if he obtains only an open credit at the store, whether in return for a check or whether the store is kept by his employers. He is by this mechanism deprived of freedom in the expenditure of his earnings, and has to pay whatever prices are charged him. By this process country stores and company stores are likely to collect what is really a banking charge, but which is much larger than would be collected by an organized bank.

The absence of proper credit facilities, including especially the issue of bank-notes, has imposed heavy charges upon the farmers in the southern parts of the United States and in other countries. The lack of credit facilities has even changed the direction of agriculture in many Southern States and has depressed the price of cotton. Cotton is the most negotiable commodity of the Southern farmer, because it is the most certain crop and can always be sold at a price, even when prices are depressed by excessive supply. When the Southern farmers at the close of the Civil War found themselves without money to buy seed and tools for resuming production, they obtained advances from storekeepers and merchants in market towns upon their growing crops, but these advances were made only upon cotton. The farmer thus bound himself to the storekeeper to buy at one place without regard to price, and bound himself to raise cotton, however excessive the supply and however much the price might be depressed. The process is thus described by a writer who has investigated the subject:[1]

"The merchant consented to advance to the farmer,

[1] M. B. Hammond, "The Southern Farmer and Banking Reform," *Sound Currency* (December 1, 1898), V., p. 379.

be he owner or tenant, the provisions, implements, seed, farm animals and other requisites for making a crop, provided the farmer would consent to plant his cultivated land in cotton, to give to the merchant a mortgage or lien on his crop to the extent of his purchases, and to pay for these supplies in cotton when the crop was harvested. The cotton prices of the merchandise thus advanced were usually from twenty to sixty per cent. higher than the cash prices of the same articles. But for the farmer there was no alternative. He was glad to accept credit upon even such unfavorable terms, trusting that a high price of cotton would enable him to repay his indebtedness and free himself from the necessity of securing loans in the future."

This serfdom to the storekeeper would have been remedied to a large extent if the first loan had been made with bank-notes, which gave their holder power to make purchases wherever notes might be accepted. A sufficient supply of circulating notes in a community means that the man of small means escapes the payment of high commissions to storekeepers, because he receives compensation for his goods or services in a form of credit which is readily exchangeable. If the use of capital is obtained in any form by the individual, it is desirable that it should be in the form most useful to him. For the rich man, as pointed out by Say, the check-book constitutes such a medium; for the wage-earner and man of small means the bank-note is more convenient, useful, and beneficial. The same distinction lies to a large extent between the city man and the country man. As stated by Hammond:[1]

"The city dweller is content to have his loan in the shape of a transfer of credits on the bank's books, in such a way as to permit him to check against the account. He has no use for currency except to make minor pay-

[1] *Sound Currency* (December 1, 1898), V., p. 378.

ments. But the average farmer does not use checks to any considerable extent. He desires cash in exchange for his produce and he expects to pay cash when making his purchases."

The fact that the bank-note constitutes a loan from the public to the bank is sometimes made the basis of the argument that the profit derived from this loan should go to the government, representing all the people, rather than to an individual banker or corporation. This argument ignores the utility of banks in affording reservoirs of credit and channels for its distribution and in meeting the costs of providing the medium of exchange.[1] The government cannot distribute credit except through the instrumentality of a bank, and most governments have failed disastrously when they have undertaken to do a banking business.

III. The economy in the use of precious metals, and the concentration of small private capitals, which result from a liberal system of bank-note issues, yield an important profit to the community. This profit would inure in the first instance to the banker, who by the note-issuing system obtains the use of private savings at small cost, if he was not compelled to share it with the producing community under the law of competition, which tends to bring to a level the profits in all enterprises. Under the operation of this law the profit resulting from economy of the metals is distributed in such a manner that hardly any member of a producing community fails to receive some share. This is the case with any mechanism which saves labor and capital, even where the device is a patented monopoly. Such an article cannot

[1] Nitti says of the note-issuing banks: "Not only do they carry on gratuitously a great part of their operations, not only are they exposed to the risks and losses of ordinary banks of discount, but, if their organization is not perfect, they run much more considerable risks, considering their large scale of operations."—*Revue d'Économie Politique* (1898), XII., p. 393.

be disposed of for profit unless the price affords a saving to the users of it. Much more is this the case when competition is open to all comers having circulating capital, as under the operation of a liberal banking law.

It is worth while to examine somewhat more minutely the process by which a bank-note currency benefits the banker and reduces the cost of management of all industries. The banker who keeps afloat a given volume of notes borrows their amount without interest from the public. He can grant applications for loans only by the possession of capital or the control over it. If he receives large deposits, they provide sufficient capital for making all the loans which are asked of him. If deposits are not received in any considerable amount, either because of lack of surplus capital in the community or lack of education in the use of banking facilities, the banker is without any resources for making loans beyond the amount of his original capital. If, however, he has the power to issue notes which are accepted by the public, he can extend his loans to the limit of his power of note issue under the law or under the rules of prudent banking. Such notes only represent another form of credit from that brought to the bank by the producer or trader in the form of commercial paper. It is when the trader is able to pay out these notes for capital or services that they are converted, in a sense, into a loan of capital from the public to the bank.

The community by the process of bank-note issues obtains the use of a sufficient supply of the tools of exchange without sending abroad capital to the full amount of these tools. It is able by this means to exchange its products for others which are more beneficial than coined money. The amount which might originally have been invested in a metallic currency remains permanently available for increasing the machinery of production, acquiring a larger supply of raw materials, and producing a larger quantity of finished goods. The

paper medium of exchange thus affords a sufficient currency, where one could not be obtained in the form of metallic money, or could be obtained only by serious sacrifices. The capital available for use by the community is enlarged by the issue of bank-notes, because they give employment to capital which would otherwise remain in such minute subdivisions in the hands of individuals as not to be available for processes of production. Thus, at low cost, the bank appropriates to its use the scattered capital of small holders and places it at the disposal of the community. How essential it is that this should be done under the fewest possible restrictions is thus pointed out by Nitti:[1]

"If the credit circulation partially replaces the metallic circulation, it is because it costs less. If the cost of production is artificially enhanced, the advantage which might result from it is reduced or suppressed. It is so much the more harmful, since it is the mass of the users of credit—that is, the mass of the public—who benefit by every reduction."

If an adequate mechanism of exchange is obtained for one-quarter or one-half the investment of capital which would be required for a metallic currency, it is obvious that a material saving has been made. This saving is likely to prove in practice, even if the proposition cannot be demonstrated mathematically, much more important than an equal saving in any other form of capital. The tool of exchange is so important to the successful workings of other parts of the industrial mechanism that a deficiency of it is likely to hamper all branches of industry and a sufficiency to stimulate them into increased producing capacity. When, therefore, a bank-note currency permits an increased offer of the tools of exchange to those who desire to obtain them, the effect upon the rental value of money is plainly felt. This value is de-

[1] *Revue d'Économie Politique* (1898), XII., p. 821.

termined by the comparison of the supply of the medium of exchange with the effective demand. The effective demand consists of commercial paper whose owners can afford to pay the rental prices of money, as expressed by the discount rate. This demand must necessarily be shut within narrow limits where the discount rate is so high as to detract materially from the profits of commercial operations. The holder of commercial paper may prefer to go without the quantity of the tool of exchange which would be useful to him rather than pay the rental price fixed by the supply. His rates of commercial profit may not enable him to pay for a sufficient supply when the amount is small and the price is high.

The rental price of money responds, like the price of other goods and services, to the law which Ricardo applied only to the products of agriculture, but which has been found to be an almost universal rule of economics—that the price of the entire product or service is fixed by the price at which the last increment of the goods can be produced or the last increment of service rendered at a profit. Competition among owners of the supply of money attracts borrowers to those offering money at the lowest rate, in just the same manner as competition among dealers in wheat attracts purchasers to those offering wheat at the lowest price. The effort to maintain a higher price in either case than that fixed by the average profits upon invested capital, other elements in the problem being given due weight, would attract many competitors, but would in the case of money tend to dry up the sources of banking business.[1] Competition leads

[1] "If the money obtained by discounts was obtained at a price superior to the mean of the profits of all transactions, there would logically be no more commercial transactions, or rather there would cease to be recourse to the bank. Hence, in an ideal *régime* of the economy of credit, *the maximum limit of the rate of discount is determined by the average of profits.*"—Nitti, *Revue d'Économie Politique* (1898), XII., p. 377.

each banker who controls a part of the supply to underbid his competitor in order to earn a profit by putting his commodity to use. The fact that this competition is closer and more acute in the case of circulating capital, as represented by the tool of exchange and the command over credits, than in the case of most other commodities, is indicated by the rapid changes in the rates charged for money in organized money markets. These rates sometimes rise in periods of stringency to thirty or forty per cent. a year, but fall within a few days to four or five per cent. when the demand is relaxed and the supply increases. Each owner of circulating capital or each banker who controls it begins to lower his rental price when he finds that his supply is not absorbed by the effective demand at prevailing rates.

It is obvious, therefore, that with a given demand in the form of commercial paper and other legitimate appeals from borrowers, an increase in the supply of circulating capital by a device which converts into such capital the scattered resources of individuals must produce a decline in its rental price. If this increased supply brings down the rental price to a point which greatly increases demand, one of two classes of benefits, and probably both, must result for the community. If producers and traders are able to borrow who were not able to do so before, their productive capacity will be materially increased and their profits will be distributed throughout the community through the payment of wages, increased purchases of materials, and exchange of products for increased quantities of foreign products. If, on the other hand, it be assumed that no new class of borrowers comes into the field, and that the increased supply of the tools of exchange is available only for the use of the original number of borrowers, they will obtain the use of the medium at a greatly reduced cost. Their productive power and profits will be so increased that a portion can be spared for investment in a metallic cur-

rency, if it is needed. The more probable result, representing the levelling effects of several causes, is that industry will be stimulated, that the reduced rental for circulating capital will afford the means of production upon a larger scale to an increased number of borrowers, and that the enlarged profits of the community will afford a surplus for obtaining sufficient metallic currency to form the security of additional note issues to meet the expanding needs of business, without the sacrifice which would be involved in the attempt to maintain a currency consisting purely of metallic money.

Circulating capital is the most mobile form of wealth. Under conditions of economic freedom, it should flow so freely from the point where its rental is low to the point where its rental is high that only trifling differences in its rental should exist in any part of the world. This absolute fluidity is not realized in fact because of the friction which attends movement. There are different degrees of safety in making loans in different communities which affect the rental price of money, there are costs of transportation, and there are differences in the notoriety of credit even where the credit itself is equally good. Between two organized markets the difference in the rental price of money should vary only by the cost of transferring gold, but even this difference is subject to modification by the alarm or confidence caused by political events, the hopefulness or doubts of lenders, and by the facility for converting fixed into circulating capital.

These differences in the rental price of money are greatly increased when that freedom which is often assumed for the operation of economic laws is hampered by legal restrictions upon the issue of credit. If the use of checks was taxed ten per cent. in commercial centres, and no other forms for transferring titles to money were equally convenient, the rental price of circulating capital would be increased and its movements would be greatly hampered. Prohibitions upon note issues exclude in the

same manner the most convenient mechanism of credit in country districts, where the deposit system has not obtained a footing or where banking offices are not conveniently at hand.

That the severe restriction of the note-issuing function has increased the rental price of money is plain from comparison of the banking history of different countries. In England, where the restrictive policy was adopted in 1844, the discount rate was changed 330 times from 1844 to 1890, while at the Bank of France it was changed only 110 times.[1] The autumn months called almost invariably for an advance in the rate of the Bank of England because of "the dispersion of money in wages during the summer, and the absorption of money and capital in buying up the produce of the harvest."[2] No provision for relieving this demand by note issues is made by the English banking law, and every unusual demand for currency has to be met by an increased investment in metallic money, often at heavy cost to the producers of the country. In Germany high discount rates became the rule at the Imperial Bank as soon as the business of the country grew up to the limit of note issue fixed by the law of 1875. The average rate was under three and a half per cent. from 1891 to 1895, but rose to 3.66 in 1896, 3.806 in 1897, 4.267 in 1898, 4.98 in 1899, and 5.333 in 1900, falling below four per cent. only after 1901, the year in which the limit of "uncovered circulation" was raised to conform to the increased needs for currency growing out of the expansion of business.[3] Much worse is the situation in the United States, where rates in the

[1] Nitti, *Revue d'Économie Politique* (1898), XII., p. 383.

[2] Jevons, *Investigations in Currency and Finance*, p. 172.

[3] The average rate for 1902 was 3.32 per cent., and in that year the Imperial Bank was compelled to pay the tax on excess circulation on only three occasions. In 1903 the average rate was 3.83, and the tax was paid on seven occasions.—Raffalovich, *Le Marché Financier en 1903-04*, p. 512.

rural districts have often stood at ten or twelve per cent. That this is not a necessary condition of new countries is shown by the conditions in Canada, which possesses an economical banking currency.

The fact that the returns upon circulating capital differ so widely in different communities seriously impairs the efficiency of the whole economic system. A high rate for money in a given locality indicates that not all of the circulating capital which could be profitably employed is obtainable. The community is not able to invest the capital required in a costly tool of exchange and is not able to pay the rental price for borrowing an adequate supply. Industry is therefore hampered, because its tools are abnormally costly. The differences between the compensation earned by different industries and between different communities in the same country indicates lack of efficiency in the distribution of industry, deficiency in the maximum product which might be obtained under a proper organization, and disadvantage in competition with better organized communities. As the proposition is reasoned out by Von Wieser:[1]

"Uniformity in the percentages of increment, and a uniform rate of interest, are, where they exist, proofs, economically speaking, of a well-balanced distribution and disposal of capital. They are proofs that the economically indicated limits of the employment of capital are everywhere equally respected; that nowhere is there any falling short, and nowhere any overstepping of them. In the principle which demands that the employment of capital shall be guided by the rate of interest, and that all employments which fail to return the customary interest be left alone, we find the marginal law brought into one common expression as regards all the different forms of capital."

IV. The greatest benefit of a banking currency, derived

[1] *Natural Value*, p. 146.

in some measure from the functions already ascribed to it, in economy of the precious metals and the accumulation of credit, is in keeping the volume of currency constantly adjusted to the requirements of production and trade. This adjustment to business needs, coupled with the necessary condition of security, should be the object of every sound monetary system. A bank-note currency is especially fitted to fulfil this object, because it is based upon business transactions. A bank-note, when issued in pursuance of legitimate banking business, is the offspring of a credit operation. The issue and retirement of notes is the consequence of business transactions and not the cause of them.[1]

Let it be assumed, for the sake of simplicity, that there are no other forms of credit than the discount of commercial paper by the banks and the issue of bank-notes, and that all business is done by means of discounts, bank-notes, and coin. If a loan is made to a trader, which is issued to him entirely in bank-notes, he is compelled upon its maturity to find a sufficient amount in bank-notes to pay back into the bank the sum borrowed. If there were but few transactions the fluctuations in the volume of notes in circulation would respond visibly to the loans and the payments as they occurred. When a bank is making loans daily to a great number of persons, the effect of a single loan may not be obvious and striking upon the number of notes in circulation. The notes pass into many hands, but if notes and standard coin constitute the sole medium of making payments, a merchant having a loan to repay must surrender to the bank as many notes as he originally obtained or an equal amount in coin. In the one case, the outstanding debts of the bank are reduced by withdrawal of the notes, which are the printed promises of the bank to pay coin on demand. In the other

[1] "The issue of bills in connection with loans for short terms and made rigorously convertible is only the effect of transactions and not the cause of these transactions."—Juglar, p. 211.

case—payment in coin—the outstanding debts in excess of the reserve are reduced by deposit of a quantity of coin fully covering the amount of the loan and capable of redeeming in full the notes which may be still outstanding.

The operation of a banking currency under such conditions results in the automatic adjustment of the amount to the needs of the business. If the number of business transactions is large, many bills of exchange are brought to the bank and many notes are issued. A large volume of business transactions usually implies increased employment for labor and larger payments for wages and in retail purchases, requiring an increased supply of the circulating medium. A larger volume of notes is absorbed at such times than in times of dull trade. If business transactions become less numerous, the paper presented to the bank for discount becomes less in amount, fewer notes are issued, and retirement of the outstanding notes takes place as traders having commercial bills to meet from day to day pay notes for them into the bank.

With many transactions consummated daily, the volume of a banking currency is thus kept in close relations with the needs of business. If the number of notes in the hands of the public becomes excessive, they may prefer to exchange them for standard coin by presenting them for this purpose to the bank. They will be led naturally to make such exchanges if the excess of the circulating medium operates to increase the supply of loanable capital, to depress interest rates, and thereby to attract money to other countries. Metallic money is the only money acceptable for export, and it would be necessary to present notes for redemption in coin in order to meet the demand for exportable currency.

When the deposit system is introduced, another element enters into the regulation of the volume of bank notes. If the supply of currency in the hands of the people becomes large, they begin depositing both notes and coin to their credit in the banks. Notes thus received on

deposit are retired and are not reissued unless there is a demand for discounts. An excess of currency in circulation is thus rectified by reduction of the notes in the hands of the public. The deposit constitutes an obligation of the bank, the same as the notes, and requires a sufficient cash reserve to provide for its payment on demand. The conversion of note liability into deposit liability prevents further issues of notes, if the reserve has been reduced nearly to the minimum limits required by law or by sound banking policy. This is usually the case when note issues tend to become excessive. Thus, in any given community, a combination of causes operates to keep a redeemable bank-note currency within the limits set by the requirements of business at any particular moment. An expanding volume of trade results in expansion of note issues, in the form of loans, while a contracting volume of trade brings notes daily into the bank in payment of obligations which are not renewed. A contracting volume of trade also relaxes the demand for currency and increases the accumulation in individual hands, from which it is promptly carried to the banks to be deposited.

The issue of bank-notes upon convertible commercial assets affords, therefore, the best means of giving elasticity to the currency and keeping it adjusted to the requirements of trade. What is meant by this elasticity is well set forth by Dunbar:[1]

"It means responsiveness to present increase or diminution of demand,—the power of adaptation to the needs of the month, the week, or the day, whether rising or falling. . . . Elasticity implies the operation of counter forces, in a currency as well as in a steel spring. That a currency may be responsive to demand, it is necessary that the forces, tending respectively to expand or to restrict, should be forces at work in the daily business of

[1] *Economic Essays*, p. 238.

the bank, where it is brought into contact with the community by the stream of loans, deposits, and payments."

Elasticity is one of the most important qualities of a good currency. This elasticity must be derived, either from such a movement from place to place of a fixed volume of currency as provides the amount required at every given point, or from such a capacity for increase or decrease in volume as meets changing needs of trade. Experience has shown that a fixed volume of currency is not always equal to the demands upon it and causes unnecessary advances in the rate for the rental of money. There is in most countries a much greater demand for currency at certain periods than at others. This enlarged demand, in several of the chief civilized countries which deal with each other as reciprocal producers and consumers of food products and finished goods, comes almost simultaneously. This special demand is most intense in the autumn, when the cereal crops and the cotton crop are harvested and taken to market. At such times there is not only unusual activity in money centres, but a pressure for currency in producing sections, which requires an enlarged supply of the circulating medium if reasonable wants are to be supplied. Jevons, although an opponent of a true banking currency, admitted the periodical character of this pressure in England in an article on "The Frequent Autumnal Pressure in the Money Market and the Action of the Bank of England."[1] A largely increased volume of exchanges requires an increase in some manner in the medium of exchange. This increase may be obtained either by the mechanism of the deposit and check system, by the borrowing of money by one bank from another, or by the issue of bank-notes. In the case of a demand for an increased medium of exchange upon the occasion of special financial

[1] *Investigations in Currency and Finance*, p. 160.

operations in the cities, like the issue of a new loan or the payment of dividends, the medium of exchange furnished by deposits and loans is usually sufficient. How this system operates is thus set forth by the Monetary Commission:[1]

"The deposit currency by means of which the largest part of our commercial transactions is effected is particularly elastic. It expands and contracts automatically with every change in demand. If additional currency is wanted in a strictly commercial community for any of these extraordinary demands—by a railroad, for example, to provide for the payment of interest on its bonds—it is secured from an existing deposit, or by means of a loan granted in the form of deposit currency against which checks for the interest are drawn; and to the extent to which those to whom the interest is paid likewise make use of the check and deposit system, the whole transaction is carried through without the least trouble or friction."

While deposit currency thus serves the purposes of commercial centres, experience has shown that it is not acceptable and sufficient for the needs of rural districts and especially of the producing and laboring classes. In most countries the bank-note circulation expands automatically to meet the demand for a larger means of conducting exchanges. This is not the case in the United States, because of the restrictive character of the note-issuing system. The country banks borrow regularly from the banks of New York and other reserve cities, and are thereby compelled to divide with these central banks the profits of the autumn business and to charge higher rates than would be the case if they could

[1] Report, p. 311. Statistics of payments of interest and dividends on railroad bonds and stocks in the United States in 1897, furnished to the Monetary Commission by *The Commercial and Financial Chronicle*, showed such wide variations as $67,000,000 in January and $14,500,000 in February.

from their own resources provide the medium of local exchanges. The accounts of the country banks show a regular increase in the autumn in their loans from other banks, which almost disappears in the spring.[1] During January and February the country is usually emptying its idle money into New York; in March there is a slight reaction, lasting only a few weeks, and from May till August the tide again flows strongly towards New York. With August the turn comes, and the movement to the interior is again strong and continues until December.[2] The effect of the withdrawal of capital from the reserve cities is often disastrous to financial operations in these cities. This need not occur if greater freedom of note issue had been given to national banks. They would then be able to meet demands for currency, as they are met in Scotland and Canada, without impairment of their reserves or undue increase of their discount rates. The manner in which the note issues of the Scotch banks respond to the necessity for a larger medium of exchange is thus set forth by Gilbart:[3]

"In Scotland the lowest point of the circulation is in March, and the highest in November. The advance, however, between these two points is not uniform—for the highest of the intervening months is May, after which there is a slight reaction; but it increases again until November, and falls off in December. The reason

[1] "The national banks located in the Southern States have an aggregate capital of $68,680,000. On October 6, 1896, they had borrowed largely from banks in the East, to assist in handling the cotton crop, $13,548,000. On March 9, following, these loans had been reduced to $2,516,200. They succeeded in borrowing for a part of their needs, but commercial necessities required more. With proper banking facilities the necessity for such borrowing now existing would be reduced to a minimum."—Annual Report of the Secretary of the Treasury (Lyman J. Gage) on the State of the Finances, 1897, p. lxxviii.

[2] Report of the Monetary Commission, p. 320.

[3] *Principles and Practice of Banking*, II., p. 216.

of the great increase in May and November is, that these are the seasons for making payments. The interest due on mortgages is then settled, annuities are then paid, the country people usually take the interest on their deposit receipts, and the servants receive their wages. There are frequently large sums transferred by way of mortgage. It is the custom of Scotland to settle all transactions, large as well as small, by bank-notes—not by checks on bankers as in London. It is remarkable that these monthly variations occur uniformly every year, while the amount of the circulation in the corresponding months of different years undergoes comparatively little change.

"The circulation of Scotland is at its lowest point in the month of March, is higher in July, and reaches its highest point in November. In the corresponding months of different years there is but little deviation in the amount of the circulation. These facts prove that the circulation of Scotland does not produce any effect upon prices, nor, consequently, upon the foreign exchanges. It is hardly necessary to adduce evidence in proof of the fact that the prices of commodities do not go on increasing from March to November in every year; and if they do not they cannot be regulated by the currency."

The Canadian bank-note system is also directly responsive to the demands of production and exchange. Its fluctuations are thus set forth by Root:[1]

"As surely and as regularly as the autumn months come around and the inevitable accompanying demand for additional currency begins to manifest itself, does the circulation of the banks automatically respond; the expansion ordinarily continues until about November, when a maximum, some twenty per cent. in excess of the normal circulation during the summer months, is reached. In consequence of this prompt and adequate response to

[1] "Canadian Bank-Note Currency," *Sound Currency* (December 15, 1894), II., p. 322.

every legitimate demand of commerce for more of the media of exchange, the conditions in Canada are quite different from those to which we, in this country, are accustomed. As a prominent banker has recently stated it, 'Panics for fear of stringency are thus unknown. The Canadians never know what it is to go through an American money squeeze in the autumn.'"

The proof of this responsiveness of Canadian bank currency to the needs of business is afforded by the figures of the circulation. While the Canadian banks are permitted to issue circulation to the amount of their capital, their note issues rise during the period of special demand for a circulating medium and are promptly reduced again under the operation of the redemption system when this demand declines. The circulation varies by twenty per cent. in the course of the year. This was the case in 1892, when the minimum circulation of May was $31,383,000 and the maximum of October was $38,688,000, only to fall in the following May to $31,927,000. The circulation touched even lower points under the influence of the dull business of 1894 and 1895, but rose on October 31, 1898, to $42,543,446, to fall again on March 31, 1899, to $38,409,227. When in later years the business and saved capital of Canada greatly increased, the note circulation expanded almost automatically to meet this new need. Upon a total paid-up bank capital of $79,747,011 in October, 1904, a circulation had been issued of $72,716,817, and the only question for the future was whether capital should be increased to enable the banks to increase circulation in case of need up to the only rigid restriction imposed by Canadian law, that the volume of outstanding notes should be limited to paid-up capital of the issuing bank.[1]

There are two classes of conditions under which the privilege of issuing bank-notes under the minimum of

[1] New York *Bankers' Magazine* (January, 1905), LXX., p. 110.

restrictions is of great service. The first class of conditions are those prevailing in comparatively undeveloped countries, where the supply of capital is not equal to demand for it for creating the machinery of production and means of transportation and where banking offices are widely separated. So pressing is the need for an economical paper currency under such conditions, that it has sprung into being beyond the law and outside the law where no legal provision has been made for it. One of the most interesting cases of a successful currency of this sort, which was maintained for several years in the face of hostile legal enactments, was what was known as "George Smith's money," in the early history of Wisconsin. Wisconsin, in 1838, like most of the newer territories of the United States, was without a sufficient metallic currency and without an organized system of banks of issue. The creators of the new money were two Scotchmen, George Smith and Alexander Mitchell, who had been educated in the efficiency of bank-note issues in their native country.

George Smith obtained from the Territorial Legislature of Wisconsin a charter for the Wisconsin Marine and Fire Insurance Company. The bill became a law on February 28, 1839, and authorized the company to "make insurance upon life or lives and employ such capital as may belong or accrue to said company in the purchase of public or other stock, or in any other moneyed transaction or operations for the sole benefit of the said company." There was a general clause, usually incorporated in charters, that "nothing herein contained shall give the said company banking privileges." This clause was practically ignored, and the banking feature of the business done by the company soon overshadowed the insurance feature. The company advertised to "receive money on deposit and transact other moneyed operations, in which, by their charter, they are allowed to engage." Certificates of deposit were issued in sums

of $1, $3, $5, and $10, in the form of bank-bills. These certificates met a popular want. They were soon found in people's pockets all over Wisconsin, Illinois, Iowa, Missouri, and Michigan. They were redeemed in specie at the central office in Milwaukee, and in New York exchange at the current rate through agencies in Chicago, Detroit, Buffalo, Galena, Cincinnati, and St. Louis.

The success of "George Smith's money" was so great that the jealousy of other bankers was incurred and repeated efforts were made to break down the bank. There was a fight running over several sessions of the Wisconsin Legislature to have the charter forfeited or repealed, but in these debates no question was raised in regard to the solvency of the institution, and it was asserted without contradiction that its notes were as "good as gold." When the other banks, the day after Thanksgiving in 1849, attempted to force the bank to suspend specie payments by gathering and presenting for redemption all the notes they could find, Mr. Mitchell directed that the bank be kept open until a late hour of the evening and that depositors and note-holders be paid as rapidly as they presented themselves. Every note presented was redeemed even before the reserve supply of cash arrived which was ordered from Chicago. The issues of certificates at this time had reached about $1,000,000, having steadily grown in amount from the organization of the bank. The people of Wisconsin voted down a constitution which prohibited bank-note issues in the state, largely because of their sympathy with the Mitchell bank. When, finally, Wisconsin was admitted to the Union in 1848, a general banking law was passed, under which the Wisconsin Marine and Fire Insurance Company reorganized. The advantages of this currency, the spontaneous outgrowth of business needs, have been graphically set forth by Root:[1]

[1] *Sound Currency* (April 15, 1898), V., p. 120.

"It is obvious that 'George Smith's money,' which played so large a part in the early settlement of the Northwest, took the place of other kinds of money, and especially of specie, for which the products of the country would have otherwise been sold. On condition that the currency should always be redeemed in specie, this was a good thing for the holders of Smith's money as well as for Smith; that is, it was an advantage to the public. It was an advantage because it was more convenient to handle and carry and count, while it performed all the local exchanges equally well. It introduced the principle of barter on a large scale. Whatever work bank-checks would do in the city of Milwaukee George Smith's money would do over the greater part of Wisconsin, Illinois, Missouri, and Iowa. It enabled the local exchanges to be carried on without specie. . . .

"In the fall, when the crops began to move, there was no lack of money for legitimate trade, because it was as easy to put out these certificates at one time as at another. In the winter, when lake navigation was closed, the certificates answered all the purposes of a local circulating medium. In the spring, when the steamboats began to move, bringing new settlers and cargoes of goods, the certificates came back to headquarters mainly for the purchase of New York drafts, after which they took their usual round again."

A like device for escaping the restrictions imposed by a too narrow note-issuing system was that of the Cheque Bank in England, which was instituted after the Bank Act of 1844. Money was received by this bank on deposit, and books of checks were issued for even denominations, which might be filled in for less than the denomination, but not for more. The face value of the checks issued did not exceed the depositor's credit, so that the receiver of such a check had the assurance of the bank that the depositor's account was not overdrawn. Such checks were made payable by the Cheque Bank only

through some other banker and not at the counter of the bank, thereby escaping the prohibition of the law against promissory notes payable to bearer on demand. The checks passed between individuals for cash, and the Cheque Bank established relations with some 1500 domestic and foreign banks which agreed to receive and cash its checks. MacLeod expressed the opinion that these checks, if not a violation of the letter of the law, were at least a violation of its spirit, and, if not interfered with, would open the door wide for any amount of issues of checks capable of circulating as money, by any bank in the kingdom.[1] In this view he is correct, and such a device would undoubtedly have been widely adopted if the education of the English people in the use of other forms of credit had not made it comparatively unnecessary. The success of the Cheque Bank well illustrates the principle that the real needs of a community will find spontaneous relief along the lines of least resistance and will often circumvent repressive laws.

The issue of bank-notes under the minimum of restrictions is of peculiar value in periods of panic, even in countries otherwise well equipped with the mechanism of credit. The demand on such occasions is for some article which is readily exchangeable and which will be accepted in the fulfilment of contracts to deliver money. Such contracts under normal business conditions are so generally cleared against each other that their fulfilment

[1] "There can be no possible doubt that these instruments, these crossed bank-notes, are an utter and complete violation of the manifest purpose and intention, not only of the Bank Charter Act, but of all our monetary legislation for the last century. For what is easier than for the bank and its customers to agree to make these cheques for £1, and put them into circulation? Then we have at once £1 bank-notes. So also the cheques for 10*s*. and 5*s*. are the old silver notes back again. If the Cheque Bank may do this with impunity, why may not every other bank in the kingdom do the same?"—*Theory and Practice of Banking*, II., p. 376.

is rarely demanded. These conditions change when confidence is impaired, because a great void is then caused in the usual mechanism of credit, which bank-notes are called upon to fill. The issues of bank-notes which then occur are abnormal in their character, are not required beyond the period of acute pressure for currency, and may be issued by a sound institution without much regard to the exact proportion of notes to the metallic reserve, so long as the reserve is sufficient to meet all demands and inspire confidence in the solidity of the institution.

The utility of the power to issue bank-notes without fixed limits in meeting the abnormal demand of a panic has been clearly shown on the occasions of crisis which have swept the London money market within the present century. The Bank of England was strong enough, only a short time after its resumption of cash payments, to stay the panic of 1825 by the free issue of its own notes. The display of stacks of £1 notes upon the counters of the Gurneys at Norwich was sufficient to arrest the run upon their bank. A similar experience accompanied the crisis of 1857, when £2,000,000 in notes were actually issued above the legal limit. The crisis of 1866 was met in a similar manner. The Bank of England could hardly have continued to meet its liabilities for another day if the Chancellor of the Exchequer had not announced in the House of Commons on the evening of May 11—"Black Friday"—that the government had addressed a letter to the bank authorizing the suspension of the note limit.[1] The panic was again checked by the knowledge that a medium of exchange could be obtained by solvent borrowers.

[1] Gilbart, II., p. 354. One of the representatives of the joint-stock banks is reported to have said to the representative of the Bank of England, at a meeting of the leading bankers just before midnight, before the limit of note issue was removed, "I can draw a couple of checks to-morrow morning which will shut you up at once."

VII

THE "CURRENCY" AND "BANKING" PRINCIPLES

The question whether bank-notes should be issued only upon full deposits of coin or in the judgment of bank directors—Nature of the risk involved in free issues—Such risk not essentially different from that in other forms of credit—The controversy in England over the Bank Act of 1844—Apparent failure of the act to meet the crises of 1847, 1857, and 1866—Apology of its supporters—Real nature of the question involved.

THE question has sometimes been raised whether the saving of capital due to the employment of a bank-note currency is not obtained at the sacrifice of safety and the real economic interests of the country where such a currency is employed. The fact that systems of bank-note issues have in many cases proved defective has led to the conclusion by a few economists that the theory of a banking currency was itself unsound. The subject was discussed with great warmth in England during the first half of the nineteenth century, and the lines of battle were drawn between the advocates of what was called the "currency principle" on the one hand and the "banking principle" on the other. The advocates of the currency principle laid down the proposition that bank-notes should not be issued beyond the amount at which they would fluctuate exactly as a metallic currency would fluctuate. This limit they found in the issue of notes simply as certificates, fully covered by coin, or only in such amounts without a metallic cover as would constitute the minimum amount below which

the circulation was never likely to descend. It was contended that credit is unduly stimulated by the issue of paper notes as a substitute for metallic money, and that in such cases "the whole money of the country, paper and gold, undistinguishably, is depreciated in comparison with the money of other countries." [1]

It is necessary, in order to sustain an indictment against the value of a bank-note currency in promoting the convenience and the real economic interest of a community, either to show that all credit is in itself injurious to the community or that bank-notes so far differ from other forms of credit that they threaten peculiar and excessive dangers.

The first point hardly calls for serious discussion. The abolition of all forms of credit in business transactions would mean the arrest of the mechanism of modern exchange and the restriction of production within very narrow limits. Contracts to pay money for future production would become impossible, and prices and wages would fluctuate violently under the influence of temporary causes, because they would lack the steadying effects which would be derived from the existence of contracts to take products in future which were in process of manufacture. Nearly all forms of credit are in the nature of contracts to deliver money at some future time for some present or future service. This is the nature of a bank-note, a deposit account with a bank, a bill of exchange, and a promissory note. The first two forms differ from the others in the fact that the holder of the contract has the power to demand performance at any time, at his pleasure, instead of on a date fixed by the maker of the contract.

That there are certain risks involved in credit transactions cannot be denied. Production, where it is carried on in anticipation of future demand, may be carried

[1] Walker, *Money*, p. 430.

further in certain cases than if it were carried on only in response to immediate orders; but all such risks are controlled and reduced to a minimum by the regulating force of prices in organized markets, especially on the produce and stock exchanges. General Walker, one of the most intelligent and candid of the opponents of a banking currency, dismisses the possibility of risk where paper is reasonably secured by the following comparisons:[1]

"Yet though the issue of bank-notes on a partial basis of specie, under the doctrine of chances, is always, in the nature of the case, at a certain risk, this does not constitute a fatal objection to paper-money banking, if it be otherwise desirable. Men and communities rightly take the necessary risk of collisions and boiler explosions for the sake of the saving in time and the gain in power which they derive from the use of steam-cars and steamboats. So it might be with disasters to which, from the fault of managers or through causes that could neither be controlled nor anticipated, paper-money banking should be found subject."

Discarding, then, the proposition that all forms of credit should be abolished in a modern industrial community, it becomes necessary to examine the proposition that bank-notes constitute a form of credit involving peculiar dangers. Nearly all forms of banking credit are promises to pay money at some future time. Jevons, an able advocate of the currency principle, says:[2]

"Every one who promises to pay gold on a future day, thereby increases the anticipated supply of gold, and there is no limit to the amount of gold which can thus be thrown upon the market. Every one who draws a bill or issues a note, unconsciously acts as a 'bear' upon the gold market. Everything goes well, and apparently prosperity falls upon the whole community, so long as

[1] *Money*, p. 411.

[2] *Money and the Mechanism of Exchange*, pp. 315, 316.

these promises to pay gold can be redeemed or replaced by new promises. . . .

"But foreigners will not hold such promises on the same footing; and, if the exchanges are against us, the metallic, not the paper, part of the currency will go abroad. It is at this moment that bankers will find no difficulty in expanding their issues, because many persons have claims to meet in gold, and the notes are regarded as gold. The notes will thus conveniently fill up the void occasioned by the exportation of specie; prices will be kept up, prosperity will continue, the balance of foreign trade will be still against us, and the game of replacing gold by promises will go on to an unlimited extent, until it becomes actually impossible to find more gold to make necessary payments abroad."

These propositions contain some truth. The difficulty is that if they constitute fatal objections to bank-note issues, they also constitute objections to other contracts for the delivery of metallic money. The condition assumed by Jevons, in which notes would continue to replace gold until no more gold remained for export, would occur only if reasonable reserves were not kept against banking obligations. The situation would simply be that more contracts for future delivery of money had been made than could be fulfilled. The money market would be in the same condition as the wheat market, when demands for the performance of contracts for future delivery exceeded the capacity of brokers to make delivery. In the case of money, however, the difficulty of creating a corner would be infinitely greater than in the case of wheat or any other single commodity, because the supply of money in the world is a permanent and nearly irreducible stock, subject to narrow fluctuations, and distributed among many commercial centres, where it is held subject to rental at a price. Sound banking and sound methods of credit undoubtedly require that reasonable regard should be had in the issue of instruments of

credit to ability to fulfil the contracts which are made. This is true of other commodities as well as instruments of credit. There are reasons why the state is justified in requiring guarantees of solvency from those who deal in money, but it is not necessary that these conditions should go so far as to forbid contracts in the form of bank-notes for the future delivery of money.

Jevons criticised those who advocated the adoption of a true banking currency in England, upon the ground that if they wanted currency they might obtain gold by giving up capital for it. He declared:[1]

"This metal, again, is only to be had, in the absence of gold-mines, by that state of foreign trade which brings it, and does not drain it away again. The principal currency, in short, must be regarded as a commodity, the supply of which is to be left to the natural action of the laws of supply and demand. The unrestricted issue of paper representative notes produces an artificial interference with these natural conditions."

The words "natural" and "artificial" have little place in such a discussion. The issue of paper instruments of credit is just as "natural" an element of modern commerce as the evolution of stamped disks of gold as the measure of value. It is true that the use of paper credit modifies to some extent the movement of the precious metals which might take place if no such instruments existed, but the one influence is no more "natural" or "artificial" than the other. It is because the use of such instruments permits economies in the use of gold, and therefore interferes with the "natural action of the laws of supply and demand" for gold, that these instruments are of value to the community. The opening of railways interfered with "the natural action of the laws of supply and demand" for seats in post-coaches, but that constitutes no argument for the retention of the "nat-

[1] *Money and the Mechanism of Exchange*, p. 313.

ural conditions" of the old mode of conveyance. Jevons appears to share the opinion of Walker, that the power to borrow notes from a bank is an encouragement to speculation. The borrower of notes has to pay for them in the form of discount. If the public, in a period of speculation, is willing to pay for the use of currency by high discount rates, they will be able to obtain it in the form of gold. Countries having a gold currency have not been exempt from speculation. The rental price of gold might be slightly higher than the price of bank-notes, so far as either was required in speculative transactions, but the difference would hardly be such as to check demand for money during a period of speculation.

It is the character of the loans made by a bank which determines the degree of security of its issues—not the form in which such issues are made. If its loans are generally good, the bank risks nothing in making its advances in the form of notes; if its loans are bad, the bank does not protect itself by making its advances in the form of certified checks or deposit accounts. Undoubtedly the power of the bank to make loans is increased by the power to issue notes, and this latter power has been most needed and most availed of in poor communities, where capital was scarce and banking deposits were, therefore, small. But the essential question relates to the prudence of the policy of the bank in granting its credit rather than to its choice among several means of granting it.

It is generally admitted, even by critics of a bank-note currency, that notes are not the primary cause of speculation. It is simply contended that they provide it with a convenient tool. But deposit accounts, the check system, and certified checks also provide such a tool of a much more efficient character and in much greater volume than bank-notes.[1] These other instruments of

[1] The practice of certifying checks where the maker of the check had not even a sufficient banking credit to cover it attained

credit constitute the mechanism of modern wholesale transactions and of speculation upon produce and stock exchanges. Currency, including bank-notes, forms but a trifling percentage in the settlement of these transactions. The issue of bank-notes, therefore, cannot contribute in any material degree to promoting speculation in the commercial centres as credit is at present organized.

The conception which has occasionally prevailed, that bank-notes may be issued in excess of the requirements of the community and may expel coin from the country, is based upon the losses which have been suffered where bank-notes have not conformed to the essential conditions that they shall be secured by commercial assets and redeemable on demand in coin. The issue of notes upon any other basis than commercial assets tends to separate them from commercial business and to deprive the bank-note currency of the elasticity which is derived from such a connection. Price, in answer to the question, "In what numbers will convertible bank-notes circulate?" says:[1]

"The answer is the same as that which has already been given to the parallel question respecting coin. So many bank-notes as the public has a distinct want for will circulate, and no more. It is the universal law of all commodities in use, the law of demand and supply. Neither bankers, nor Parliament, nor suspensions of the Bank Act, nor the need of borrowers, but the wants and convenience of the public, its willingness to hold bank-notes, the number and amount of the specific payments

considerable development in New York during the decade from 1860 to 1870, and became an efficient aid in stock speculation. The Legislature of New York passed a law to govern the subject in 1869, and the Federal Congress in 1882 imposed penalties for "over-certification," but neither of these laws sought to restrict certification where the maker of the check had a legitimate credit for the amount.—*Vide* Bolles, *Financial History of the United States*, III., pp. 365–367.

[1] *Currency and Banking*, p. 54.

which bank-notes accomplish, with a certain spare stock as for all articles in use, can determine how many convertible bank-notes will remain in circulation, and not be returned upon the bankers for payment. This is the truth of truths for a convertible paper currency. This is so obvious a consequence of the fact that bank-notes are tools, and that their quantity will be regulated by the specific work which there is for them to do, that it almost seems a platitude to proclaim it."

The basis for the argument of Professor Price lies in the fact that notes are issued in exchange for commercial paper which is the result of actual business transactions.[1] The notes constitute the supply of circulating capital which responds to the demand The note is rarely created without demand and thrust upon the market to find an investment. The note does not constitute the demand for loans; it is the loans which constitute the demand for the note. The greatest danger of excessive speculation is found in a currency issued by the government rather than in redeemable notes issued by banks. A government paper currency is non-exportable and does not respond, either by expansion or contraction, to the requirements of trade. When the demand for currency is great, the supply of such money is often inadequate; when the demand relaxes, such money is excessive in volume and is either employed by its holders in speculation or presses heavily upon the whole volume of the money of the country, with the result of expelling the surplus by the export of gold.

In the case of bank-notes, however, there is the best of reasons why they cannot be forced upon the public in

[1] "Every market, having to provide for a certain quantity of exchanges, has need only of a certain quantity of instruments of payment." — Leroy-Beaulieu, *Traité d'Économie Politique*, III., p. 567. An increased equipment of the tools of exchange will facilitate exchanges, but the notes can only be issued as demand for them arises.

excessive quantities, in the fact that they constitute a voluntary loan from the public to the banker. They are unproductive capital at best (or representatives of capital) in the hands of the holder, except so far as they are needed for the immediate purpose of making payments. As soon as the quantity in the hands of the holder goes beyond these requirements, he either takes them himself to the issuing bank for deposit or he seeks to convert his resources into productive capital by employing the notes in the purchase of securities or some other form of property, by which they leave his hands and return to the issuing bank in the form of deposits or for direct redemption.[1]

The entire argument in favor of a bank-note currency rests, however, upon the fundamental condition that convertibility of the notes into coin shall be maintained without delay, doubt, or obstacle, and that adequate means shall exist for maintaining such convertibility. There can be no doubt that notes, even when convertible, supersede coin in actual use in all the denominations for which they are issued. Huskisson declared, in the debate on the English bank charter in 1826:[2]

"If there were, in any country, a paper currency of the same denomination as coin, the paper and the coin could not circulate together; the paper would drive out the coin. Let crown notes be made and we should never see crown pieces; make half-crown notes, and a half-crown would not remain in circulation; allow one-pound notes to circulate and we should never see a sovereign."

The truth of this proposition has been demonstrated by monetary history. Paper, even when convertible, will drive out coin. The measure adopted in England to bring coin back into the country was to abolish notes under £5. Another measure for maintaining an adequate fund of coin has found greater favor in later times.

[1] Vignes, p. 5.

[2] *Select Speeches*, p. 430.

This is the imposition upon banks by law of the obligation to keep certain minimum proportions of their note issues in coin for the purpose of redeeming their notes on demand. The practical effect of such requirements is the same as if that portion of the paper circulation which does not exceed the amount of coin held was itself of coin, since it is represented by coin in the bank vaults. In so far as the importance of such reserves was overlooked by the advocates of the banking principle, their theory of regulating the circulation by the amount of good commercial bills presented for discount was an unsafe one,[1] and justified the criticism of Pierson that "the paper issue becomes excessive from the moment that a disproportion exists between the amount of notes in circulation and the amount of metal held in reserve against them."[2]

Grave misconceptions existed on both sides in the controversies which raged in England over the suspension of cash payments early in the last century and over the restriction of the note issues of the Bank of England in 1844. The supporters of the currency principle based their arguments largely upon observed conditions, which showed that speculation upon a large scale had been coincident with increased issues of bank-notes. They contended that convertibility of the note into coin would not act in a sufficiently prompt and drastic manner to keep the level of prices down to what it would have been

[1] This is the position of Torrens, who criticises the position of the Bullion Report in favor of convertibility of notes into coin upon the ground that "a real increase may take place, in the demand for circulating medium—merchants of undoubted credit may apply to have their bills discounted—and yet the bankers may be unable without incurring a greater expense than the profits on discount will repay, to replenish their coffers with sufficient rapidity to answer the increasing calls for cash, occasioned by a more extensive issue of their paper."—*Essay on Money and Paper Currency*, p. 114.

[2] *Principles of Economics*, I., p. 460.

with a purely metallic currency. In this, one of their chief abstract contentions, they were right; but in the conclusion drawn from the principle they were wrong, and their opponents were right. This conclusion was that "a convertible paper money should conform precisely, in all its operations, to the movement of metallic money."[1] It was the declaration of Tooke, an advocate of the banking principle, that English bank paper "has so conformed and must so conform, while the paper is strictly convertible." The fallacy of this view was exposed by Mill, who drew a distinction between the permanent and temporary value of the metallic currency. He said:[2]

"It is to the permanent value of a metallic currency, that the value of a paper currency ought to conform. But there is no obvious reason why it should be required to conform to the fluctuations too. The only object of its conforming at all, is steadiness of value; and with respect to fluctuations the sole thing desirable is that they should be the smallest possible. Now the fluctuations in the value of the currency are determined, not by its quantity, whether it consists of gold or of paper, but by the expansions and contractions of credit. To discover, therefore, what currency will conform the most nearly to the *permanent* value of the precious metals, we must find under what currency the variations in credit are least frequent and least extreme."

In seeking to prevent these fluctuations of credit, the advocates of the currency principle in England did much to make them acute, by applying restrictions to the note issues of the Bank of England, which made currency least available when it was most needed, and which more than once nearly wrecked commercial credit. There was

[1] This is Walker's summing-up of a number of similar quotations from the writers on both sides.—*Money*, p. 420.

[2] *Principles of Political Economy*, bk. iii., chap. xxiv., sec. 3 (II., p. 224).

no limitation upon the issues of the Bank of England during the long period of suspension of cash payments from 1797 to 1823, nor after resumption of cash payments, until 1844.[1] The same was true of the issues of the country banks, of which there were several hundred in England, many of which went down in the financial crises of 1825 and 1837. The opinion obtained a strong hold upon the public mind after the latter crisis that the expansion of credit was caused by the over-issue of bank-notes, and that such issues should be subjected to severe regulation. The result was the passage of the Bank Act known as "Peel's Act," which received the royal assent on August 31, 1844.

The new legislation was supposed to embody what was known as "the currency principle"—that notes should be issued only for coin and that the paper currency should obey the same laws as a purely metallic currency. The provision of the new charter relating to note issues took away from every banking institution in England, except the Bank of England, the power to issue notes to circulate as money beyond the amount which existing banks had in circulation upon the average during the twelve weeks preceding April 27, 1844.[2] This uncovered issue was permitted to survive out of English respect for vested rights, but provision was made for its gradual absorption by the Bank of England, which it was believed would soon occur.

The new charter authorized the issue of notes by the

[1] The denominations of notes were controlled by various acts of Parliament, but £1 notes were allowed during suspension of cash payments, and the limit of £5 was reimposed only in 1827.

[2] This amount was £5,153,417 for 207 private banks and £3,478,230 for seventy-three joint-stock banks. This power of issue could not be ceded or transferred upon the dissolution of the bank, but inured in part to the Bank of England. The circulation of the so-called "country banks" had been reduced at the beginning of 1905 to £684,201 for seventeen private banks and £1,135,283 for nineteen joint-stock banks.

Bank of England to the amount of £14,000,000 upon government securities, and issues beyond this limit only upon deposits of coin. The issue of £14,000,000 upon securities was justified upon the ground that it represented the minimum below which the circulation could never fall, and, therefore, the degree of economy which could be safely practised in the use of bullion.[1] It was found that the net circulation in December, 1839, during the period of depression following the crisis of 1837, was £14,732,000, and it was argued that at least £2,000,000 more in notes would always be required in the banking reserve of the bank.[2] The essential feature of the currency principle was that notes could not be issued for a single sovereign above the limit of £14,000,000, except upon the deposit of coin or bullion for an amount equal to the new notes issued. It was believed that under this provision the circulation of the country would respond to movements of the foreign exchanges in exactly the same manner as a metallic circulation—that when gold exports occurred, the volume of circulation would shrink, because the gold required would either be taken from the coin in circulation or would be obtained by the withdrawal of bank-notes from circulation and their presentation at the issue department of the bank for gold.

[1] It was contemplated that this limit might be raised in future, as has been done with the similar limit in the case of the Imperial Bank of Germany and the Bank of Japan. Mills says: "The great principle of the act is this, that there shall always be some limited amount, beyond which notes shall not be issued on securities; that that amount shall be so low that there shall be no possibility of any adverse exchange ever reducing the circulation below it, and so perilling the convertibility of the note."—*The Principles of Currency and Banking*, p. 109.

[2] The bank was authorized to increase its issues, under authority of an order from the Crown in Council, to the amount of two-thirds of country issues withdrawn. Various orders of this character raised the entire "secured circulation" to £18,450,000 on August 10, 1903.

The framers of the act of 1844 believed that they were taking steps by that act to prevent abuse of credit, and were doing it in such an effective manner as to promise an absolute safeguard against financial panics. They erred in two respects—in fastening their attention upon the bank-note as the exclusive factor in the expansion of credit, and in adopting regulations which failed to carry out their purpose of separating the bank-note from other instruments of credit. If there had been unwise speculation in England, it should have been obvious that it was due to the accumulation of capital and its investment in directions where it failed to yield the expected return, rather than to the limited number of bank-notes which might have played an incidental part in speculative transactions. The issues of the Bank of England, whether great or small, could have but a remote connection with the sinking of English capital in South American and other doubtful foreign securities; yet so fixedly was the attention of public men fastened upon this minor form of credit that Sir Robert Peel declared that the act of 1844 having placed an absolute limit upon the discretion of the bank in issuing notes, "he thought that banking business could not be too free and unrestrained." [1]

The Bank Act not only failed to accomplish its broader purposes, but its mechanism failed to work as expected in reducing the volume of circulation and operating thereby upon the foreign exchanges. The framers of the act committed two astounding blunders—in treating notes as the only form of credit and treating all notes outside the issue department as in circulation. They ignored the fact that there might be great stores of gold in the banking department of the Bank of England or in the reserves of joint-stock and private banks, which could be drawn out by presentation of checks and drafts

[1] MacLeod, *Theory and Practice of Banking*, II., p. 162.

without any reference to the legal note circulation. They ignored also the fact that the new system left the bank substantially where it was before in present strength, but deprived it of the reserve strength derived from the power to grant discounts by issuing notes. As MacLeod says: [1]

"The number of notes held in reserve in the banking department, under the new system of 1844, corresponded in effect very much to the amount of the bullion held by the Bank before its division. When, therefore, the public saw that the whole banking resources of the Bank were reduced to £2,558,000, a complete panic seized both the public and the directors."

This panic followed the enactment of the Bank Act within less than three years. The bullion in the bank fell from £15,163,000 on December 19, 1846, to £9,867,000 on April 10, 1847, and the reserve of notes in the banking department fell from £8,864,000 to £2,558,000, while the notes in circulation actually increased from £19,549,000 to £20,243,000. Mr. F. T. Baring frankly acknowledged, in a subsequent debate in Parliament, that he "never entertained the idea that it would have been possible under the operation of this bill to have shown such a set of figures." What made it possible was the fact that the elements in the problem were not limited to the gold in the issue department and the notes in the hands of the public. Other forms of credit were inextricably intermingled with the coin and note operations of the bank.

The new charter, in providing for a complete separation of the issue and banking departments, authorized the holding of bank-notes in the banking department in the same manner as they might be held by any private bank or individual. These notes might be paid to depositors as currency, if acceptable, or they might be

[1] *Theory and Practice of Banking*, II., p. 166.

presented to the issue department for redemption in gold in the same manner as notes held by the public might be presented. A demand for gold by depositors, therefore, fell entirely upon the banking department and not upon the issue department. What happened in the case of a demand for gold for export was not the gathering-up of notes from small private holders, but the presentation of checks by large depositors to the banking department. It did not matter whether they were paid in gold or notes. If they were paid in gold, the gold resources of the banking department were reduced. If they were paid in notes, the notes might be presented to the issue department for gold, but in either case the real drain was upon the banking department and did not reduce the volume of notes in circulation outside the bank.

It was fortunate in some respects that the Bank Act did not operate as was expected by its framers, for the domestic circulation would then have suffered an injurious contraction at a time when there was an unusual pressure for currency as the result of the collapse of other forms of credit. This pressure became more intense every week during the autumn of 1847, because the bank could not under the law relieve the situation by the issue of notes. Compelled by these restrictions, the bank decided on October 2, 1847, to refuse advances on stock and exchequer bills. The government waited until the business of the country seemed upon the point of universal bankruptcy, and finally, on Saturday, October 23, notified the bank management that notes might be issued in excess of the limit imposed by the act at a rate of discount not less than nine per cent. The government gave assurance that if the law was thus violated they would seek a bill of indemnity from Parliament for protection of the bank. The effect was magical. The knowledge that notes could be had by discounts upon commercial paper suddenly relieved the pressure for

currency. Notes which had been hoarded, under the impression that the limit of issues fixed by the act would soon be reached and all relief cut off from the business community, poured from their hiding-places; gold which had been stored in private vaults was brought to banks for deposit, and normal conditions were soon restored.

The ideas upon which the Bank Act of 1844 was enacted were thus discredited in all their essential features.[1] The theory of the automatic operation of the issue department upon the foreign exchanges broke down; the theory that this operation of the circulation upon the exchanges would prevent panics equally broke down; and in the end it became necessary to suspend the limitations of the act. A committee of the House of Lords which investigated the panic of 1847 declared that the Bank Act had neither put a check on improvident speculation nor afforded security against violent fluctuations in the value of money. The experience of 1847 was repeated in 1857 and 1866. The government on both occasions addressed a letter to the governor of the bank, authorizing the issue of notes in excess of the legal limit.

The apology made by the supporters of the act of 1844 for the failure of their predictions regarding its operation was that exhaustion of the reserve of the banking department of the bank checked speculation and brought back the monetary situation to a normal state. The Bank of England, by the fact of the exhaustion of its banking reserve, was compelled to raise

[1] It was made one of the merits of the act by Sir Robert Peel and others, after it had failed in other respects, that it insured, as never before, "the convertibility of the note"; but one may properly echo the sentiment of Mill in this regard: "I must be excused for not attaching any serious importance to this one among its alleged merits. The convertibility of the bank-note was maintained, and would have continued to be maintained, at whatever cost, under the old system."—*Principles of Political Economy*, bk. iii., chap. xxiv., par. 3 (II., p. 222).

the rate of discount and reduce its accommodation to the public. In so doing, however, it acted in no other manner than it would have acted if required to keep a certain proportion of metallic reserve against both notes and deposits. Its action was based upon the judgment of the directors, without specific requirement of law, that the banking reserve was insufficient, although the reserve of bullion against notes remained unimpaired. The argument on both sides was confused by giving an exaggerated importance to note issue in comparison with other forms of granting credit, and derived its significance from the fact that at this period notes were much more generally desired by the public than they were under similar conditions in later times. Lord Overstone, one of the most stubborn supporters of the Bank Act at the hearings given after the suspensions of 1847 and 1857, maintained that the note circulation had been acted upon in the manner originally predicted, because there should at all times be included in the "circulation" the amount of notes in the banking reserve of the bank.[1] His reasoning, submitted to analysis, reduced the merits of the Bank Act to a more intelligible separation of the different functions of the bank than had before prevailed, and in this sense, under the conditions of the time, it had perhaps some of the merit which he claimed.

England had restricted the issue of bank-notes to the point at which they were supposed to fluctuate in volume exactly as a currency composed of coin only would have fluctuated, in order to prevent panics; and the experiment had failed. What, then, is the true law of the operation of bank-notes upon credit and the move-

[1] "I consider the Bank of England as a very important personage among the public; I know no difference between the Bank of England and my own bank, so far as that is concerned." —*Evidence before the Select Committee of the House of Commons of 1857*, p. 115.

ment of the precious metals? If bank-notes do not contribute materially to sustaining speculation, what aid do they give to the business community? The answer to these questions is derived from the law of marginal utility which, under the clear reasoning of the Austrian and German economists, has solved with precision so many economic problems. Bank-notes do not respond directly and precisely to movements of the precious metals, because they find their employment to a large extent beyond the margin of the utility of metallic money. If, for illustration, notes may be issued upon a reserve of fifty per cent. in coin, the community gets the use of twice the amount of currency which it would otherwise obtain at the same cost. A community capable of investing its capital in money to the extent of, say, $50,000,000 would thus be able to command the use of $100,000,000 in well-secured circulating notes. If the law required a reserve of fifty per cent. against note issues and the notes outstanding were constantly at the maximum allowed by law, a demand for gold from abroad might lead the paper currency to fluctuate exactly as the metallic currency; but this is not usually the case.

The usual conditions of banking and credit, even where fixed metallic reserves are required, do not involve the issue of notes to the utmost limit allowed by law. Such issues occur only in the poorer portions of the community, where demand for a tool of exchange exceeds the amount of capital available for investment in such a tool. In commercial centres there is usually a surplus of metallic money, whose movements backward and forward from country to country do not necessarily involve a corresponding reduction of domestic circulation. The domestic circulation, especially in districts removed from the commercial centres, remains unimpaired, while the portions of the community which are engaged in great speculative movements surrender gold or borrow it back,

according to the decisive question whether the price they get in the one case corresponds to the disadvantage of being without it, or the price they pay in the other corresponds to the advantage of having it. In these transactions a fraction of one per cent. may decide the question whether gold shall move from one commercial centre to another. There may be a sudden call in one of these centres for the execution of contracts to deliver gold. There is no reason why these conditions should affect the domestic circulation of the country, except so far as they indicate that the entire structure of credit has been unduly expanded. In that case pressure will be felt upon the issuing banks and contraction of note issues will follow.

It has to be borne in mind that the transfer of the precious metals is not governed purely by the supply of currency. The problem of international exchanges is no longer the simple shipment of gold to cover an excess of importations of merchandise. Securities often take the place of gold as payment, bills of exchange are sent to the country where they mature or are held in the creditor country pending maturity, according to the rate of interest in either country, and gold itself is loaned on credit where its rental is highest. This being the case, a special demand for gold is created, on the one hand, which is not dependent upon the domestic transactions of any one country, and a necessity is created on the other hand for a domestic medium of exchange which is not controlled absolutely by these temporary movements of the precious metals. Every community ought to take measures to maintain its solvency by retaining a certain minimum supply of the precious metals. This is a matter of sound banking policy or of government regulation, but it is far from involving the requirement that the bank-note shall be destroyed as an instrument of credit and that the surface of the domestic circulation shall be swept by every tempest upon the stock exchanges which affects

the rental price of gold. The steadying and beneficial operation of a bank-note currency in these respects is thus set forth by Cauwès:[1]

"The entire community profits by issue, at first because the circulation of bills relieves it from the purchase of a great quantity of metallic money, and then because a mixed circulation (of bullion, coin, and paper) is better regulated, according to the movements of foreign commerce, than a circulation exclusively metallic. If gold and silver were the only money, it would result that every time the importations of foreign goods were in excess of the exportations, money going out of the country would subject the domestic market to a crisis having the consequence of a sudden rise of prices. Paper money, acting as an auxiliary to metallic money in quantities varying according to the needs of business, averts the monetary crisis which the operation of the foreign exchanges might otherwise occasion and thus gives more stability to commerce."

The movements of a bank-note currency, therefore, do not and need not correspond precisely to the movements of the precious metals in order to insure healthy monetary conditions. The advantage of such a currency will often be found in this very divergence from mathematical relations to the supply of metallic money. In one community demand for tools of exchange, perhaps for only a temporary purpose, may strain the note-issuing power to the maximum limit of safety. In such a community the power to issue notes will be of the highest value, because the desired service to trade can be rendered for a fraction of the cost of bringing coin or bullion into the community for the full amount of currency required. In another community the lethargy of transactions, or preference for other forms of credit, may reduce the volume of outstanding notes to nearly the

[1] *Cours d'Économie Politique*, II., p. 309.

level of metallic reserves or even below that level. Such a condition may permit the surrender of coin or bullion to a community where the supply is insufficient without destroying the power to expand the note issue within reasonable limits when there is an increased demand for the medium of exchange. The greatest use and highest value of the note-issuing function will be found on the margin where coin cannot go because it is too costly. If the blanket of a metallic currency will spread over only those portions of the community well equipped with surplus capital, the use of the note-issuing function will spread a useful fringe of benefits over a wider area and protect the entire community against the inconveniences of a sudden contraction of the metallic cover.

BOOK V

THE EVOLUTION OF COMMERCIAL BANKING

BOOK V

I

THE ORIGINS OF BANKING CREDIT

Early forms of banking in Assyria, Greece, and Rome—Contracts on baked clay in Babylonia—The money-changers of the Middle Ages—Why the Jews kept their assets in money—Origin of bills of exchange and discount—Evolution of organized credit in modern times—Its benefits in permitting the transfer of capital—Advantageous use of savings, and stimulation of industry—The transfer of capital from the rich nations to the poorer.

THE development of credit in its various forms has followed the same law of evolution as the development of money. So uniform throughout the world has been this evolution, where commerce has attained serious importance, that De Greef declares:[1]

"The appearance in the economic world of substitutes for metallic money was an organic development so necessary and natural that it occurred with remarkable uniformity and in the most spontaneous manner among the most advanced commercial peoples of antiquity, and again, under the same conditions, after the undisputed decline of the first mediæval period, among modern commercial peoples. No man of genius has attached his name to the discovery, which was, nevertheless, at once

[1] *Annales de l'Institut des Sciences Sociales* (July, 1897), III., p. 234.

one of the most decisive, most important, and most simple of human revolutions."

The mechanism of banking credit is not a modern creation. It has obtained in recent years an extension and variety of form hardly dreamed of in more ancient times, but in its simpler machinery of banking loans upon notes of merchants and certificates of property it is as old as authentic history. Credit bearing much of the characteristic modern type had already acquired a firm footing in those rich states of Central Asia whose history now survives chiefly in their monuments. Instruments of commercial credit were in use in Assyria even while the precious metals passed by weight, before the advent of official coinage. Traces of credit by compensation and by transfer orders are found in Assyria, Phœnicia, and Egypt before the system attained full development in Greece and Rome. The books of the old Sanskrit lawgiver Manu are full of regulations governing credit. He speaks of judicial proceedings in which credit instruments were called for, of interest on loans, of bankers, usurers, and even of the renewal of commercial paper.[1] In Babylonia contracts were drawn up, in the presence of some priestly or legal official, on clay tablets. The original was placed for safety in either the temple or the record chamber of the city, enclosed in a clay envelop or case, while copies went to one or both the contracting parties. Many of these documents, preserved in the British Museum, are records of deeds and the partition of real estate, but a few involve loans of silver at interest, and these become more numerous in the reigns of Nebuchadnezzar and Nabopolassar (625–604 B.C.). Loans secured by mortgage on land and guarantee bonds are among the curious commercial documents of these early times.[2]

[1] Cruchon, p. 14.

[2] *British Museum: Babylonian and Assyrian Antiquities*, 1900, pp. 174–176.

The first bankers at Athens and Rome confined their operations largely to the exchange of metallic money. Xenophon declared that the larger number of the cities of Greece had money having value at home, and that traders at such places were compelled in consequence to make exchanges in merchandise, but that Athens was an exception and that her silver drachmas were accepted everywhere. Deposits were regularly received by Athenian bankers, and loans were sufficiently profitable to justify the payment of interest to depositors. Maritime traffic was conducted at such great profits by Greek traders that they were able to borrow at 20 to 25 and even 35 per cent. and make a profit upon their ventures. Pledges of valuables were often taken by bankers in such cases, but disaster sometimes occurred and serious bankruptcies resulted.[1] The bankers in Athens were known as τραπεζίται and those in Rome as *argentarii* (dealers in silver).[2] The banking business was subjected to official regulation in both Athens and Rome. The Roman laws required the *argentarii* to produce their accounts for official inspection and prescribed that they should keep a cash-book, a deposit-book, and a day-book.

The transfer of credits was permitted at Athens by the law of Solon, and commercial paper from Phœnicia and Egypt was negotiated upon the Athenian market. The fact that bankers conducted the exchange of money of all countries naturally made them authorities in monetary matters. At Athens they kept accounts for their clients, which they were compelled to produce upon requisition, and their accuracy and technical knowledge led to their frequent employment for verifying the ac-

[1] Cruchon, p. 29.

[2] Cruchon enumerates more than sixty titles of different classes of persons dealing with monetary matters at Rome. Some of these were public officials, and the exact character of the business done changed from time to time, even where old names were retained.—*Les Banques dans l'Antiquité*, p. 35.

counts of the republic. The narrow limits of the Greek states made the function of the money-changer absolutely essential in international trade, and must have afforded large opportunities for profit. There were many prejudices against making trade too easy by a uniform standard, and the money of domestic use was often different from that of foreign commerce.[1]

The Greeks taught banking to Rome, and the first names for bankers there were of Greek origin. Banking business was at first largely in the hands of foreigners and freedmen, but certain branches of finance were in the hands of native Romans. It was the usurious rates of interest exacted by the patricians in their business relations with the plebeians rather than any acts of the regular bankers which promoted the secession of the plebs to the Sacred Mount in 494 and to the Janiculum in 278 B.C.[2] These patrician money-lenders were not the bankers of the Roman community. The latter, the *argentarii*, were charged with the reorganization of the coinage by Marius Gratidianus in the first century, B.C., and the work was so well done that statues were raised to the prætor who had taken the initiative in such a beneficial reform.

The booths of the bankers in the Forum were so conspicuous that when, in 309 B.C., the bucklers of the Samnites were brought home by the victorious Roman armies, they were ordered to be displayed, with their incrustations of gold and silver, above these booths, in order that the people might view their splendor.[3] In spite of these honors, however, it was not a source of pride in Roman patrician society to be descended from the *argentarii*. Marc Antony made it a subject of derision that Augustus counted an *argentarius* among his

[1] *Vide* Favre, "La Genèse de l'Argent," in *Revue d'Économie Politique* (April, 1899), XIII., 358.

[2] Cruchon, p. 40.

[3] Ibid., p. 43.

paternal ancestors, and that even on his mother's side an *argentarius* was his grandfather.[1]

The concentration at Rome of the control of the politics and business of the world gradually extended the scope of Roman banking, subdivided the business, and resulted in the creation of a complete body of jurisprudence, which was finally embodied in the Institutes of Justinian. The *argentarii* were first money-changers, then receivers of deposits, then lenders at interest both of their own money and that intrusted to them, and purchasers of bills of exchange. Deposits were utilized as the basis of transfers by paper credit, and loans were made by these instruments without direct withdrawal of cash from the hands of bankers. Capitalists came to make their deposits with the *argentarii*, subject to withdrawal on demand, and received low rates of interest. The first mention of the *argentarii* is in Livy, about 350 B.C., but the later Roman plays are full of references to their methods. *Perscribere* or *rescribere* was to give a check on one's account or transfer credit from one account to another. Thus Demipho says, in the "Phormio" of Terence, "But, Phormio, pray go over to the Forum and order that money be put to my account."[2] These transfer orders lacked the character of modern checks in not being transferable to order, but the principle of compensation, by setting off one debt against another between the same persons, was generally recognized by Roman bankers.

The *argentarii* were largely of Greek and plebeian origin. The native Romans, however, did not disdain the opportunities for profit afforded by certain classes of financial operations. The publicans, or tax-farmers, were the strongest organized financial body of antiquity.

[1] Cruchon, p. 54.

[2] "Sed transi sodes ad forum, atque illud mihi argentum rursum jube rescribi, Phormio" — This is the rendering of MacLeod, *Theory and Practice of Banking*, I., p. 162.

They not only farmed the taxes, but undertook to provide transportation and equipment for armies and the means for great public works.[1] Some of the first publicans were men who combined the business of private trade with usury and money-changing, and followed it in the wake of Roman armies in their victorious progress over Northern Europe. Their exactions, supported by Roman power, made them very unpopular, and one of the notable incidents of the Gallic insurrection in Cæsar's time was the massacre of these merchants, or *negotiatores*, at Genabum.[2] The Italian merchants were singled out also, along with the publicans and proconsuls, as the special objects of the fury of the people of Pontus under Mithridates when they massacred fifty thousand Romans. The publicans formed powerful associations and held a similar position in Roman society to that held in the pre-Revolutionary period in France by the financiers. The commanders of the Roman armies and proconsuls also engaged in a form of banking by loaning their capital at usurious rates in the provinces. Brutus placed his capital at Kypros at 48 per cent., Verres placed his in Sicily at 24 per cent., while even Cato watched carefully over his investments, and Pompey loaned hundreds of millions of sesterces to kings and cities of Greece and Asia.[3]

It is the opinion of Jannet that the organization of the greater commerce and of banking as it existed in the Roman Empire survived the invasions of the barbarians and persisted during the first part of the Middle Ages.[4] How far the banking system survived outside the Byzantine Empire is disclosed by few known records, but the lack of security for property in Western Europe, and neglect of the highways of commerce, gradually drove both commerce and credit within narrower limits and

[1] Deloume, p. 94.
[2] Cæsar, *De Bello Gallico*, VII., iii.
[3] Deloume, p. 146.
[4] *Le Crédit Populaire et les Banques en Italie*, p. 7, n.

led to the withdrawal of metallic money for hoarding from its legitimate use in circulation. The revival of banking in the later Middle Ages came through the money-changers. The growth of commerce and accumulation of capital as early as the eleventh century began to draw the precious metals from their hiding-places and led each seigneur to coin his own money. The diversity of weights and the varying market ratio between gold and silver made the function of the exchanger an important one, and the old cathedral windows at Bourges, Le Mans, and elsewhere still portray his booths, behind which he is represented with a balance weighing the coins piled at his feet or drawing from a sack those which he proposes to give in exchange.[1] The edicts of Leo the Wise, the Byzantine emperor of Constantinople, contained a series of provisions governing the money-changers. They were constituted into a corporation, into which admission could be obtained only upon the testimony of reputable citizens that the candidate would not debase or counterfeit the coins and that he would be in the market-place at proper times, by himself or a substitute, for the purpose of meeting his obligations. There were money-changers in those days without official sanction, as there are to-day "curb brokers" who do business outside the stock-exchanges. They were designated by a name derived from the sacks of money which they carried as their sole equipment for business.[2]

The bill of exchange was one of the earliest forms of credit, and its use was extended beyond its present purposes in order to evade the prejudices of the Middle Ages. To the Jews were ascribed the invention and perfection of the bill of exchange, as a means of evading the confiscation of their property by its prompt and secret transfer.

Several circumstances of the time contributed in the

[1] Cons, I., p. 196. [2] Nys, p. 154.

Middle Ages to throw the trade in money into the hands of the Jews. The latter began to come to the front during the reign of Justinian at Constantinople (527–565 A.D.), and they enjoyed great privileges in the Frankish Empire. They were better able than Mohammedans to trade in Christian lands and better able than Christians to trade in Mohammedan lands.[1] They were, therefore, afforded opportunities by the expansion of the Arabian and Ottoman empires to ply their trade as neutral dispensers of the one commodity which knows no race nor creed. Another circumstance which drove the Jews into the trade in money was the fact that they were shut out from all other trades. Another was the attitude of the Church towards loans at interest. The acquisition of real property was prohibited to the Jews in nearly every European state. The guilds were closed to them and they were forbidden to exercise trades and manufactures.[2] Exclusion from real property was not a hardship, if it was to be subject to constant confiscations, since money and its paper representatives were almost the only forms of property which could be readily transported and concealed. "The richest traders," says Montesquieu, "having only invisible goods, they were able to be sent everywhere and left no trace behind."[3]

The denial of the legitimacy of interest was a natural evolution from conditions. The rigors of the Church were directed primarily against loans for consumption to persons in need. When saved capital was the exception and opportunities for organized industry were rare, loans for productive purposes were hardly possible. The opinions of the most advanced canonists rapidly adapted themselves to changed conditions when trade and credit acquired an organization which made productive loans the rule.[4] In the meantime, as Jannet

[1] Cunningham, *Western Civilization*, II., p. 49.
[2] Nys, p. 136. [3] *De l'Esprit des Lois*, Livre XXI., chap. xx.
[4] It is declared by Antoine that in places where commerce

expresses it, "If a rigid discipline had not prevented the development of usury in the midst of Christian society, and had allowed it to penetrate, for example, into the rural regions, all the fruits of the emancipation of the serfs would have been lost; the great proprietors would have destroyed the independence of the population around them, as in Rome and ancient Greece." [1]

When the time came for avoiding the restrictions of the canonical laws, several ways were found of doing it. Already, as early as the thirteenth century, Albert le Grand conceded that "if usury is against the perfection of Christian law, it is at least not contrary to civic interests." Even St. Thomas admitted the loss resulting (*damnum emergens*) to the lender who was kept out of his money, and the interval of time and the value lost (*quantum ejus intererat*) gave birth to the word interest as a substitute for usury (*usura*).[2] The transportation of money from one place to another involved a cost which justified a charge. This charge was made sufficient to cover a reasonable interest for the use of money. Hence came the disposition of many of the Continental codes of commerce, that the bill of exchange should be payable in a different place from that where it was drawn. The bill of exchange was converted into a form of direct loan called "dry exchange," by which the borrower drew a bill on a fictitious person in some foreign town at the current rate of exchange, which he delivered to the lender. At maturity the bill was returned protested and the borrower charged with re-exchange and incidental expenses, amounting to perhaps

was developed the legitimacy of interest was fully recognized as much as five centuries ago, but that these places were isolated and were principally the rich Hanseatic towns and the flourishing seaports.—*Cours d'Économie Sociale*, p. 543.

[1] *Le Capital au XIXe Siècle*, p. 80.

[2] *Vide* these and other interesting passages cited by Rambaud, pp. 40–42.

twenty or thirty per cent., the bill never having been out of the country.[1]

A further step was taken towards modern banking methods when Italian bankers received available cash under the name of deposits, but in reality to be made fruitful in the banking and commercial operations in which they were engaged. The records of bankers regarding transfers of money had a recognized status in courts of justice, derived in some measure from the survival of their public character under the Roman Empire. The discount of commercial bills grew out of similar respect for the laws against usury. Ancient usage established the right of a merchant to sell on credit and to make a discount from the price if payment were made at once. A paper pledge to pay could be converted into money by application to a third party.[2]

Thus gradually arose from the need for them all the attributes of modern banking. The individual money-changer, the Jewish lender, the Lombard banker, gradually gave way, as centralization advanced in commerce and in national life, to public banks doing business under official authority. Along with this evolution went the development of methods suited to the new demands. The complexity of coinage systems was remedied by the creation of "bank money" of uniform value by such institutions as the public banks of Venice, Amsterdam, and Hamburg. The bill of exchange became a means for making productive loans. Deposits were accepted to be loaned for profit, and the depositor was permitted to share in the profits. The character of the loan changed from a specific deposit, transferable only by the owner, to a loan from the owner to the bank, for which he received a direct interest. The great resources of modern savings, attracted into the keeping of the banks, became available for loans to the producing and trading ele-

[1] Cossa, p. 154.

[2] Jannet, *Le Crédit Populaire et les Banques en Italie*, p. 7.

ments in the form of discounts. Modern credit thus received its organization and needed only the creation of the bank-note and the extension of the mechanism of clearings and co-operation among banks to stand forth fully equipped for its mission of providing the motive power of commerce.

The potency of organized credit is found in the facilities which it affords for the transfer of capital. It is a natural evolution of the accumulations of saved capital in modern society. Capital could not be saved except in the form of commodities, if there were not money or credit; credit would be of little importance and small extent if there were not great masses of saved capital upon which it might operate. Bagehot, in describing the British money-market, declared that it represented "by far the greatest combination of economical power and economical delicacy that the world has ever seen." [1] This power and delicacy it owes to the means which credit affords for giving vitality to capital. Cauwès sets forth four advantages of credit in promoting production: [2] (1) Credit stimulates the movement of business, multiplies markets for the benefit of capital, creates the means of buying and producing; (2) for those who have, credit provides a profitable investment for funds which they would not or could not themselves make use of; (3) for those who conduct an enterprise it affords the supplementary capital which they need for carrying on their business; (4) for all producers, credit represents a gain of time, and therefore of money.

Leroy-Beaulieu, in a careful review of the effect of credit, ascribes to it the three important functions of permitting the transfer of capital, promoting its accumulation, and affording an auxiliary to metallic money.[3] The transferability of capital is perhaps the most im-

[1] *Lombard Street*, "Works," V., p. 8.
[2] *Cours d'Économie Politique*, II., p. 262.
[3] *Traité d'Économie Politique*, III., p. 374.

portant phase of credit in its modern development. This quality of transferability permits the shifting of capital from one trade to another and from one country to another. It gives flexibility to modern industry. The system of banking credits, which gives to saved capital general purchasing power, permits the transfer of credits to borrowers who are able to employ them in great producing industries. Capital is thus transferred from the hands of many small capitalists into the hands of a producer and is made profitable to the whole community.

The promotion of saving and the conversion of saving into working capital constitute the second group of advantages belonging to credit. "Capital," declares Leroy-Beaulieu, "is saving become active and applied to production, instead of simply hoarded." In countries where credit is not diffused, he says, "small capitals remain in a state of isolation and unproductiveness, constituting an individual resource for the future, but not an immediate social resource." [1] How banking credits operated from the beginning to make capital fruitful is described by De Greef in this language: [2]

"When advances of money or merchandise are involved, such capital is not augmented by credit; its vitality only is increased. We have already seen that banks of deposit, transformed naturally by the course of events into banks of discount and advances, were the first forms of the generalization of this important service. They centralized available capital, and substituted themselves at least in part for private forms of deposit, of loans, and of exchange. Capital which had been tempted and accumulated into their reservoirs, they distributed in all directions where it would be most active and most fertile. Its flow, abundantly and constantly fed by a

[1] *Traité d'Économie Politique*, III., p. 387.

[2] *Annales de l'Institut des Sciences Sociales* (July, 1897), III., p. 234.

thousand individual streams, became more regular and extended over wider spaces with an enormous economy of time, of risks, and of costs. The rates and variations of the offer and demand of capital became less excessive, thanks to their influence, even in private operations; they tended to a level, like a genuine system of irrigation over areas of culture more and more extended. In this sense and within these limits, credit was still a force only indirectly productive. It gave to those who obtained it a purchasing power which they had not before possessed. It tended also to raise prices—not as is declared by J. S. Mill and the larger number of economists, by reason of the securities which might be created, but in exciting new demands for utilities. When a consumer has credit with his storekeeper, he increases his demand and influences prices to the same extent as if he paid cash; it is the same with advances made with a view to production."

In a much more enthusiastic strain speaks Du Puynode, in spite of the fact that he rejects the theory that credit actually creates capital. He declares:[1]

"Fertile as have been the mines of Mexico and Peru, from which long after the time of Columbus seemed to flow the fortune of the universe, there is, however, a discovery more precious for humanity and one worth more than the riches of the Americas—the discovery of credit. . . . It doubles, multiplies a hundred-fold, the activity and services of capital, it renders those services more constant and more generous, more certain and more speedy; but of capital itself, it does not create a particle. Institutions of credit are institutions of circulation; they are not institutions of production."

Development of credit has been an almost necessary incident of growth of capital. The modern accumulations of capital could not be moved without credit;

[1] *De la Monnaie, du Crédit, et de l'Impôt*, I., p. 106.

credit would have but a narrow field of operation without these great capitals. Credit was undoubtedly employed upon a limited scale even before the use of metallic money, in the sense that goods were given without immediate receipt of an equivalent; but credit in its modern sense, permitting the transfer of large quantities of commodities and the inauguration of great enterprises without the transfer of anything but written instruments, would be of little avail except in countries where there was an accumulation of surplus capital. Great accumulations of capital not required either for immediate consumption or for maintaining existing processes of production, and therefore awaiting investment in new enterprises, are an essentially modern phenomenon. There were some such accumulations in the ancient world, and they were accompanied by a considerable development of commercial credit. There were some accumulations also in England early in the eighteenth century, when interest rates fell so low that government three-per-cents were quoted at 107;[1] but these accumulations would have been inadequate to meet the demands for new capital now put forth in a single quarter of the year. How different are modern conditions from the old, even those of a very recent past, is indicated by Bagehot as follows:[2]

"We have entirely lost the idea that any undertaking likely to pay, and seen to be likely, can perish for want of money; yet no idea was more familiar to our ancestors, or is more common now in most countries. A citizen of London in Queen Elizabeth's time could not have imagined our state of mind; he would have thought that it was of no use inventing railways (if he could have understood what a railway meant), for you would not have been able to collect the capital with which to make them. At this moment, in colonies and all rude countries, there

[1] Bastable, *Public Finance*, p. 586.
[2] *Lombard Street*, "Works," V., p. 7.

is no large sum of transferable money; there is no fund from which you can borrow, and out of which you can make immense works."

One of the most striking cases of transferability of capital in modern times is its transfer between nations. When Ricardo wrote, early in the nineteenth century, he drew a distinction between adjustment of prices within a nation and their adjustment between nations. "The difference in this respect," he declared, "is easily accounted for, by considering the difficulty with which capital moves from one country to another, to seek a more profitable employment, and the activity with which it invariably passes from one province to another in the same country." [1] The events of the succeeding century have almost abolished this distinction. Capital flows freely from one nation to another under the attraction of differences in the discount rate and opportunities for profitable investments. The transfers due to the discount rate are the best illustration of the transferability of capital, but they have less effect upon the permanent economy of a nation than transfers for longer terms. The law of the marginal utility of capital gives it higher earning power in new countries, where there is little saved capital, than in old countries, where there is comparative excess. The result has been to attract great masses of the saved capital of old countries to less-developed countries.

The manner in which capital is thus transferred from one country to another affords the best illustration of the workings of the credit system and the benefits which it has conferred upon society. The saved capital of the old world has been transferred to the new world largely by means of the credit system. The transfer has not been made to any considerable extent in metallic money, but in commodities for which credit has been granted.

[1] *The Principles of Political Economy and Taxation*, p. 116.

The credit system has made possible the proposition that international loans are made in commodities and not in money. The new countries have been developed by the transfer to them of commodities, for which the full equivalent has not been demanded back. Great Britain, for instance, has furnished to these countries great quantities of agricultural and manufacturing machinery, as well as more perishable commodities for immediate consumption, and has been contented with payment of the interest on their value rather than with payment of the principal. The British manufacturer himself may have received full payment, but other Englishmen have provided means of payment by purchasing government and industrial securities of the new countries. The effect of the operation has been that they have turned over their saved capital to manufacturers of machinery and commodities in England, on behalf of purchasers in undeveloped countries, and have accepted in return only an interest on their loans to these countries. This transfer of capital has afforded at once a means of development to the new countries and a means of earning a return upon their capital to the older countries.

Several times in the history of the world has a congestion of capital in the older countries been relieved by advancing it to the undeveloped countries. The period from 1815 to 1845 was one in which this pressure of surplus capital was felt with great intensity in England. The economists, who had been saying with Malthus that the country was suffering from over-population, began to complain of over-accumulation of capital as well. It was pointed out that this accumulation was lowering the rate of profit on investments by the intensity of competition caused among investors and was leading to reckless speculation and financial crises. Hence Englishmen eagerly accepted foreign investments, and it was estimated that they held, by 1840,

$200,000,000 in American securities.[1] In later times Noyes has vividly set forth the eagerness with which Great Britain was engaged, from 1886 to 1890, "in developing the resources of young foreign communities, taking securities in payment."[2] During the five months from February to August, 1890, £100,000,000 in new securities were brought out on the London market. Only by some such process as this could the great and rapid development have occurred which has taken place west of the Mississippi, in Australia, in Japan, and in South Africa within the memory of men still young.[3]

Another method of bringing to the aid of undeveloped countries the savings of the older ones is the granting of long commercial credits. In ancient times the capitalists of Athens were in the habit of advancing the commercial capital needed by a great part of the inhabitants of the Mediterranean coast. In the time of Colbert, the Dutch gave twelve months' credit in Europe, and in Brazil, at the end of the eighteenth century, the English gave a credit generally of twelve to sixteen months.[4] How this system of commercial credit worked out in English dealings with Americans early in the nineteenth century has been thus described:[5]

"Englishmen bought nearly all of our products for cash, sold their own to us on credit, and in addition supplied us with letters of credit against which we could draw in all parts of the world. The effect of such an arrange-

[1] Callender, in *Quarterly Journal of Economics* (November, 1902), XVII., p. 144.

[2] *Thirty Years of American Finance*, p. 156.

[3] Foreign capital invested in the United States was estimated in 1895 to amount to $2,500,000,000.—*Vide Modern Banks of Issue*, p. 526, n. The British capital invested in joint-stock companies in Australia in 1897 was £386,801,000.—London *Economist* (September 17, 1898), LVI., p. 1353.

[4] Roscher, II., pp. 121, 122.

[5] Callender, in *Quarterly Journal of Economics* (November, 1902), XVII., p. 145.

ment would obviously be to replace American capital engaged in foreign trade by English capital supplied by the great Anglo-American mercantile houses in London and Liverpool or by the numerous joint-stock banks which eagerly discounted the paper of these houses. The American capital thus liberated from trade became available for carrying on the various improvements within the country."

In these advances of the capital of the richer countries to those about entering upon their economic career, the mechanism of banking has played an important part. But organized banks have come into being only with the division of labor, the extension of commerce, and the guarantee of security and order. Thus, in the American colonies before the Revolution of 1775, there were no commercial banks, strictly speaking, because the activities of the people were chiefly agricultural. As Eliason declares: "The merchants were the bankers for the colonists." [1] It was with the rise of manufactures that banking needs became more extensive and banking rose to the dignity of a separate profession. In the Middle Ages, although the Jews had introduced at Lyons and elsewhere general and special deposits, loans, payments at distant points, and drafts by bills of exchange, the banking business was condemned by circumstances to remain a tender and obscure blossom until, at the beginning of the fifteenth century, peace and security permitted its sudden bloom.[2] How rapid was this evolution of capital in the sixteenth and seventeenth centuries, and how comprehensive was its influence upon civilized society, has been graphically set forth by Bucher: [3]

"Mercantile capital was no longer content with the importation and re-exportation of foreign products; it

[1] *The Rise of Commercial Banking Institutions in the United States*, p. 48. [2] Vigne, p. 53.
[3] *Études d'Histoire et d'Économie Politique*, p. 102.

became producing capital (*verlagskapital*) for native industry and for the surplus production of rural domestic activity. There appeared production by the wholesale, with division of labor in manufactures and factories, and as a consequence a class of wage-workers. The exchange banks of the Middle Ages were superseded, first by banks of deposit and transfer, then by modern institutions of credit. The system of transportation, which had formerly been an integral part of the system of commerce, became an independent enterprise. A public post was established, journals were founded, a national commercial fleet was constructed, and a system of insurance was inaugurated. Everywhere emerged the new institutions which had for their object the satisfaction of the economic needs of great numbers, a national industry, a national market, national commercial establishments; everywhere prevailed the principle of capitalistic commercial enterprise."

In the process of transferring capital to new countries, investment in banking capital itself has been an important factor. Fully two-thirds of the capital of the first bank of the United States was owned in England, and, while this was a source of unpopularity to the bank, it placed at command of Americans a much-needed fund for developing national resources. Even within the country itself capital has been attracted from the East into the banks of the West to the amount in certain sections of fifty per cent. of the national banking capital employed.[1] In Paris, Berlin, and pre-eminently in London, the imposing offices of colonial banks and the dealing in their shares on the stock exchange indicate the

[1] *Vide* Report of the Comptroller of the Currency, 1897, p. 349. Barnett declares that "The stock of national banks is probably a more attractive investment for Eastern capitalists than the stock of state banks, because the Eastern investor is better acquainted with the provisions of the National Banking Act."—*State Banking in the United States*, p. 101.

important portion of national capital which has been put at the disposal of the colonies and of foreign countries. Thirty-three colonial joint-stock banks with London offices showed paid-up capital at the close of 1904 to the amount of £53,014,750 ($260,000,000), with deposits and current accounts of £211,479,407 ($1,030,000,000). Such institutions as the Bank of New South Wales, the Standard Bank of South Africa, the Chartered Bank of India, Australia, and China, and the Bank of Montreal, largely owned in Great Britain, illustrate the manner in which British capital is placed at the command of British colonists in all parts of the world.[1]

[1] London *Economist*, October 22, 1904.

II

THE DEVELOPMENT OF DEPOSIT BANKING

Recent growth of the check and deposit system—Relation to the issue of notes—Origins of deposit banking in England—Changes in proportions between capital and deposits in state and national banks of the United States—Elasticity and adaptability of deposit currency—Relation between commercial and other types of banks—Functions of savings and mortgage banks—Growth of banking resources of the world.

A FORM of currency whose importance has been often overlooked, because of its comparatively modern development and its freedom from legislative control, is the deposit and check system. For practical purposes, where the community is willing to accept checks in payment, they serve the same purpose as bank-notes. Only by degrees has the check and deposit system of receipts and payments superseded in a large measure the use of money and bank-notes, but within the past generation and in Anglo-Saxon lands it has come to constitute much the most important part of the medium of exchange.

A bank deposit consists of money or titles to money intrusted to a bank by its clients. The popular impression of deposits in banks is that they are made in money. This impression is well founded to the extent that they are titles to money, but only a small percentage of deposits is made in gold and silver coin, or even in legal-tender notes and bank-notes. In Anglo-Saxon lands, upon the average, fully nine-tenths of the deposits made with a bank from day to day con-

sist of instruments of credit which are titles to money, rather than of money itself. In a case where there is but one bank in a community, the deposit of such titles drawn upon the bank itself simply results in a transfer of the credit obligation of the bank from one depositor to another without changing its aggregate liabilities. Transfer checks of this sort do not differ in character from the transfer receipts of the Bank of Amsterdam, except that the bank, instead of holding against them metallic money for their full amount, holds only such an amount as its officers consider essential to meet demands. In other cases, however, titles to money deposited with a bank by its clients are drawn upon other institutions. The bank in this case acts as the agent of the depositor in collecting from the bank upon which the check is drawn metallic money or its equivalent.

A check is a written order addressed to a banker, directing him to pay to a person designated in the check a specific sum of money from money or titles to money which are to the credit of the maker of the check. These checks were known originally in England as "cash notes," but whatever their name, they conform to the definition of their status given by MacLeod: [1]

"These paper documents neither create nor extinguish liabilities; they merely record them on paper for the purpose of transferring them to some one else."

The fact that the bank-note was an evolution from the written check has been pointed out in dealing with the origin of bank-notes. The evolution became so complete at a certain stage of banking history that the note came to be regarded as an instrument possessing an essentially different character from the check, and it has required much argument by economists to re-establish the principle that the note and check are essentially different forms of the same thing—command over metallic money.

[1] *Theory and Practice of Banking*, I., p. 331.

The subject seems to have been better understood by early American statesmen than by later ones. Hamilton, in his report on a national bank soon after the organization of the government, defined the functions of banking thus:[1]

"Every loan which a bank makes is, in its first shape, a credit given to the borrower on its books, the amount of which it stands ready to pay, either in its own notes or in gold or silver, at his option. But, in a great number of cases, no actual payment is made in either. The borrower frequently, by a check or order, transfers his credit to some other person, to whom he has a payment to make; who, in his turn, is as often content with a similar credit, because he is satisfied that he can, whenever he pleases, either convert it into cash, or pass it to some other hand, as an equivalent for it."

Gallatin also, the Democratic successor of Hamilton, put the matter even more directly:[2]

"Any person depositing money in the bank, or having any demand whatever upon it, may at his option be paid in notes, or have the amount entered to his credit on the books of the bank. The bank-notes and the deposits rest precisely on the same basis: for immediate payment on the amount of specie in the vaults; for ultimate security on the solidity of the debtors of the bank."

In support of his position, Gallatin called attention to the drafts for $5, drawn by branches of the Bank of the United States on the bank, which circulated in his day in common with the usual $5 notes. Similar drafts varying in amount to suit the convenience of purchasers, were daily drawn by the bank on its offices, and by those offices on each other, or on the bank. Many of those drafts passed through several hands, and circulated several months, before they were presented for payment,

[1] Reports of the Secretary of the Treasury, I., p. 55.

[2] "Considerations on the Currency and Banking System of the United States," *Writings*, III., p. 267.

and of them Gallatin declared that they were "of the same character, depend on the same security, and in case of failure would share the same fate with bank-notes." [1]

While the bank-note has played, and seems likely to continue to play, an important part in banking transactions, it represents only one step in the evolution of the system of deposit banking and transfers by checks and other credit instruments. The power of note issue becomes of subordinate importance where the deposit system has been generally introduced and commercial credit has become highly concentrated. The realization of this fact was already dawning upon the more advanced thinkers of Great Britain, when Bagehot declared that probably up to 1830 in England the main profit of banks was derived from the circulation. But he added: [2]

"For many years after that the deposits were treated as very minor matters, and the whole of so-called banking discussion turned on questions of circulation. We are still living in the *débris* of that controversy; for as I have so often said, people can hardly think of the structure of Lombard Street except with reference to the paper currency and to the Act of 1844 which regulates it now. The French are still in the same epoch of the subject; their great *enquête* of 1865 is almost wholly taken up with currency matters, and mere banking is treated as subordinate. And the accounts of the Bank of France show why: the last weekly statement before the German war showed that the circulation of the Bank of France was as much as £59,244,000, and that the private deposits were only £17,127,000; now the private deposits are about the same, and the circulation is £112,000,000. So difficult is it in even a great country like France for the deposit system of banking to take root, and establish itself with the strength and vigor that it has in England."

The restrictions of the Act of 1844 upon the issue of

[1] *Writings*, III., p. 265. [2] *Lombard Street*, Works, V., p. 58.

notes have been keenly realized in England on occasions when suspension of the credit of individuals and of the joint-stock banks has intensified the demand for money; but under normal conditions the English people no longer feel greatly the fetters imposed upon their monetary circulation, partly because their ample resources permit them to retain a large gold currency and partly because the check and deposit system provides them with a currency of almost infinite elasticity nearly as effective in commercial operations as are printed bank-notes. Their experience verifies the keen analysis of Juglar regarding the historical development of banking:[1]

"In the beginning, when the transactions of a country are recent, operations are conducted largely for cash; but, as soon as credit intervenes, the advantages of banks, of their branches, and of the issue of their paper make themselves felt, and a plurality of institutions of credit then renders the greatest services. Later, when by the discount of commercial paper the use of deposit accounts has become a habit, the bank note, which fulfils the double rôle of agent of circulation and temporary capital, intervenes less and less in this last form. The little which remains in the hands of the public serves, like a money of account, for paying for the daily purchases which one does not settle by a credit transfer by means of deposits and current accounts. In the presence of a portfolio (discounts and advances) which continuously increases and which assumes proportions unknown until the present time, the sum of notes in circulation remains stationary or rather diminishes, and the sum of deposits on current account increases even to equalling the amount of the advances granted by the banks. This equilibrium obtained, the mechanism of banks leaves nothing to be desired, and paper, which has permitted this result by degrees to be attained, has already almost disappeared."

[1] *Des Crises Commerciales*, p. 184.

So important, however, was the function of note issue in the infancy of banking, that because the charter of the Bank of England prohibited the issue of notes by a corporation of more than six persons, it was long supposed that this precluded any form of deposit banking in England. When it was discovered in 1823 that the charter of the bank did not prevent public banks for deposit of capital from being established, there was still, because of the novelty of the new view, hesitation to compete with the monopoly of the Bank of England. It was not until ten years later that an opinion was obtained from the law-officers of the crown in favor of the right to set up joint-stock banks, and not until 1844 that they were given the full privilege of incorporation as joint-stock companies.[1] The London and Westminster Bank, which had been originally a private partnership, was first to take advantage of this permission. Other joint-stock banks rapidly followed, and deposit banking soon became a recognized part of the English banking system.

The beginnings of deposit banking were modest in comparison with its great development in recent times. The joint-stock banks were not favored children of the English laws, and as late as 1857 the governor of the Bank of England thought it a legitimate subject of warning that those of London had deposits of £30,000,000 with capital of £3,000,000 and reserves of only £2,000,000.[2] But with the process of time the other joint-stock banks have far outstripped the Bank of England in the competition for deposits. The joint-stock banks of England and Wales had at the close of 1904 deposits amounting to £642,285,967, of which the Bank of England contributed only £59,274,759, or less than one-tenth of the whole. The amount of note issues of all these banks was £29,364,509, of which the Bank of England had £28,868,790. Thus the deposits of the joint-stock banks were in the

[1] Gilbart, II., p. 153.

[2] *Vide* Bagehot, *Lombard Street*, Works, V., p. 164.

ratio of more than one thousand times their note issues and were more than twenty times the entire volume of bank-notes in circulation in Great Britain.[1]

In the United States the progress of deposit banking has followed similar lines. Banking business was done early in the nineteenth century with capital and note issues rather than deposits, as in the case of Scotland and France. The relatively small part played by deposits in the business of state banks before the Civil War is shown by these figures:[2]

STATE BANKING PROGRESS BEFORE THE CIVIL WAR

Year	*Loans and discounts*	*Capital*	*Circulation*	*Deposits*
1834.....	$203,818,030	$119,319,882	$57,572,674	$56,336,363
1844.....	265,179,886	199,108,142	76,721,527	85,620,383
1854.....	630,320,923	318,530,710	208,973,278	190,423,138
1861.....	653,695,548	399,632,660	186,669,782	252,239,478

Examination of these figures shows that deposits were only barely equal to circulation up to 1844, that the two together were less than banking capital, and that even up to the Civil War deposits did not much exceed circulation, and did not equal the capital of the banks. Hence it followed that the loans made by the banks were made chiefly from capital actually invested in bank stock rather than by the accumulated deposits of the people. How radically these conditions have changed within the past half-century is indicated in part by the following figures of the growth of the national banking system:[3]

[1] Palgrave computed that in 1900 the total deposits, current accounts, and note circulation of all the banks publishing accounts in the United Kingdom was £889,600,000 ($4,335,000,000) and that the proportion of the reserve held by the Bank of England against all these liabilities was only 2.41 per cent.—*Bank Rate and the Money Market*, p. 104.

[2] "Monthly Summary of Commerce and Finance," Bureau of Statistics, Treasury Department, July, 1898, pp. 215–225.

[3] These figures are from the reports made to the comptroller of the date nearest to January 1st of each year named.

GROWTH OF NATIONAL BANKS

Year	*Loans and discounts*	*Capital*	*Circulation*	*Individual deposits*
1865...	$166,448,718	$135,618,874	$66,769,375	$183,479,636
1875...	955,862,580	495,802,481	331,193,159	682,846,607
1885...	1,234,202,226	524,089,065	280,197,043	987,649,055
1895...	1,991,913,123	666,271,045	169,337,071	1,695,489,346
1900...	2,479,819,494	606,725,265	204,925,357	2,380,610,361
1905...	3,728,166,086	776,916,147	424,345,432	3,612,499,598

These figures indicate in a striking manner how much more rapidly deposit currency has grown than either note circulation or capital stock. As recently as in 1875 the ratio of deposits was only about two-fifths larger than capital and twice the amount of the circulation; in 1905 it was five times the capital and nearly nine times the circulation. Put in a more striking form, loans and discounts were made in 1875 to the extent of about eighty-five per cent. from capital and circulation; in 1905 they were made only to the extent of about thirty per cent. from capital and circulation, the remaining seventy per cent. being made entirely from funds intrusted to the banks by the public.

The large proportion of bank funds which are thus derived from the deposits of individuals have materially changed the character of banking. In 1875 a large proportion of the capital could be employed in making loans, because only a minor part was required as a reserve against deposit and note obligations. In 1905, on the other hand, the capital sank substantially to the position of a guarantee fund against obligations more than five times as great, because the great mass of credit intrusted to the banks by the public was available for making loans. Even these figures do not reveal the full scope of the change in the character of banking in the United States. They relate only to the national banks, while within a generation has grown up a hierarchy of state and private banks and trust companies, which have no power to issue notes and therefore rely wholly upon capital and deposits for carrying on their business. The

rapidity with which such banks have developed is indicated by the following figures: [1]

GROWTH OF STATE BANKS AND TRUST COMPANIES

Year	*o. banks*	*Capital stock*	*Individual deposits*
1882.....	5,063	$234,900,000	$1,718,700,000
1892.....	5,579	386,394,845	2,911,594,571
1902.....11,621		638,169,862	6,484,440,006
1904.....13,513		706,526,526	7,136,106,149

These amounts include deposits in savings banks, which are not usually employed in making commercial loans; but even with their amount deducted, which was $3,060,178,611 in 1904, resources of state and private banks and trust companies are in excess of those of national banks, and indicate how largely modern banking is conducted through the system of voluntary deposits and transfers of capital by means of checks. State and private banks have sprung up in large numbers in the United States even in those sections where the function of note issue would have been of value if not hedged about by the special restrictions of the National Banking Act. Even where state laws have been based in part upon the national law, which represented the best-known legislation on the subject, they have, in the language of Barnett, been "the product of economic needs which the National banks did not satisfy." [2] That they grow apace in the face of the great reputation of national banks and without the ability to avail themselves of individual savings by the power of note issue is convincing proof of the growing favor of the system of deposit banking.

On the European Continent the deposit system has in recent times obtained a firm footing, but not yet so wide an extension as in Great Britain and the United States. Its growth, however, has been notable within a genera-

[1] Report of the Comptroller of the Currency, 1904, p. 52. These figures are partly estimated.

[2] *State Banking in the United States*, p. 13.

tion. No further back than 1880 the Bank of France held discounts to the amount of 761,300,000 francs ($150,000,000), while the five large banking societies of Paris held only 532,000,000 francs ($106,000,000). In 1890 the situation had so changed that the discounts of the Bank of France were 584,400,000 francs and those of the five stock banks 907,800,000 francs. At the close of 1904 the discounts of the Bank of France stood at 765,280,000 francs, while those of the five chief commercial banks had risen to 2,150,000,000 francs. The ratio of discounts, therefore, at the Bank of France, fell from about fifty-nine per cent. of the total discounts in 1880 to about twenty-five per cent in 1904. The manner in which the deposit banks are attracting deposits by paying a low rate of interest is indicated by the increase of current accounts, deposits, and acceptances from 1,074,000,000 francs in 1880 to 3,500,000,000 francs in 1904.[1]

It is the deposit currency, based upon commercial operations, which has come in recent times to be so important a part of the resources of banking as to almost justify the theory of those who would separate it from metallic money and base it purely upon exchange of goods. Thus Lord Farrer suggests that under modern credit operations we are returning to "a state of barter in which money is merely the measure and language, not the actual medium of exchange, and in which personal rights and duties take the place of cash."[2] The discussion of the relation of such obligations to the metallic standard has been anticipated in dealing with the elements of credit. In actual banking operations the banker who loses sight of the fact that instruments of credits are obligations to deliver metallic money soon meets disaster. In the conduct of his business, however, he soon discovers the practical error of the other extreme —that his "deposits" consist entirely or chiefly of cur-

[1] *Économiste Européen* (March 10, 1905), XXVII., p. 297.
[2] *Studies in Currency* (1898), p. 84.

rency. He finds them consisting rather of that great variety of credit instruments so well set forth on its practical side by Fiske: [1]

"There may be checks drawn by other depositors on this same bank, checks upon other banks which are members of the same clearing-house, checks upon banks or trust companies which are not members but make exchanges through some bank that is a member, checks or drafts upon banks, trust companies or other concerns from which direct collection will have to be made, sight drafts upon individuals or business houses in town, checks upon banks and drafts upon persons or concerns out of town. There may also be matured interest coupons, and almost any authenticated item that is payable or collectible on demand, even including a matured note payable at a bank, provided a certification has been obtained at that bank insuring its payment."

It is the expansion and contraction of these forms of currency which mark periods of business activity or business depression, but which escape legal regulation because they are the result of business transactions rather than the cause of them. Such currency under sound business conditions is convertible into metallic money, just as are the more formal kinds of currency in the form of printed notes. This obligation is recognized by law in the United States and in some other countries, and has become a rule of practice in all countries where deposits have come to constitute an important proportion of the means of exchange. It is the expansion and contraction of this currency which mitigates the severity of the operation of changes in the stock of legal-tender money, even though it responds in a measure to the movements of such money. This currency has come to constitute the great element of elasticity in the tool of exchange in countries where it is well established. In

[1] *The Modern Bank*, p. 51.

both Great Britain and America especially, and to a growing extent in all civilized countries, it conforms to the requirements of an elastic currency in the manner laid down by Dunbar:[1]

"It adapts itself to the demand of the moment without visible effort and either by expanison or contraction, as the case may be; and it does this quite irrespective of legislative purpose or guidance. From the figures, indeed, the conclusion is irresistible that, if for any reason the creation of deposit currency through the agency of the national banks is hindered or limited, it will make its growth by means of state banks; and if not by these, then by a system of private banking, which no legislation can touch, until the government shall assume the power of declaring whether A may owe B or not."

Upon banks which conduct their business chiefly with the capital of others, repayable on demand, are imposed substantially the same obligations as to the convertibility of their assets as upon banks of issue. They differ essentially from those institutions which receive deposits for fixed terms or for investment.

From this fundamental distinction arises the division of banking institutions into different types, and from neglect of it, as we shall hereafter see, arises one of the chief dangers of a commercial crisis. The great diversification of modern financial enterprises has caused a differentiation of banking institutions which has adapted them to the local needs of different communities. It is beyond the scope of a work dealing purely with money and substitutes for it to enter into a minute account of the various forms which modern banking activity has assumed, but it is within its scope to indicate the degree in which each of these forms is related to the fundamental requirement of commercial banking—that the assets shall be convertible without delay into metallic money.

[1] *Economic Essays*, p. 178.

For the purposes of this distinction banks may be divided into:

(1) Commercial banks.
(2) Exchange banks.
(3) Savings banks.
(4) Mortgage banks.
(5) Financial banks.

Only the first two classes are justified in drawing their resources chiefly from deposits repayable on demand. The practice of a commercial bank should conform essentially to the requirements of a bank of issue—that its assets should consist of commercial paper maturing at short terms or of negotiable securities of a sort having a wide market. The deposits should be constantly studied to determine whether in emergency they would prove a source of strength or weakness. Obligations of merchants to the bank constitute a sound offset to that part of the deposits which consists in credits given by the bank itself to the depositor, for when such obligations are paid deposit liability is reduced. Between this class of deposits, however, and those where no counter-credit is given exists a distinction which in Europe is recognized by distinctive names. "Current accounts" (*comptes courants*) at continental banks are the accounts of borrowers from the bank, and both debtor and creditor current accounts figure largely in the balance-sheet. When a merchant, as Courcelle-Seneuil declares, possesses capital beyond the needs of his business, when his sales are regular and he follows up his collections vigorously, his current account habitually balances by a credit in his favor which constitutes a real deposit with the banker.[1] It is the direct deposits, which may be withdrawn by their owners in periods of impaired confidence, which it is especially necessary to protect adequately by money.

An exchange bank is more apt than most of the other

[1] *Traité des Opérations de Banque*, p. 105.

classes to do business with its own capital; but even under such conditions it is bound by the law of self-preservation to keep its resources in readily convertible form. Dealing in exchange and in commercial credits is an incidental function of many commercial banks, but in Europe is a specialty of foreign and colonial banks, which until recently had their headquarters almost exclusively in London. They have few direct deposits, but often hold large sums to the credit of clients whose bills of exchange they buy in Asia, Africa, and Latin America. This class of business affords so little risk when properly guarded and handled by experts that the principal banks of France and Germany, which have recently been establishing branches in London, are threatening by their low rates to seriously embarrass their English competitors.[1] The German as well as the English banks usually exact the custody of the documents upon which bills of exchange are based, but in a small minority of cases accept the engagement of a known and substantial exporter or importer.

Savings banks are in a sense further removed from commercial banking than almost any other class of banks, but their large accumulations of current savings and their purchases of negotiable securities give them an influence in the market for capital which cannot be ignored. Almost invariably savings deposits are repayable only upon notice, and deposits so much exceed withdrawals that no considerable reserve in legal-tender money is required. Occasions sometimes arise, however, in which even savings banks feel the need of ready cash. This would be the case in Great Britain if there should be large demands for the repayment of deposits, such as actually occurred in France in 1902 and 1903; for the deposits in the British postal savings banks are subject to repayment at call.[2]

[1] Sayous, *Les Banques de Dépôt*, p. 303.

[2] "In any time of pressure the Postmaster-General would have

In most countries the principal subject of savings-bank investments is government bonds or mortgages on real estate. For many years the increase in deposits of the English postal savings banks created such a steady market for consols, in which the deposits were invested, that the price of consols rose to a point which afforded a net return less than the interest allotted to depositors, and compelled the government to reduce the rate of interest.[1] In France also the policy of investing the savings-bank funds in public securities has acted as a powerful support to national credit, but here again, in the opinion of J. H. Hamilton, "the gain of the state has proven the loss of depositors, for it has caused a continuous rise in government stock, and a corresponding decrease in interest."[2] In other countries investments are permitted in real-estate mortgages, as in Prussia, or in a variety of securities, as in Belgium.[3]

The savings banks, therefore, are serious competitors for capital in process of formation. Their officers are constantly in the market for securities, bidding against direct investors. How serious this competition has become appears from the fact that deposits in the savings banks showed a net increase in the United States in 1904 of $125,000,000; in Great Britain in 1901, $25,000,000; in Russia in 1903, $115,000,000;[4] and even in Italy in

to apply to the Bank of England, exactly as other bankers would do, for assistance. He would have to ask for an advance on his Consols, and would have to draw the amount lent him in bank-notes and sovereigns. His demands would cause a very serious addition to the troubles of such a moment."—London *Bankers' Magazine* (February, 1905), LXXIX., p. 162.

[1] It was estimated in 1901 that the continuance of the old rate to depositors (2¾ per cent.) would cost the Exchequer, from 1903 to 1908, £1,864,563 ($9,090,000).—*Vide* Raffalovich, *Le Marché Financier en 1902–03*, p. 393.

[2] *Savings and Savings Institutions*, p. 387.

[3] *Vide* "Les Caisses d'Épargne à l'Étranger," in *Économiste Français* (December 27, 1902), p. 879.

[4] *Économiste Européen* (January 6, 1905), XXVII., p. 24.

1904, $15,000,000.[1] In the chief civilized states these deposits reached an aggregate in 1903 of not less than $10,609,885,102.[2]

A mortgage bank is an institution which lends money on real estate. As these banks are organized on the European Continent, they give a certain degree of transferability to interest in real estate by conversion of the mortgage into negotiable bonds. The limit of such loans is indefinitely expansible by new sales of bonds to the public, without increase of the capital of the lending bank and without serious increase of its risks if sound principles are followed in making loans.[3] The investor enjoys the ownership of a divisible security which he can part with at will at a price comparatively stable, instead of dealing with a single mortgage, for which he might find it difficult in case of need to find a purchaser. As the function of such securities is set forth by the thoughtful Mexican financier Casasus:[4]

"Mortgage bonds (*bons hypothécaires*) work a complete transformation in mortgage securities. They release them from all the troublesome formalities with which civil legislation has surrounded them, they simplify their mechanism and raise them to the dignity of the commercial law. The debts which they formerly represented, which remained stationary, so to speak, in the power of the creditor, without his being able to draw from them any new profit, acquire the advantage of available capital

[1] *Économiste Européen* (January 13, 1905), XXVII., p. 60.

[2] Report of the Comptroller of the Currency, 1904, p. 40.

[3] There is no obvious reason why an honestly conducted mortgage bank should fail under the settled condition of land values in Europe; yet there was something of a crisis in mortgage loans in Germany in 1901, and Sayous declares that "the 42,000,000,000 marks ($9,900,000,000) of mortgages with which German real estate was burdened in 1900 represented a dead weight, which the money market had difficulty in carrying and which was constantly increasing."—*La Crise Allemande en 1900–02*, p. 20.

[4] *Les Institutions de Crédit*, p. 72.

capable of a new series of commercial operations with large profit to the community."

The Crédit Foncier, the principal mortgage bank in France, has mortgage bonds out to the amount of about $350,000,000; the thirty-seven mortgage banks of Germany have obligations of $2,825,000,000; the Land Mortgage Bank of Austria-Hungary has debentures of nearly $40,000,000; and the Mortgage Bank of Spain has similar obligations of $17,000,000. These institutions practically bring into the security market a large part of the land values of Europe. A mortgage bank of this sort is able every few months to offer in the market a block of securities which are eagerly subscribed for by those seeking a safe and steady investment. Against such obligations the issuing company is compelled to hold no reserve in currency, but only to be prepared to redeem its issues at the fixed dates of maturity.

Between commercial banks, with their great mass of demand liabilities, and savings banks and mortgage banks, which are practically free from such liabilities, comes a large class of institutions, both private and incorporated, which employ capital in still other ways. Many of these institutions rely chiefly upon their own capital and employ only incidentally amounts which may be lodged with them as deposits. Even where such deposits are nominally payable on demand, they are often made in large amounts by capitalists who are willing that they shall be employed in financing new enterprises and in floating securities and do not contemplate drawing upon them for current expenditures. Of such a character are many of the deposits of American trust companies. These institutions have become an important factor, not only in the custody of trust funds, for which they were originally organized, but in distributing securities and reorganizing industrial enterprises. Those of them which have a large line of deposits payable on demand usually keep adequate deposits to their credit

in a commercial bank, but as they are not the guardians of the paper currency nor the legal reserve agents of country banks (as are the national banks of reserve cities) they do not need to keep the same proportions of currency as the national banks.[1]

Greater prudence in management is required where the business of commercial banking and the financing of untried enterprises are combined in a single institution. In this respect the principal German banks were subject to some criticism after the crisis of 1901. Frobert declares:[2]

"That which made the crisis serious, and certainly more profound than it would have been in other countries, was the close relation of the large financial establishments with industrial and commercial enterprises. These relations are shown by the considerable number of corporations in which the banks are represented in some manner, but more especially in the board of direction. Thus the Deutsche Bank was represented in a hundred companies; the Dresdner Bank in about sixty; the Berliner Handelsgesellschaft in fifty or sixty."

For loans upon securities which have not a constant market a commercial bank cannot safely employ the resources intrusted to it by depositors. Such loans involve, in effect, a locking-up of capital in a permanent manner in much the same way as when it is loaned on mortgage. Cleveland makes a sound criticism in this regard of the methods of financing new flotations employed by many banking institutions in the United States prior to the stock-market collapse of 1903. He says:[3]

"The commercial bank is not organized for direct

[1] The trust companies of New York City had deposits at the beginning of 1904 to the amount of about $570,000,000 and reserves (mostly on deposit in national banks) to the amount of $124,854,495.—*Vide* the author's *Wall Street and the Country*, p. 229.

[2] *Banques de Dépôt*, p. 103.

[3] *The Bank and the Treasury*, p. 15.

capital investment. It is capitalized for the purpose of supporting its own credit obligations; and these credit obligations in turn are used as a means of purchasing the current liabilities of other business concerns. This is the business of banking. One wishing capital funds ordinarily must apply to some one having funds for long-time investment."

With the growth in savings and in private capital in recent years has gone growth in banking resources. When Bagehot (about 1876) compared the plethora of capital in his time with its scarcity in the time of Elizabeth, the combined banking credits of the four chief money centres of the world—London, Paris, Berlin, and New York — were about £200,000,000 ($965,000,000). As late as 1890 the banking power of the world, as estimated by Mulhall, was $15,985,000,000, of which the United States were credited with $5,150,000,000, or less than one-third. According to more recent compilations, banking power increased within a dozen years after 1890 by $8,676,000,000 in the United States alone, or 168.47 per cent., and in other countries by $8,946,000,000 or 82.57 per cent., and the combined banking power of the world rose to $33,600,000,000—an increase in fourteen years of 110.25 per cent.[1]

Included in this aggregate are the resources of the savings banks and of mortgage and finance banks. While these are not so closely related to the stock of floating capital and of currency as are strictly commercial banks, yet the entire mass of credits thus represented by banking power plays a part in the mechanism of exchange, whose wise management is the important trust of the modern leaders of finance.

[1] Report of the Comptroller of the Currency, 1904, p. 42

III

THE FUNCTION OF THE BANKER

Its importance in modern society—Definition of banking—Origin of the word "bank"—How the banker economizes the use of money by keeping it for hire—How he determines the direction in which capital shall be invested—Danger of locking up assets in security which is not readily convertible into money—Relation of the banker to the promoter—Obligation imposed upon the banker to be prudent and exacting.

THE function of the banker is similar to that of modern means of transportation, in seeking to accomplish the largest volume of results with the greatest saving of effort. The use of money is a long step in economy of effort and in making easy the exchange of goods. The function of the banker lies in economizing the use of money, and thereby in further diminishing the cost and effort of exchange. This much is fairly well understood; but there are few probably, even among those who have given some thought to the subject, who have given a satisfactory answer to the question in just what manner the banker serves the community.

The definition of the banking function itself offers one of the first difficulties in the discussion of the subject, because of the great variety of services rendered by banks and the different classes of banking institutions among which these services are distributed. Dunbar declares that "a bank may be described, in general terms, as an establishment which makes to individuals such advances of money or other means of payment as may be required and safely made, and to which individuals intrust money

or the means of payment, when not required by them for use." [1] A more precise definition is given by a French law writer, Gautier, as follows: [2]

"Taken in its general acceptation, the word 'bank' expresses among us to-day the business which consists in effecting on account of others receipts and payments, buying and selling either money of gold and silver, or letters of exchange and drafts, public securities, and shares in industrial enterprises — in a word, all the obligations whose creation has resulted from the use of credit on the part of states, societies, and individuals."

The word "bank" is traceable to public loans made by the Italian cities rather than to the business of banking as understood in later times. The usual Italian name of a public loan was *monte*, signifying a joint-stock fund. The Germans were influential in Italy during the Middle Ages, especially about the time when a forced loan of one per cent. was levied by the city of Venice in 1171 upon the property of all citizens. Their name for a joint-stock fund was *banck*, meaning a heap or mound, which the Italians converted into *banco* and employed for an accumulation of either stock or money. The definition of a bank given in an Italian dictionary in 1659 was "Monte, a standing Bank, or Mount, of money, as they have in divers cities in Italy." A more recent writer, Cibrario, says, "Regarding the Theory of Credit, which I have said was invented by the Italian cities, it is known that the first Bank, or public debt (*il prio Banco o Debito Pubblico*) was erected in Venice in 1171." [3]

[1] *Theory and History of Banking*, p. 9.

[2] Article "Banque," in *Dictionnaire du Commerce, de l'Industrie et de la Banque*, I., p. 404.

[3] MacLeod, *Theory of Credit*, II., p. 578. MacLeod insists that the common derivation of the word "bank," from the counter upon which the money-changers kept their money, is without foundation. He says, "the Italian money changers, as such, were never called *Banchieri* in the Middle Ages."

The word was adopted into English, meaning indifferently public loans or stocks of money. Benbrigge, in 1646, speaks of the "three Bankes" at Venice, meaning the three public loans or *Monti*. The issue of paper money directly by the state was spoken of as "raising a Banke" in colonial days in Massachusetts, the word "bank" standing for the money rather than the institution which put it in circulation.[1]

One of the first of the public banks of the Middle Ages was the *Monte della Pieta*, or pawn bank, of Naples. The Jews were forbidden by Ferdinand the Catholic in 1507 to institute legal actions against borrowers upon written instruments. This led the Jews to exact tangible security for loans. Their exactions were so excessive on the occasion of the large loans made by the nobles for the entertainment of Charles V. that they were expelled from the kingdom. Their Christian successors proved no less exacting, and the outcome was the creation of a philanthropic establishment for making loans on pledges, founded by two eminent Italians in 1539 or 1540. Current accounts were opened in 1573 and transfers permitted by means of checks and orders.[2]

The primary function of a commercial banker is that of a broker and dealer in money. It is his mission to provide money for those who need it — to keep it for hire, just as a livery-stable keeper keeps horses and carriages for hire. The fact that money can be had at a bank diminishes the necessity that an individual should keep it, just as the fact that bread can be bought at the baker's and carriages hired at the stable obviates the necessity that every individual should keep a large store of bread and his own carriage to guard against possible need for them. Hence arises the economy in the use of money promoted by banking credit. The borrower who needs gold or its equivalent to meet certain demands

[1] Weeden, p. 318.

[2] *A History of Banking in all the Leading Nations*, III., p. 156.

does not bury it or hoard it long in advance of his future needs, as was done among barbarous people, and is still done in India and China, because he knows that it will be much more economical to go to the shop where money is kept and buy it by the offer to repay it with interest at a future date, or by delivery into the hands of bankers of some security which can be converted into money.

The banker, under the operation of the processes which have been set forth, holds out the continuous offer to supply coined money against his obligations when it is needed. By making himself the custodian and his bank the reservoir of such money, he relieves individuals from keeping it on hand. Those who possess coined money are willing to surrender it to him in exchange for deposit receipts or for books of checks, which they can fill up with positive demands for coined money, to the limit of the amount which they have intrusted to the keeping of the banker. The merchant who sells goods and takes money in payment postpones the acquisition of goods, which he would necessarily make if he exchanged his goods directly by barter for other goods. He therefore possesses stored purchasing power which he might hoard until such time as he had purchases to make. In intrusting this to the banker, he does not create new capital or secure any credit for himself. He simply transfers to the banker the stored purchasing power which he possesses. If payment for the goods has been made in coin and it is this coin which is transferred to the banker, there is no creation of new capital, and only in a narrow sense a creation of credit. If the banker in his turn transfers coin to the borrower, he transfers to him also actual stored purchasing power.

The real nature of these transactions does not differ materially where the banker accepts, instead of metallic money, checks, foreign bills of exchange, or drafts. He accepts these titles in the belief that they are issued by persons having metallic money or power to obtain it,

and that they are convertible into such money without loss. If he accepts a check drawn by one of his depositors as a deposit by another, he simply saves them and himself the trouble involved in paying out metallic money to one and receiving it back from the other. Errors sometimes occur in the estimate made by a banker of the character of the promises or titles which he thus receives. But it is evident from this analysis that in these transactions the element of credit is a smaller or at least a more precise factor than is often believed.

The point at which credit enters in an important degree into the transaction relates to the question of the ability of the borrower to repay his loan on the date named. The depositor, when he transferred his money to the banker, possessed purchasing power which he might have exchanged at once for other commodities than those which he produced. In intrusting this purchasing power to the banker, with implied permission to transfer it by way of loan to others, he permitted the banker to divert this purchasing power to a holder who avowedly had not capital of his own in such form in the amounts which he desired. The borrower takes the capital in the implied belief that he can so employ it as to have at his command, at that date in the future set forth in his contract with the banker, metallic money or stored purchasing power sufficient to discharge his debt. In this sense the declaration of Guyot is justified, that "the great rôle of credit is to save time, just as the means of transportation have for an object the shortening of distance." [1]

From the fundamental function of the banker as a keeper of money on hire arises, therefore, his auxiliary function in gathering up the money of the people in order to reduce the stock of idle money in their hands to the lowest limits and to thereby insure the greatest economy

[1] *L'Économie de l'Effort*, p. 111.

in the investment of the capital of the community in actual currency. Hence it comes that the banker solicits the deposits of even the smallest owners of money, that he may combine these small holdings into amounts large enough to be used profitably in loans for carrying on important business enterprises. The functions of the banker are thus set forth by Courcelle-Seneuil: [1]

"Considered in its broader aspects and from the point of view of social utility and public service, the banking business has for its object:

"1. To give steadiness and uniformity in some degree throughout the commercial world and its several parts to the price of money and the precious metals.

"2. To serve as an intermediary between capital seeking investment and labor seeking capital,—to create, in fine, a sort of public market where the establishment of a current price tends to conform individual contracts to a uniform rate.

"3. To transfer and exchange the various titles to property in capital measured in money in a manner to economize, by clearing the results of commercial sales against each other, payments in specie and the actual transfer of money."

It is in gathering up the capital of others through the deposit system that the commercial banker renders one of his essential services to the community. It is the performance of this function which distinguishes an advanced economic society from a society which is backward in economizing the use of money. So striking are the benefits of this economy that some writers have denominated it the actual creation of capital.[2] The benefits which the public confer upon banks by their direct deposits and by

[1] *Traité des Opérations de Banque*, p. 69.

[2] Thus MacLeod declares that "money and credit are essentially of the same nature; money being only the highest and most general form of credit; they are each a right or title to demand some product or service in future."—*Theory of Credit*, I., p. 90.

the unconscious loan involved in the acceptance of notes of the bank are fully compensated by the benefits which banks confer upon the public in gathering together small credits and adding them to the useful resources of the community. The process of these operations is thus set forth by Dunbar:[1]

"The first bankers probably had little thought of affording encouragement or applying a stimulus to the industry of the community as a whole. When they began, however, to lend their money systematically to merchants or the producers of goods, they began to give the command of capital in the enterprises where, for the time being, it was most called for and presumbly most needed. When they increased their loans of this sort, by means of the funds left temporarily in their care by persons depositing with them, they began to give to industry the benefit of capital which would otherwise have remained idle, or to secure the more speedy application of capital slowly seeking employment. The use of their own notes as the medium for making their loans, in a manner strictly analogous, gave to their borrowers the command of capital which the fluctuating body of note-holders might forbear to demand. And their practice of discounting the bills received by dealers from their customers tended to a rapid organization of credit, and, by giving the dealer the immediate use of that which was due to him at some time in the future, shortened the period required for 'turning his money' and undertaking some fresh enterprise. It is obvious that the bankers created no new capital by their lending and deposit-holding, but it is equally plain that they directed the streams of capital to the enterprises and industries requiring such support, and that they quickened the succession of commercial and industrial operations. A given amount of capital was thus made more effective, so that the result of the

[1] *Theory and History of Banking*, p. 4.

introduction of banking in any community was the equivalent of a considerable increase of capital, although not implying any real increase in the first instance."

The powerful banker has not only acquired command over the purchasing power of others, but he has imparted such confidence everywhere in his ability to fulfil his promises to pay metallic money on demand that his mere indorsement of a promise or his acceptance of some other person's promise becomes as potent in his hands as the tender of gold in the hands of others. In this manner he quickens the current of commerce and the free play of capital in a manner well described by Beauregard: [1]

"In thus discounting commercial paper, secured by good signatures, bankers not only make advances of money, but render to the public a further service, in facilitating the circulation of these instruments. A draft or a bill of exchange is accepted much more willingly when one knows that he can in case of need obtain the anticipated payment. On this side alone banking business aids the credit circulation."

It is in distributing between depositors, borrowers, and his own vaults the money intrusted to him by depositors, in such a manner that he shall always be able to repay it according to his promise, that the most delicate and important function of the banker arises. It is in the execution of this function that the modern banker has become arbiter of the direction of investment, the organization of industry, and even of the fate of nations. Simple as the process is by which the banker transfers to others the stored purchasing power which he has gathered up in small deposits from his customers who have acquired gold or the right to command gold, it is his selection among these borrowers which determines the course of the industrial progress of a nation.

Hence it comes that the banker, in the financing of

[1] *Éléments d'Économie Politique*, p. 230.

important enterprises, can within certain limits determine whether a given project shall succeed or fail. In every growing community much of the real burden of deciding upon the course of its future development lies with the banker. It is for him to determine the relative marginal utility of one enterprise as compared with another and to grant his support to the enterprise which promises the highest utility and therefore the most certain profits.[1] Thus there rests upon the banker in a sense the vital function of trustee for the community in its dealings with itself. This trusteeship is especially sacred if he deals with the money of others, as is usually the case, and not purely with money of his own.

It is at this point that the function of the banker parts company with that of the promoter. Receptive as the intelligent banker should be to new projects, he should require them to prove their worth before embarking in them the money of his depositors. This is equally true whether he hazards their capital by discounting the paper of the new enterprises or by lending too freely on their securities and thereby encouraging unsound speculation. The banker's attitude towards new enterprises should be receptive, but not creative. The latter function belongs more distinctively to the promoter, as his mission is set forth by Meade:[2]

"The promoter performs an indispensable function in the community by discovering, formulating, and assembling the business propositions by whose development the wealth of society is increased. He acts as the middle-

[1] Courcelle-Seneuil declares that "the capital of a nation is nothing else than the sum of all the utility which that nation possesses."—*Traité des Opérations de Banque*, p. 15. It is obvious that under this definition that which has ceased to be useful has ceased to be capital. It is the duty of the banker, therefore, to take note of utilities, in order to avoid dealing with material things and projects which in the sequel may prove not to be capital within this definition.

[2] *Trust Finance*, p. 62.

man or intermediary between the man with money to invest in securities and the man with undeveloped property to sell for money. In the present scheme of production, the resource and the money are useless apart. Let them be brought together and wealth is the result."

The fertility in the creation of new enterprises in modern economic society is one of the natural results of the transferability of capital which is promoted by the banking system. It is the banker largely who determines the direction of industry by his willingness to make loans to industries which are profitable because they are meeting a demand, and by his withdrawal of loans from industries which are ceasing to be profitable because of overproduction and diminished demand.

If the banker alone controlled the direction of industry, by withdrawing loans where he suspected overproduction and granting them where he saw opportunities for safe profits, his problem would be much simpler than it is in the world of realities. Other holders of money, many of them disposing of their own capital, are always competing for new and profitable commercial undertakings. The wisdom of the banker will to a certain extent determine the movement of capital on the margin between different enterprises, offering varying degrees of security and profit. It will be largely for him to decide when the margin of profitable development in any one direction has been reached and when encouragement to further expansion in that direction should cease. But it is sometimes not within the banker's power, even within the limits of a single community, to keep the course of industry within the conservative limits which he might wish. When overproduction takes place in any industry which he has aided, followed by falling prices and stagnant markets, the primary condition is threatened upon which his own solvency depends. The capital which he has advanced to this industry may then be suddenly locked up in unmerchantable products

and cease to be recoverable. It is then that the stored purchasing power intrusted by his depositors to the banker, and which he has lent to others, ceases to be readily convertible back into money.

In undeveloped countries, where banking has not settled into well-defined channels, this danger is especially great. The lesson that the business of a commercial bank should be strictly limited to loans for short terms to persons and companies capable of repaying them at maturity has been well learned in England and France, and is appreciated by the great bankers of other civilized countries. In Germany, Belgium, and Austria-Hungary, however, the rapid development of industrial enterprises from 1897 to 1901 tempted many of the large banks into loans of a character which may have aided in promoting the development of the country, but involved serious elements of risk from the stand-point of commercial banking.[1] Equally hazardous is the support of speculation in doubtful securities, for the sake of finding employment for idle capital. Such a policy may cause a fictitious enhancement of the price of such securities, which will be suddenly reversed when support is withdrawn. As Sayous points out, the rise in gold-mining stocks in Paris in recent years was the result of this policy and its reversal was the cause of their collapse.[2]

Such dangerous uses of the resources of depositors depart from the true rule of banking, and, when caused by personal interest on the part of the banker, lead to a wanton misdirection of the fund of circulating capital. Enterprises of doubtful utility are thus sustained long

[1] London *Statist* (February 24, 1900), XLV., p. 283. The dangers involved in this method of banking were brought forcibly home to German bankers during the crisis of 1901, and were the subject of earnest discussion at a convention of bankers held at Frankfort on September 18, 1902.—*Vide Moniteur des Intérêts Matériels* (September 21, 1902), p. 2782.

[2] *Les Banques de Dépôt*, p. 266.

beyond their period of usefulness, and eventually may drag down the bank which has thus abused its functions. The equilibrium between demand and supply of certain commodities being broken by the errors of producer and banker, the equilibrium between the demand and supply of metallic money may also be threatened. No one understands better than the far-sighted banker who has once confronted such conditions that cost of production does not control value when supply exceeds demand.[1] Notes which he has treated as valid promises to pay money on given dates and securities which he has believed he could convert into money, he then finds without value for this purpose or with a much lower value than that for which they were accepted.

It is because of their function in protecting the tool of exchange that bankers are justified in acting with extreme caution in making loans and in refusing support to enterprises which involve serious risk. The success of some of these enterprises may be important to the community, but the risks involved are of a character which should be assumed only by persons of a daring turn of mind who are willing to hazard their own capital. The banker is constrained to conservatism both by the fact that he is trustee of the money of his depositors and by the fact—still more important in some respects—that he is the trustee of the mechanism of credit for the entire community, whether its members are individually depositors with him or not.

These considerations explain the severity of the rules sometimes followed by bankers in new and undeveloped

[1] "However great the cost expended on an article, if the public will not have it, all the costs in Christendom will not give it a value; and, if the good continues to be dead stock, all the machinery and buildings by which it has been made lose their value, except in as far as they can be turned to other uses, and get another value from another product."—Smart, *Introduction to the Theory of Value*, p. 68.

communities. More or less unconsciously, in charging high rates for the use of money, they are collecting a necessary premium for the risks they run. While they may permit their charges in this respect to be dictated by selfishness, they are abundantly justified, when loaning upon securities in any way questionable, in accepting such securities only with an ample margin of allowance for shrinkage in their value. If such shrinkage is material, the banker takes the whole of the value which remains, often leaving the borrower by whom securities were pledged with little or nothing. Harsh as this condition has sometimes seemed in communities where values have fallen greatly, it grows naturally out of the function of the banker in its relation to other interests. The borrower takes large risks, but he also takes the opportunity of large profits. High rates for money and capital, moreover, in a community where the supply is not sufficient for all, tend to bring into operation the law of natural selection. Those enterprises whose marginal utility to the community is greatest will be able to pay the high rates charged; those whose marginal utility is relatively low will be forced by this process of natural selection out of the money market.

While the rate for the rental of money may be unduly enhanced by facts which hamper the free movement of capital, including restrictive currency laws, this rate is in itself, other things being equal, the index of the supply of capital in relation to demand and the means by which capital is directed into the channels of its greatest efficiency. Only the man who can see a large rate of profit in his projects will borrow money at a high rate; and he will find the highest rate of profit in those enterprises which have the highest social value, or at least stand in the highest estimation in the community, as shown by their returns.[1]

[1] They may not in all cases have the highest hygienic or moral value; but that has little bearing on the question discussed here,

THE FUNCTION OF THE BANKER

It is of paramount importance to every individual in a modern civilized community that banking credit should have the same solidity as coined money. Suspension of cash payments by bankers affects not only their depositors, but every one with whom these depositors deal. Every commercial banker is under contracts to deliver metallic money on demand. It matters little whether these contracts are in the form of printed notes or acknowledgments in a deposit book. The banker is a broker in money, with many contracts outstanding for the future delivery of money. As a "corner" on the stock exchange means ruin for brokers who are "short" of the "cornered" stock, so a corner in currency means ruin, primarily, for the banker if he is "short" of currency, and, secondarily, for the clients to whom he is under contract to make delivery, because they, too, are under contracts to deliver money to domestic servants, wage-earners, shop-keepers, and manufacturers.

The banker is the guardian of a mechanism whose derangement means serious embarrassment, and perhaps ruin, to every member of the community. It is enjoined upon him, therefore, to so employ the capital of which he is the custodian as to extend the greatest possible aid to those enterprises which promise the greatest sum of economic benefits, while taking extreme precautions, as trustee for the members of the community, that he shall never be unable to fulfil exactly and without grace all the contracts which he has made to deliver money.

since a low rate for money would not in any way discourage borrowing it for immoral or wasteful purposes.

IV

INFLUENCE OF THE DISCOUNT RATE

What is meant by the rate of discount—Effect of a high rate in attracting gold—Ultimate effect upon credit and the prices of merchandise—The policy of regulating the movement of gold y the discount rate adopted at the Bank of England after 844—Advantage of a central bank in regulating rates—The policy of the Bank of France in buying gold at a premium—Relative merits of the English and French methods.

ONE of the most potent, and at the same time delicate, of the weapons of modern banking is change of "the discount rate." Such a phrase is used in a broad sense to indicate change in the rate charged for the use of money. In a more technical and exact sense, Discount is a charge made by bankers for advancing their credit to borrowers in exchange for evidences of indebtedness.[1] This charge is usually expressed as a percentage of the face value of the paper and represents the rate of charge or deduction by the year. A discount rate of five per cent. means that a deduction will be made from the face value of commercial paper at the rate of five per cent. per year from the date when it is accepted by the banker to the date when it becomes payable. As most commercial paper runs for three months or less, the actual deduction is usually only a fraction of the nominal discount rate. A bill of exchange of $1000, when discounted for three months at five per cent.,

[1] "*La retenue faite par celui—capitaliste, banquier on commercant—qui paye un effet avant son échéance.*"—*Dictionnaire du Commerce, de l'Industrie et de la Banque*, II., p. 61.

affords one and a quarter per cent., or $12.50, to the banker, while the remainder—$987.50—is carried to the credit of the trader who presents the bill for discount. He may take this amount in bank-notes, but the more usual practice is simply to have the amount put to the credit of his deposit account, in order that he may draw against it from time to time as he has need. There is a tacit understanding between bankers and traders in many cases that a considerable percentage of the amount nominally put to the credit of a trader shall be left constantly on deposit in the bank. The rule is not applied rigidly to each particular loan, but it is assumed that a man receiving accommodations to an average amount of say $100,000—sometimes more and sometimes less—shall not often draw his deposit account below a certain proportion of the average or maximum credit extended to him.

An increase in the rate of discount appears upon its face to mean an increased profit to the banker. This, however, is the least important of its economic effects. The tendency of changes in the rate is to restrict applications to banks for commercial loans, to diminish speculation on the stock exchanges, to reduce the demand for settlement of foreign obligations, and thereby to diminish export of the precious metals, retain capital within the country which would otherwise be withdrawn, and attract direct importations of the precious metals. All these effects tend strongly to keep the credit system in harmonious relations with the supply of legal-tender money and to diminish the credits extended by banks.

By what methods and by the operation of what economic principles control over the money market is exercised through the discount rate will now be set forth. The first effect of increasing the rate is in restricting applications for loans. When the discount rate is advanced, the effect is felt upon borrowers from the bank, most of whom are traders of unquestioned credit and

large resources. They often make exceedingly small profits upon large transactions, and their profits are seriously impaired by paying an unusual rate for banking accommodation. They are, therefore, less disposed to present bills to be discounted when the discount rate is high. The operation of an increased rate of discount, therefore, is to diminish the loans of the bank. A diminution of loans means that less credit is given and less currency is paid out by the bank. The metallic reserve of standard money increases in ratio to liabilities, and the tendency towards the development of too large a fabric of credit upon too small a reserve is arrested.

More important perhaps is the influence of an advance in the discount rate upon loans for speculation. Commercial loans are an outgrowth of current business operations, and the normal demand for them is not likely to decline radically unless the pressure upon the money market is accompanied by business depression. The class of loans known as advances upon securities are susceptible of more radical changes in volume, because they are made largely to brokers for buying and selling stocks for speculative purposes. The margin of profit in stock exchange transactions is small and may be entirely wiped out by a difference of one or two per cent. in the rate for loans. The banks, moreover, usually begin to call in money thus loaned upon stocks and bonds when they feel the influence of commercial pressure and refuse to continue such loans or grant new ones. The credit issued by such loans, whether in the form of deposit accounts or bank-notes, is thus curtailed and the amount of notes outstanding is diminished.

The influences exerted by changes in the discount rate which have thus far been set forth tend directly to reduce the volume of credit within a country to safe relations to standard money. It remains to consider the effect of such changes in attracting aid from outside the country. An indirect influence of this character is the

effect of high discount rates upon debts due abroad to domestic traders and bankers. This is one of the most important effects of an advance in the discount rate. It is a part of the movement of the foreign exchanges, which has been already discussed. As the tangible is easier to comprehend than the intangible, it is proper to deal first with the effects of changes in the discount rate upon the actual exportation and importation of the precious metals, although these movements usually follow rather than precede those in the less visible representatives of capital in the form of credits or titles to money.

The precious metals move back and forth between one country and another where they constitute the standard under the influence of changes in the discount rate. While there are other and sometimes deeper influences which may cause their movement, this is the most immediate and direct influence exerted upon them under modern conditions of business and credit. A high discount rate is in itself the offer of a high rental price for the use of money or credit convertible into money. The higher the rate, the less is the probability that credits will serve the purpose of money, and the greater the probability that actual shipments of the precious metals will earn a high rental price. When, therefore, a foreign exchange broker in New York observes that the discount rate has risen to six per cent. in London or Berlin, while it remains at four per cent. in New York, it is obvious to him if he has gold, or titles for which he can obtain gold without cost in New York, that it will earn more abroad than at home. The situation shows that gold is scarce abroad and plentiful in New York in relation to the demand for it. The deficient supply has raised the price offered abroad, and this demand is naturally met by the transfer of the idle and superfluous supply in New York to the point were the supply is deficient.

This operation of the law of supply and demand is the governing factor in the changes of the discount rate which

are now made by commercial banks in order to maintain the proper relations between volume of credit and supply of the precious metals. The operation of the discount rate, in addition to attracting actual shipments of the precious metals, is felt also in arresting their exportation and in making profitable the transfer of credits to the country where the high discount rate prevails. If, for purpose of illustration, a New York banker has in Berlin $1,000,000 in gold which he is about to have shipped to New York, news of an advance in the discount rate in Berlin will lead him to cable to his banker or broker there to delay the shipment of gold to New York and lend it in Berlin at the rate of discount prevailing there.

Actual operations in the transfer of international credits are not usually quite so simple as the direct control over physical blocks of gold, but the effect is the same in dealing with titles to the metals. If the New York banker holds a bill of exchange entitling him to a certain amount of money in Berlin, he has the option of sending the bill to his Berlin correspondent and asking a direct shipment of gold to New York, or authorizing the loan of the amount in Berlin. If high discount rates prevail there, he will choose the latter course. When hundreds of these transactions are taking place daily, some of those entitled to gold in Berlin may insist on taking it away from there in any event, while others, for reasons connected with the discount rate or their personal obligations, may direct its transfer to Paris or some other point. The effect of change in the discount rate is felt, however, upon the balance of transactions. The gold exchange houses, the banking houses having international agencies, and even the local banks of New York or Berlin, which have bills of exchange which can be negotiated through the exchange houses, will all be tempted to divert funds under their control to the market where they will earn the most. The whole volume of free capital in the world will tend to move towards the market where the rate

paid for using it is highest, as air rushes towards a vacuum, and this movement will be translated by an increase in the supply of the precious metals in this market, the postponement of demands upon the market, and the gradual readjustment of the supply of the precious metals available for the maintenance of credit.

The results of changes in the discount rate which have thus far been set forth may be described as direct results, which are obtainable by the intervention of banking officers in the money market. There are other results, more far-reaching in character, which are influenced by changes in the rate, but are usually due to a combination of causes which grow out of changes in general economic conditions. The outflow of the precious metals, when not due to certain special causes, is usually the result of expansion of credit, which is accompanied by high prices for goods. High prices at home tend to attract importations of merchandise and arrest exportations, with the result of encouraging exports of the precious metals. The operation of advancing the discount rate tends to enforce liquidation upon domestic traders by cutting off their facilities for credit and compelling them to throw their merchandise upon the market at reduced prices. The fall of prices attracts foreign purchasers, while the restrictions upon credit diminish purchases of merchandise for consumption at home. Thus the operation of an advance in the discount rate tends to restore commercial equilibrium and check undue inflation of credit. A collapse of credit, a fall of prices, and a period of liquidation would come sooner or later without any change in the rate of discount. It is the legitimate function of central banks of issue to anticipate these events by arresting the expansion of credit at a point which will avert too great a loss of the precious metals.

The reason for raising the rate of discount is to attract the precious metals to the point where they are most needed. The usual form of stating the causes for

such a movement, that the metals are needed to settle "an adverse balance of trade," while convenient, is not scientific. The increase in the demand for money indicated by the discount rate is merely an index of a change in relationship between money and various other goods. Whichever happens to be most needed in a community at a given moment—woollen goods, steel, or gold —will rise to the highest relative price. If the rate offered for gold is unusually high, imports of gold will increase and imports of other commodities will decrease. But the importation of gold is of the same nature as the importation of woollen goods or steel. The nation is not richer for bringing in gold rather than other articles; indeed, if it pays a high price for the gold by reducing the previous prices of its woollen goods or steel, it is relatively poorer.[1] The confusion which prevails in many minds on this point is due to regarding too exclusively the action of bankers, who deal in money and credit, and differentiating their measures to maintain an equilibrium of the money supply from those of manufacturers and traders to maintain an equilibrium in the supply of other goods.

While the raising of the discount rate has sometimes been declared to be an artificial operation, it is a natural result of the law of supply and demand. The arbitrary raising of the rate without justification in the condition of the money market would reduce the volume of transactions and drive business from banks which sought to maintain the high rate.[2] The increase of the discount

[1] "That any one should maintain that gold and silver are exported in order to 'adjust a balance' or 'close a balance of payments' seems strange. Suppose two countries are supplying each other with goods in equal amounts, and that those sent by one of the countries include sugar to the value of so many millions per annum. Do we explain this sugar export, do we throw any light on its causes, by saying that it serves to adjust the balance of payments between the two countries?"—Pierson, I., p. 537.

[2] "In any honest banking system the rate of discount cannot

rate, while usually decided upon in European countries by vote of the board of directors of the central note-issuing bank, is not an arbitrary act, but is the expression of their best judgment regarding the condition of the money market and the demand for credits. Their action in changing the rate usually follows rather than precedes a pressure upon reserves, and down to 1860 usually followed such pressure at too long a distance of time and in a timid and halting manner. The action of modern banking boards in raising or depressing the rental price of money which they have to lend is of substantially the same character as the action of house-owners in raising or depressing house-rents according to demand or supply, or the action of merchants in raising or lowering the prices of their goods under the same influences.

It is somewhat surprising, in view of the simplicity of the principle that scarcity of a commodity should cause increase in its price, that the rule of governing the ebb and flow of the precious metals by changes in the discount rate was not well understood and intelligently acted upon until after the middle of the last century. Money was considered as a commodity so much apart from other commodities that discount rates were kept unchanged at times when the commodity was scarce and the demand for it was far in excess of the supply. MacLeod declares that "It used to be the common delusion of mercantile men that gold was only sent to pay a balance arising from the sale of goods, and that therefore it must cease of itself whenever these payments were made." [1] The fact that the metal might be lent, like a wagon or a ship,

be superior or inferior to that imposed by the conditions of the market, or better, by the limit fixed by economic equilibrium. If, in short, the rate of discount is higher than this limit, the bank will not be able to discount and cannot long hold out; if it is lower, the reserve in gold diminishes and finally disappears." —Nitti, "Les Variations du Taux de l'Escompte," in *Revue d'Économie Politique* (1898), XII., p. 375.

[1] *Theory and Practice of Banking*, I., p. 418.

if a high rental were offered, and that the charges for it might affect the movements of merchandise, seemed to escape the attention of students and statesmen.

The bullion brokers, without spending time over theories, had long since learned by observation that it became profitable to export gold when interest rates abroad were higher than at home. They fabricated bills of exchange, had them discounted by bankers, took the proceeds in gold, and shipped the gold to the point where it would earn the highest interest. The bills fabricated for this purpose had the character of "accommodation bills" in that they represented no merchandise transaction and were drawn for the single purpose of transferring money from the place where it was cheap to the place where it was dear, in order to earn the higher rate of interest.

The possibility of such shipments of gold did not seem to be fully understood up to 1844 by the staid old merchants who formed a majority of the board of directors of the Bank of England. The attempt was made by the Bank Act of 1844 to control the volume of circulating notes by arbitrary devices when they exceeded a due relation to the coin reserves. The effect of changes in the discount rate in restoring the equilibrium of the foreign exchanges was occasionally referred to in the discussions which took place in England before the passage of the Bank Act, but such changes were evidently regarded as having only a minor influence. The discount rate at the Bank of England was sometimes increased under the pressure of a crisis, but only by one-half of one per cent. at a time. The increasing ease and cheapness of communication destroyed the value of such advances, when this fraction was divided by the fractions of a year, within which most paper matured. The necessity of meeting a drain of gold by rapid advances in the discount rate, by at least one per cent. at a time, was first set forth in the literature of political economy by

MacLeod,[1] was adopted as the true theory by Goschen and put in force by the bank, which on this occasion, according to Bagehot, "and as far as I know on this occasion alone," made "an excellent alteration of their policy which was not exacted by contemporary opinion and which was in advance of it."[2]

Prior to this change of policy, the discount rate of the Bank of England had for more than a century, down to 1839, never exceeded five per cent. and never been below four per cent. Rates at other banks were influenced in some degree by the supply of capital, and as the market rate in 1844 had been for some time below the bank rate, the bank had almost ceased to discount. The change of policy, by bringing the bank into closer relations with the market, brought the amount of discounts at the bank by 1848 up to the amount held by other banks.[3] For some years other banks were governed pretty closely by the Bank of England rate, but as the custom grew up among them of discounting just under the published rate, a further change was made in the policy of the Bank of England. This was the announcement in February, 1878, that the bank would no longer feel compelled to discount at the published minimum rate, but would feel at liberty to make a rate to customers conforming to actual conditions of the market.

So completely was the efficiency of the change in the rate of discount demonstrated by events, that such a measure soon came to be recognized as the chief means of influencing the foreign exchanges and attracting gold at the great banks of issue in Europe. The export of gold and pressure upon the money market are now the universal signal for advances in the discount rate, which are flashed by telegraph around the world, and afford the most certain index of demand for money and the state of the markets. An advance in the rate of discount

[1] *Theory of Credit*, II., pp. 813–818.
[2] *Lombard Street*, Works, V., p. 118. Palgrave, p. 49.

never fails to produce the intended effect of strengthening bank reserves and reducing pressure, unless the advance is inadequate or distrust of the entire commercial system of the country has reached a point which makes lenders unwilling to lend at any price. The latter has happened but once, and to only a limited degree, among the advanced commercial nations. This was during the great crisis of 1866 in England, following the Gurney failure, when a discount rate of ten per cent. was steadily maintained at the Bank of England from May 11th to August 6th. So serious was the shock to British credit by the series of commercial failures which spread over the United Kingdom that it was suspected abroad that the government would give forced legal tender to the notes of the Bank of England, and it became necessary for the Earl of Clarendon to issue a circular letter to the British embassies throughout Europe, declaring that "Her Majesty's Government have no reason to apprehend that there is any general want of soundness in the ordinary trade of this country which can give reasonable ground for anxiety or alarm." [1] The prevalence of a discount rate of ten per cent. for three months was in itself a heavy fetter upon British trade, and distrust abroad seemed strong enough for a time to justify the phrase of Sir Stafford Northcote, that there was "a run upon England." [2] On every other occasion elevation of the discount rate has acted promptly and efficiently in checking gold exports, attracting gold imports, and reducing speculation in a manner which has increased promply the ratio of reserve to outstanding notes and other liabilities.

The Bank of England has maintained a smaller reserve in proportion to its immediate and contingent obligations than the other great banks of Europe and has more often changed its discount rate. The changes in the rate from the years 1851 to 1898, inclusive, were 159 by the Bank

[1] Levi, *The History of British Commerce*, p. 471.
[2] Wolowski, *La Banque de l'Angleterre*," etc., p. 133.

of France, or at the average rate of 3.2 times per year, and 407 by the Bank of England, or at the rate of 8.4 times per year. The changes at the Bank of Prussia and its successor, the Imperial Bank of Germany, from 1855 to 1898 were 183, or at the rate of four per year. The fact that the changes were most frequent at the Bank of England is naturally explained by the fact that England is the centre at which the movement of the precious metals is regulated, that her movement of internal and international exchanges is highly developed, and that the vibrations which affect her monetary system and its adaptation to economic changes are necessarily most numerous.[1]

While prompt and resolute action should be taken in advancing the discount rate when a drain of gold begins as the result of general economic causes, it has not been found necessary during the last quarter of a century to advance the rate to so high a maximum as was formerly required. The reason is found in the greater supply of loanable capital seeking investment at a moderate return, the promptness with which credits may be released by telegraph, submarine cables and telephones, and the small cost at which the precious metals may be transferred by ocean steamers.[2] A very trifling difference between discount rates in two markets will result in the transfer of credits to the market where the rate is higher, provided only that the difference is large enough to pay the cost of the transfer and afford a small profit. It was found necessary in 1847 and 1866 to advance the discount rate at the Bank of England to ten per cent.

[1] De Greef, *Annales de l'Institut des Sciences Sociales* (July, 1899), V., p. 694.

[2] "The settlement of the account between countries having a normal monetary and financial system is made to-day with less tension in the rate of discount and less prolongation of the high rate than thirty, forty, or fifty years ago."—Leroy-Beaulieu, *Traité d'Économie Politique*, IV., p. 147.

The rate has never been higher than six per cent. since 1880, in spite of several periods of pressure and an acute crisis in 1890, and has been only four times as high as six per cent. These occasions were in the spring of 1882, the early weeks of 1890, the autumn of the same year, and, finally, after a long period of easy money, from November 30, 1899, to January 11, 1900.

A high rate of discount by no means implies so heavy a charge upon industry as might seem to be the case when the rate is computed by the year. The higher rate is charged in some cases only to outside borrowers and not to those who have an established and continuous business with the bank. The high rate runs, moreover, during brief periods, and applies only to commercial paper presented during these periods. Paper discounted before the high rate took effect continues to run at the rate originally agreed upon. Even paper accepted at the highest rate is often accepted only a little while before its maturity, so that the discount is charged perhaps only for fifteen days or a month, instead of the entire period of the paper.[1] Thus the high rate operates only upon the margin of business which it is desirable to restrain and as a warning to the world that money and capital have become scarce upon the market where the rate prevails and cannot be obtained by all comers at the easy rates at which they were previously obtainable.

An important distinction which diminishes the pressure of changes in the discount rate upon commercial business is that between the rate for commercial paper and that for "call money." The fluctuations in the latter are much more frequent, especially in New York, than in the rate for commercial loans. "Call money" is for the most part money loaned to brokers for carrying stocks. Their operations absorb in the modern money market the surplus of uninvested capital on the margin

[1] Nitti, "Les Variations du Taux de l'Escompte," in *Revue d'Économie Politique* (1898), XII., p. 383.

of the permanent supply, and serve as a sort of buffer between the commercial borrower and the more transient storms in the money market.

Those countries having a central bank of issue, enjoying a monopoly or practical control of note issues, have been able to act more promptly upon the exchanges by the rate of discount than those having a plurality of banks. All the European nations of importance except Switzerland have adopted the system of a central bank. Such a bank is able to act with dramatic and effective influence upon the exchanges, and is governed by considerations of public policy as well as by consideration of its banking profits. Such ends have been sought by clearing-house committees and by agreements among the banks, but these methods have operated with less certainty than the prompt action of the directing board of a central bank. Switzerland suffered for several years an adverse rate of exchange and a drain of gold, which has subjected the banks to the expense of importing gold directly in order to maintain their reserves.[1]

The banking system of the United States labors under the double disadvantage of a plurality of banks and the management of a part of the gold reserve of the country by the public Treasury. A general advance in the discount rate by concurrent agreement is seldom unanimous and prompt, even among the banks of the New York Clearing-House. Even if all the banks in the country acted with energy in advancing their discount rates, they would be hampered in controlling the move-

[1] "Each bank acted according to its own convenience, discounting paper when its own means permitted, but without regard to the general conditions of the market. In this manner common action was prevented and the measures of precaution taken by some establishments to strengthen their position were not only without result, but were generally counteracted by establishments which operated only from day to day and without regard for the general situation."—Raffalovich *Le Marché Financier en 1898–99*, p. 565.

ment of the precious metals by the fact that gold can be obtained from the public Treasury by the presentation of legal-tender government notes. The Treasury has no method, either of attracting resources by raising the discount rate or of curtailing accommodation to the public in the form of discounts, because it does not do a regular banking business. Its nearest approach to influence upon the money market is obtained by its excess of receipts or expenditures. An excess of receipts withdraws money from the market, while an excess of expenditures increases the funds in the market. Unfortunately, the operation of these causes is usually contrary to the requirements of sound policy at the moment —there is an excess of receipts in times of business activity, which withdraws money from the market when it is most needed; there is an excess of expenditures in times of depression, which pours money into the market when it is not needed, with the result of expelling gold. This evil was partially remedied by the act of March 14, 1900, which authorizes the Secretary of the Treasury to retain in the reserve fund government notes which have been redeemed until they are exchanged for gold, and provides that the proceeds of bonds sold to strengthen the reserve "shall not be used to meet deficiencies in the current revenues." The latter provision is intended to enable the secretary to retain redundant supplies of currency until the time is opportune for putting it in circulation by redemption of the public debt.

While the discount rate has been proved by modern experience to be the most certain and efficient means of regulating movements of the precious metals, it does not follow that every outflow of the metals from banking reserves should be met by advance in the rate. The rate at the Bank of France was kept steadily at four per cent. from January 13, 1820, to January 14, 1847, and at three per cent. for a period of nearly five years so recently as from 1883 to 1888. The rate was changed only four-

teen times during the fourteen years from 1884 to 1898. The fact that the number of changes was so limited was due in part to the fact that the Bank of France always carries a much larger metallic reserve than the Bank of England and that the Paris market is less sensitive than that of London to influences which affect the international exchanges. These facts, however, do not explain all the reasons for the smaller number of changes in the discount rate at the Bank of France. The difference is due to a distinct difference in policy.

The Bank of France, instead of relying absolutely upon the discount rate for maintaining its reserve, relies upon purchases of gold at its own expense and upon charging a premium for gold to exporters.[1] Gold can always be had for a price. The difference between the British and French methods of obtaining it are the difference between charging the cost to the mercantile community or charging it to the expense account of the bank. The Bank of France during 1855, 1856, and 1857 expended 14,000,000 francs in premiums on the purchase of gold bullion to the amount of 1,274,508,519 francs ($250,000,000).[2] These large purchases postponed the increase of the discount rate, but did not obviate the necessity for changing it sixteen times during 1857 and raising it to a maximum of ten per cent. The mean rate, however, was kept at 6.81 per cent. during 1857, while the mean rate at the Bank of England was 7.42 per cent.[3]

The French method of protecting the gold reserve has

[1] This charge for gold is computed by Nitti to amount to a rate of as much as nine per cent. upon short-term foreign bills.—*Revue d'Économie Politique* (1898), XII., p. 385.

[2] Juglar, p. 422.

[3] The report on the last extension of the charter of the Bank of France declared that "French commerce has enjoyed almost constantly for ten years a rate of discount more favorable than that of these two countries (England and Germany) and above all more stable."—*Vide L'Économiste Européen* (January 29, 1897), XI., p. 141.

found favor in certain quarters, for the strong reason that it obviates needless and frequent changes in the charge imposed upon legitimate business transactions. The French method is not efficient in an economic crisis, however, because it does not operate upon the whole commercial structure to restrict loans and speculation and attract capital from abroad. The occasions on which the French method may properly be used are those where credit is not unduly expanded and where a demand for gold has arisen from special and recognizable causes. Such an occasion would be a heavy demand for gold to pay for foreign grain supplies at a time of famine at home or for settlement of some special item of foreign indebtedness not arising from excessive imports of merchandise or disturbance of the economic system.[1]

While the French method of protecting the gold reserve was at first condemned by theoretical economists, and while their censure was well founded so far as it applied to the use of this method to counteract the drain of a crisis and redress the balance of the foreign exchanges, it has come to be recognized in recent years that it may be combined in a cautious manner with the English method of advancing the discount rate, with benefits to legitimate business. The choice of either method, or the prudent use of both methods in conjunction with each other, depend largely upon the wisdom of bankers and their ability to judge whether the drastic pressure of sharp advances in the discount rate is required in order to arrest the expansion of credit and check dangerous speculation. It is better to avoid imposing "a

[1] In many such cases, especially where a reverse flow of the precious metals is anticipated, no action whatever is required to maintain reserves. "To take a particular case, gold is regularly brought from London to Scotland at the May and November terms to meet the extra issue of notes, according to the act of 1845, but this transfer of gold being known to be only temporary has in general little effect on the bank rate."—Nicholson, *Principles of Political Economy*, II., p. 226.

fine upon the whole trade of the country" by raising the discount rate, if an adequate gold reserve can be accumulated at reasonable cost and without risk by other methods.[1]

Other devices, which supplement these two, have come into use of late years with the great increase in surplus capital upon the market and the variety of uses to which it may be put in the purchase of negotiable securities and various forms of loans. The Bank of England sometimes borrows money from the market for the purpose of reducing the loan fund which might be used by other banks to antagonize its advance of the discount rate. This is done by selling consols with the privilege of repurchase, the funds paid being drawn by the purchasers from their accounts at the joint-stock and private banks. The bank is then in a stronger position for dictating the general rate of discount and protecting its banking reserve. A like policy was adopted in 1904 by the Imperial Bank of Germany, which preferred to keep its discount rate at four per cent. rather than add to the commercial strain caused by the outbreak of war between Russia and Japan. Control of the money market was sought by rediscounting 80,000,000 marks ($19,000,000) in Treasury bonds in February and renewing the measure in April.[2] Thus money was withdrawn from the market but the necessity of advancing the discount rate was postponed until October, and the rate was quickly re-

[1] London *Statist* (May 19, 1900), XLV., p. 759.—"The raising of the rate increases the cost of every kind of manufacture, and therefore eats into the profits of the whole trading community. It may, of course, be absolutely necessary to raise the rate; and if it is, the Bank should not hesitate for a moment. But clearly money should not be made artificially scarce and dear without necessity. Therefore, if it is possible to replenish the reserve of the Bank without raising the rate — or, at all events, without raising the rate again and again—it is obviously desirable that the Bank should take such measures as will effectually do so."

[2] *Économiste Français* (February 18, 1905), p. 217.

duced again in January, 1905, to four per cent. and in March to three and a half per cent.

The discount rate is the true regulator of the ebb and flow of the precious metals and of the safety of a banking currency, because it governs the movements of transferable capital, of which gold and notes are only a part. This is the secret of the successful operation of the system in England, after the Bank Act of 1844 had broken down. The offer of an increased rental price for currency was felt equally upon all forms of banking credit which had the exchangeable character belonging to money, and kept such capital at home where the device of retiring notes when redeemed in gold had failed to do so.

V

THE EXTENSION OF THE CLEARING SYSTEM

Origin of the principle of compensation—Its employment during the Middle Ages—Evolution of modern clearing-houses—How the banks of France and Germany clear accounts of clients—Stock exchange clearing-houses—Economy and efficiency of stock clearings at New York—Relation of clearings to economy of money—Proportion of money and credit instruments in retail transactions and in different localities—Clearings as a factor in the problem of money supply and prices.

THE economy in the employment of metallic money which arises from use of the check and deposit system has received a further great development by the extension of the principle of clearings, or compensation. The clearing system is a development of a principle of Roman commercial law known as *compensatio*—the setting off of a debt which one owes to another by a claim against him.[1]

This system attained a high degree of perfection in the Middle Ages at the fairs of Lyons. Under an ordinance of Louis XI. (March 8, 1463) four fairs were authorized at stated intervals in each year, each of which was followed by a day of settlement fixed at the fair next preceding. Every banker came to these settlements prepared with a balance-sheet of his debts and credits. Three steps were required in completing settlements; first, the acceptance of bills by those upon whom they were drawn. This was necessary, as Vigne points out, in order to determine what items could actually be

[1] MacLeod, *Theory of Credit*, I., p. 330.

cleared.[1] Then came the comparison of accounts, and finally the settlement in money, of which very little was ultimately required. Rates of exchange for western Europe were largely fixed at Lyons, until at the end of the sixteenth and the beginning of the seventeenth century the Genoese attained predominance in financial matters, and the fairs of Placenzia became the clearing-house of Europe. Admission to the clearings at Lyons required a guarantee of 2000 crowns, and paper to be settled there rested in a measure upon the combined credit of all the great exchange houses of Europe.[2] The quarterly settlements were made in a handsome building (*la loge des changes*) erected by Soufflot and were continued until the Revolution.[3]

Knowledge of the methods of clearing practised at Lyons was spread in the eighteenth century over Europe by the translation into many tongues of the work of Savary, *Le Parfait Negociant*, and was put to profitable use.[4] The Edinburgh Clearing-House was founded in 1760 and that of London about 1775, but it was not until 1846 that a clearing-house was established at Dublin and 1872 when the system was extended to the smaller English cities.[5] London bankers down to about 1775 used to send out clerks daily to collect from other banks the notes and other obligations of such banks which had fallen into their hands. This required each bank to pay in full in cash all of its obligations which were presented by all the others and required each to keep a large amount of money. The cost and wastefulness of this method led the bankers to secure permanent quarters for the meeting of their clerks and settlement of their balances.

[1] *La Banque à Lyon*, p. 119. [2] Nys, p. 163.

[3] The last settlement was in April, 1793. *Vide* the Report of the Chamber of Commerce of Lyons in 1802, given by Courtois, *Histoire des Banques en France*, p. 334. [4] Vigne, p. 152.

[5] François, in *Journal des Économistes* (March, 1897), XXIX., p. 345.

The settlement of balances at the clearing-house was at first made in cash, but since 1854 has been made in drafts upon a special deposit fund by each bank at the Bank of England for the benefit of the clearing-house. As these deposits are not specifically set aside in cash, the entire clearings are practically made by credit and without the intervention of currency. The balances settled ran as high as £5,534,000 in a single day in the year ending March 31, 1880, which would have absorbed one-fifth of the circulation of the Bank of England if bank-notes had then been employed.[1] The admission of the joint-stock banks to the clearing-house, which did not occur until 1854, is estimated to have released them from the necessity of keeping £500,000 in currency on hand for meeting their checks.[2] In Scotland the system of settlements by drafts upon London was early adopted, and it was made a rule that in case such a transfer was not duly paid in London "without prompt and satisfactory explanation of the cause, the bank issuing such intimation of transfer shall be immediately excluded from the exchange room and clearing house."[3]

At New York the necessity for daily clearings was keenly felt with the increase of the number of banks from twenty-four in 1849 to sixty within a few years. At first it was sought to obviate the difficulty and expense of having sixty porters on the move daily from bank to bank by permitting weekly settlements on Friday mornings, but this arrangement was taken advantage of by the weaker and more speculative banks to borrow of the larger ones by drafts during the week.[4] Certain exchanges were made among the porters themselves, but finally, out of much confusion, and in the face of opposition from the weaker banks, came a clearing-house arrangement which took effect October 1, 1853. Even at

[1] London *Bankers' Magazine* (February, 1896), LXI., p. 253.
[2] MacLeod, *Theory and Practice of Banking*, II., p. 184.
[3] Gilbart, II., p. 245. [4] Gibbons, p. 293.

that early day it was found necessary to economize the use of coin in the settlement of daily balances by the creation (in 1857) of a common fund in the Bank of America against which coin certificates were issued for use between the clearing-house banks.[1]

The clearing system results not merely in economy of time and labor, but in great economy of money. In the absence of a clearing system, each bank must be prepared to pay on demand the aggregate of all its obligations in the hands of other banks or at least the aggregate of the balances due such banks when added together. Under the clearing system only the net balance due to all other banks has to be paid after their accounts have been balanced against each other. Thus, if bank A owes $150,000 more to bank B than the latter bank owes to it, and owes a similar balance of $200,000 to bank C, and $50,000 to bank D, it must have ready to pay to these banks $400,000 in money, even though there may be due to bank A from banks F and G balances aggregating $480,000. Under the clearing system, these claims are balanced against each other, with the result that bank A, instead of holding $400,000 in money is creditor in the net sum of $80,000. Among sixty odd banks, as in the New York Clearing-House, it is obvious that accounts between banks will largely balance and that relatively small differences will remain to be settled in cash.

The economy in the use of money actually realized by the clearing system has been in New York about ninety-five per cent. of the volume of transactions. Greatly as their aggregate has grown since 1863, the average daily bal-

[1] Gibbons points out that "the amount of coin required in the settlement of March 20, 1857, when the exchanges were heavier than on any other day since the establishment of the Clearing House, was $1,444,419.79—equal in gross weight to about three tons avoirdupois, or 6500 pounds."—*The Banks of New York*, p. 316.

ances over a year which have been paid in money have not been higher than 6.71 per cent. (in 1895) nor lower than 2.99 per cent. (in 1869). The variations have undoubtedly been greater for single days, and are subject to the accidents of exceptional balances for or against particular banks. It is not apparent that the net balances would be influenced materially by the state of business activity, for while individual banks might have larger credits against their associates than in periods of depression, these would normally be offset by large credits in favor of other banks, leaving net balances to be paid in money unaltered in their ratio to aggregate exchanges. The aggregate of clearing transactions is, however, greatly influenced by the state of trade. Clearings at New York were reduced in volume beginning with 1892 by the creation of the Stock Exchange Clearing-House. Making some allowance for this influence, the variations in aggregate clearings under different business conditions may be deduced from the following table:[1]

VARIATIONS IN CLEARINGS AT NEW YORK

(Year ending September 30)

Year	*Average daily clearings*	*Per cent. balances to clearings*	*Remarks*
1870	$90,274,479	3.72	
1873	115,885,794	4.15	Great business activity.
1874	74,692,574	5.62	Industrial depression.
1881	159,232,191	3.66	Renewal of railway building.
1885	82,789,480	5.12	Results of bank panic.
1890	123,074,139	4.65	Business expansion.
1894	79,704,426	6.54	Depression following panic.
1896	96,232,442	6.28	Free-silver panic.
1899	189,961,029	5.37	Renewed confidence and activity.
1901	254,193,639	4.56	Culmination of industrial flotations.
1904	195,648,514	5.20	Diminished stock-exchange operations and business activity.

[1] Figures from Report of the Comptroller of the Currency, 1904, p. 396. It will be noted that the decline in clearings usually follows some time after a banking panic, because industrial activity is checked only gradually, as the influence of impaired confidence ramifies to different classes of consumers.

The benefits of the clearing system are not limited to those banks which are members of the clearing-house. Thus in 1901 there were seventy-nine banks and trust companies in New York and vicinity which cleared through other banks. The arrangement was typical which is described by Horace White:[1]

"The Union Trust Company, for example, makes an arrangement with the Bank of Commerce, by which all checks drawn on the former may be presented at the Clearing House to the settling clerk of the latter and be treated by the latter exactly like the checks drawn on itself. In this case the Bank of Commerce is responsible to its fellow-members of the Clearing House for checks drawn on the Union Trust Company in the same way as for its own checks."

This form of arrangement was partially interfered with in 1902 by the withdrawal of the principal trust companies from the privileges of the clearing-house, in consequence of a requirement of the clearing-house committee that they keep large amounts of currency idle in their vaults; but even under these conditions the trust companies paid their obligations to other banks largely in checks drawn on clearing-house banks, and could not well be deprived of the privilege accorded to every individual of making collections through clearing-house banks with which they kept accounts. It was thus left to the latter to collect checks drawn on trust companies not entitled to clearing privileges in such manner as they might think proper.[2]

The clearing-houses of the United States are not governed by a uniform rule in respect to clearing settlements. Among the most convenient of the methods employed to avoid transfers of cash is the use of checks drawn by the clearing-house manager upon banks found to be debtors to the clearing-house in the daily settle-

[1] *Money and Banking*, p. 241. [2] Fiske, p. 216.

ments. These checks may be presented for payment by the bank in whose favor they are drawn or may be cleared at the next settlement. A method somewhat similar, in the economy of money which results from it, is the loaning to debtor banks of the balances found to be due by them to creditor banks. Banks in the smaller cities settle largely by drafts on the financial centres. The clearing-houses of New England settle, as a rule, with drafts on New York or Boston, and nearly all those east of the Mississippi River settle more or less by drafts on New York.[1]

The settlements in New York are made nominally in money, but actual transfers of coin and legal-tender currency have been reduced to a minimum within the last few years. United States currency certificates, issued by an assistant treasurer of the United States in denominations of not less than $5000, upon the deposit with him of United States notes, were largely used at one time, but authority for their issue was repealed in 1900.[2] After the completion of the new clearing-house on Cedar Street, early in 1896, gold certificates issued by the clearing-house upon deposits of gold coin made in its vaults came into general use. These certificates are used only between banks, but may be presented at any time for redemption in the gold which they represent.[3] The New York settlements, therefore, may be said to be made in lawful money, consisting largely in coin taken from the reserves of the several banks, but the actual transfer of the coin is obviated by the exchange

[1] Cannon, p. 46. About seventeen per cent. of the clearing-houses in the United States settle in cash alone, and twenty-five per cent. by manager's checks. A combination of methods is pursued in many cases.

[2] Act of March 14, 1900, § 6.

[3] *Vide* Cannon, p. 190. There is a fine of $100 for the transfer of certificates to non-members of the clearing-house. Certificates of this character may be counted as part of the bank's legal reserves by § 5192 of the Revised Statutes.

of paper certificates which entitle the holder to the coin when he desires it.

The clearing system is less perfectly developed on the European continent. The Paris Clearing-House is composed of eleven banking houses, and was not organized on its present basis until 1872. The Vienna Clearing-House, with a dozen leading banking houses grouped around the Bank of Austria-Hungary, was organized in the same year, but several of the private banks adjusted their compensations between themselves as early as 1864. A clearing-house was formed at Berlin in 1883, with the Imperial Bank as its centre, and another by nine banks at Frankfort in the same year. Clearing-houses are now in operation at Hamburg, Stuttgart, Cologne, Bremen, Leipsic, Breslau, and Dresden. Melbourne, Australia, has had a clearing-house since 1868, and they have existed in Canada since 1889. A clearing-house was organized in St. Petersburg in 1898 by the Imperial Bank, and the creation of similar institutions followed in 1899 in Moscow and Warsaw.[2]

One reason for the less complete development of the clearing system on the European continent than in Anglo-Saxon lands is the fact that in the chief continental countries down to a recent date a large proportion of banking business was carried on by a single large bank with branches. Such a bank clears transactions between its clients through its many branches which would be settled in Great Britain or America by transactions through independent banks. Checks in the former case are settled in the bank itself, while in the latter they pass through the clearing-house.[3] A great volume of trans-

[1] The balances for the year ending September 30, 1904, were $3,105,858,576, of which $3,105,653,000 was settled in gold certificates and gold coin and only $205,576 in legal-tender notes and minor coin.

[2] Arnauné, p. 411.

[3] "If there were only two banks in a particular place there would be no economy in a clearing place. Two clerks would

actions of this character is cleared through the Bank of France and the Imperial Bank of Germany by means of the different forms of checks and drafts which they put at the command of their clients. At the Bank of France there are not less than three forms of checks, exclusive of other methods of transferring funds. The "direct" checks, of a violet color, are employed for transfers at the same place. The "indirect" checks, which are red, are intended for payment at another place than that on which they are drawn. The mixed checks, for meeting discounts and other obligations, are so drawn as to be payable at the place where payment may be demanded by the holder of the obligation.[1]

At the Imperial Bank of Germany also a system of transfers of funds for individuals, even those who are not regular depositors with the bank, serves in a large degree the purposes of a clearing arrangement. A payment will be accepted at a branch from a person not a depositor, to be credited at the head office or some other branch to the account of a person who is a depositor. In the same manner transfers are made between accounts of different depositors at different branches. The volume of operations of the first class reached in 1903 the amount of 1,671,809,740 marks ($398,000,000) and of the second class 26,947,493,180 marks ($6,400,000,000).[2]

A similar system of clearing is practised by the commercial banks with their many branches, which have become competitors of the national note-issuing banks in Paris, Berlin, and Brussels. Each of these institutions clears many transactions among its own clients, although

meet at the banking house of one or the other, and compare the checks that each holds against the other."—White, *Money and Banking*, p. 240.

[1] *Vide* article by the writer in New York *Bankers' Magazine* (April, 1897), LIV., p. 526.

[2] *Vide* London *Bankers' Magazine* (August, 1904), LXXVIII., p. 200.

of necessity forced to use the clearing-house or the method of direct presentation of obligations when they are drawn upon other banks. There are many transactions of this character through American banks, on the other hand, which do not appear in the reports of their transactions or clearings. A check drawn upon the Bank of France by one patron of the bank in favor of another patron is recorded in its published reports of the volume of transactions; but a check thus drawn by the patron of an American bank and deposited by another patron in the same bank is not made the subject of public records. These differences in the character of clearings and the records of them is of importance in comparing the small volume of clearings at Paris and other continental clearing-houses with the clearings at London or among American banks.

Another long step in the economy of money, which is of comparatively recent origin, is the institution of clearing-houses for stocks. The first official stock exchange clearing-house was founded at Frankfort in May, 1867, and it was found that settlements involving $250,000,000 in securities could be made by the payment of $5,000,000 in currency. The essential feature of the stock exchange clearing-houses is the setting off of sales of stock by certain brokers against purchases of the same stock by other brokers, so that the final balances only are delivered by the clearing-houses. Several of the stock exchange clearing-houses go further and settle the entire money balances between brokers. The Berlin exchange adopted the clearing system in 1869, the Hamburg exchange in 1870, that of Vienna in 1873, and that of London in 1876. The peculiar organization of the Paris Bourse has prevented the formation of a regular stock clearing-house in Paris, but the same results are obtained by voluntary comparison of accounts. The system went into operation at New York on May 17, 1892, the one hundredth anniversary of the brokers' agree

ment out of which grew the New York Stock Exchange. It was set forth by the committee which recommended it that "Our present system of actual payment of entire value in every transaction blocks up in active times both banks and offices to an intolerable extent, and is an obstacle to the growth of the business commensurate with the growth of the country." [1]

The new system consists in a comparison of accounts in much the same manner as in bank clearings. Each broker submits to the clearing-house a list of the stocks which he has bought and sold. If A, for illustration, has sold 100 shares of American Tobacco stock to B, and B has sold 100 shares of the same to C, the transactions of B cancel each other, and A makes delivery to C. The money balances are settled by making deliveries at an arbitrary uniform price for each stock (near the average price for the day) and then becoming debtor or creditor of the clearing-house to the amount of the difference between these prices and actual prices. This system so economizes the use of money and banking credits that it has not failed to respond to the severest tests. It has handled 100,000 items in a single day. In the panic of May, 1901, it successfully permitted the clearing in one day of 12,131,600 shares ("both sides," purchases and sales) of a total value of $961,300,000, with cash balances of only $5,461,700.[2]

The difficulty of carrying on this large volume of business without the clearing system may be deduced from the fact that the values represented on this date were almost equal to the entire deposits of the clearing-house banks of New York City, and the bank certifications obviated were $221,050,000. If this was the record of a single day, it is not surprising that the operations of the entire year of 1901 showed clearings of 926,347,300 shares, valued at $77,853,500,000, with cash balances of

[1] Pratt, p. 117

[2] *Ibid.*, p. 119.

$116,849,300. The bank certifications which would have been required under the old system, amounting to $27,995,896,400, were reduced by the clearing system to $10,930,853,600. Failures were less numerous in 1893 than they would have been under the old system of certification, and with its aid, in the language of Pratt, "the mechanism of Wall street appears powerful enough to conduct easily and well all the possible operations of the future."[1]

How far the use of checks and the clearing system obviates the use of standard money is a question which has caused much discussion, because of the bearing of the problem upon the question whether the supply of money was increasing or not relatively to the work for it to do. It is the facts, if they are ascertainable, rather than the argument, with which it is necessary to concern ourselves here. Upon the face of repeated investigations in Europe and the United States, it has appeared that the receipts of banks consist of instruments of credit of one form or another in the proportion of more than ninety per cent. But this fact does not answer all the questions which may be raised. It may be questioned whether this proportion of credit instruments does or does not actually represent in all cases a corresponding economy in keeping metallic money, and whether the statistics of receipts by banks do or do not correctly represent all transactions expressed in money. Before taking up these questions, it will be well to present some of the results of general inquiries on the subject.

An inquiry was made in England by Sir John Lubbock based upon the receipts of his own bank in the closing days of 1864. He found that even at that time, after eliminating Bank of England notes drawn by the bank to replenish its till money, and making other corrections, the receipts of the bank for several days showed coin to the amount of 0.6 per cent.; bank-notes, 2.6 per cent.;

[1] *The Work of Wall Street*, p. 118.

and checks and bills, 96.8 per cent. Other inquiries did not show so large a proportion of checks and bills, probably because the transactions of Sir John Lubbock's bank were chiefly in large amounts.[1] An inquiry made by Pownall in 1881 brought together later English statistics showing the following percentages in bank receipts:

BANK RECEIPTS IN GREAT BRITAIN, 1881

Place	*Coin*	*Notes* (Percentage)	*Checks*
London	0.73	2.04	97.23
Edinburgh	0.55	12.67	86.78
Dublin	1.57	8.53	89.90
Country banks in 261 places	15.20	11.94	72.86

Several investigations by the Comptroller of the Currency of the United States have shown that in the transactions through the national banks of the United States between ninety and ninety-five per cent. are conducted by means of checks and drafts. The first systematic inquiry of this sort, made in 1881, showed that the receipts of the banks of the United States on June 30, 1881, were $284,714,016, of which 95.1 per cent. was in checks and drafts. A similar inquiry for July 1, 1890, showed the proportion of checks and drafts to be 92.5 per cent.; on September 15, 1892, 90.6 per cent.; and on July 1, 1896, 92.5 per cent. In New York City the percentage of receipts in checks in 1881 was 98.7 per cent.; in 1890, 96 per cent.; in 1892, 92.3 per cent.; and in 1896, 97.8 per cent. The proportion of receipts in different localities is indicated by the following analysis:

CHARACTER OF NATIONAL BANK RECEIPTS

(September 15, 1892)

Location of banks	*No. of banks*	*Total receipts*	*Coin*	*Paper currency* (Percentage)	*Checks, drafts, etc*
New York	48	$130,976,963	0.11	7.53	92.36
Other reserve cities	281	116,514,324	0.82	6.44	92.74
Banks elsewhere	3144	83,713,926	3.80	11.29	84.91
United States	3473	$331,205,213	1.29	8.10	90.61

[1] *Vide* Finance Report (United States), 1881, p. 194

The degree to which instruments of credit are cleared against each other by a central note-issuing bank is indicated by the returns of its receipts kept regularly by the Bank of France. These reveal the following figures for representative years:

ANNUAL RECEIPTS OF THE BANK OF FRANCE

Year	*Specie*	*Notes*	*Transfers or checks*	*Total*
		(In millions of francs)		
1840.....	955.9	4,150.1	3,281.4	8,387.4
1860.....	6629.1	15,411.0	11,488.4	33,528.5
1880.....	5323.3	32,095.1	32,713.5	70,131.9
1890.....	3098.8	36,437.9	43,330.7	82,867.5
1895.....	2904.8	33,802.2	52,472.6	89,179.7
1900.....	3350.5	43,449.6	102,447.0	149,247.1
1902.....	3898.2	44,138.5	120,233.5	168,270.2
1904.....	4309.7	48,353.0	152,822.5	205,485.2

These immense totals, representing for 1904 nearly $40,000,000,000, or two-thirds of the transactions through the New York Clearing-House in the same year, reveal in a measure the important part played by the Bank of France as a substitute for a general bankers' clearing-house. How generally the instruments of credit known as bank-notes are used in currency payments is revealed by inquiries which have been conducted by the French government at frequent intervals during recent years. These have shown, even in the short interval since 1885, an increase in the proportion of bank-notes in total payments on a given day into leading banks and Treasury offices from 67.63 per cent. in 1885 to 80.51 per cent. in 1891; 84.21 per cent. in 1897; and 87.02 per cent. in 1903. As the smallest bank-note in France is for fifty francs ($9.65), it is evident that the use of notes has closely approximated its possible limits under existing monetary arrangements.[1]

[1] There seems to be still, however, a slight margin of possible increase outside of Paris, since the percentage of notes used in 1903 in Paris and the Department of the Seine was 92.33 per cent. and in other departments 82.64 per cent. — *Bulletin de Statistique* (March, 1904), LV., p. 296.

These reports of receipts by banks relate, however, only to business which is done through banks, and to all classes of such business. Two corrections suggest themselves in seeking to reach a true proportion of the relative use of money and instruments of credit in all transactions: first, the probably larger use of money outside the banks; and, secondly, the probably larger proportion of money used in retail transactions.

Upon these points information is necessarily somewhat scanty. Some light is thrown upon the subject by deposits in banks by retail tradesmen. *A priori*, it might be assumed that if a tradesman brought to his bank for deposit a certain amount in checks and other amounts in currency, which had been paid to him by his customers, the proportions of these forms of money or credit represented the proportions in which his customers made use of them. Such a theory, however, is subject to many qualifications. The most careful investigation of the subject yet made was made under the authority of the Comptroller of the Currency of the United States in 1896 by Kinley. He reached the conclusion that about fifty-five per cent. of retail transactions in the United States were carried on by checks or similar credit instruments, exclusive of bank-notes (which were counted as money). The proportion was reduced as compared with the results of the previous general inquiry because only deposits—not gross receipts by banks—were dealt with, and because deposit accounts were classified and only those of retail dealers used in reaching these conclusions.[1]

Some interesting facts confirming other positions taken in this work were brought out by Kinley's inquiry. One of these was that checks and store orders

[1] One of the confirmatory evidences of the correctness of the percentage reached was afforded by deposits in certain savings banks, of which 54.2 per cent. were in the form of checks and other credit paper.—*Journal of Political Economy* (March, 1897), V., p. 168.

formed a larger proportion of retail deposits in some of the farming and sparsely settled districts than in and near commercial centres. Thus, the practice of paying wages in checks is reported as very common in a list of sixteen states of which all but Michigan are west of the Mississippi River. In some of the Eastern states this practice is forbidden by law and it is mandatory to make payments at frequent intervals. In such cases there is not only a smaller use of checks, because employers are required to pay cash, but where income of employés is received often, the amount received at one time is not sufficient to make it worth while to deposit it in bank and check against it. In a manufacturing town also creditors are near and easily accessible, making it less troublesome to apportion money among them by direct payment than to pay by check.[1] In certain Southern states also checks were found largely in use among farmers. When received by them for cotton and tobacco, they would be turned in at the retail stores, making the latter bankers for the farmers so far as cashing checks was concerned.[2] These facts go to show a use of checks which is compulsory as the result of deficiency in currency rather than a use which is voluntary because of greater convenience.

Differences in the character and economic status of cities of varying populations are reflected also in the ratio of instruments of credit. It would appear roughly that the rule of the increase in the use of credit in proportion to population is modified by the other rule—already discussed—of the increasing investment of capital in money of intrinsic value with increase of wealth. The greater economy in using money in such cases is parallel to that of using hand labor where only a few

[1] *Con.* Kinley, "Credit Currency and Population," in *Journal of Political Economy* (December, 1901), X., p. 90.

[2] *Vide* statements of J. F. Crowell, in *Journal of Political Economy* (March, 1897), V., p. 170.

articles of a kind, as nails or horseshoes, are to be produced, instead of setting in operation delicate and complicated machinery, the mere working of which for a few moments may involve large expense in coal and attendance. As the interplay of these forces upon the use of money and credit is worked out by Kinley:[1]

"In a small place, with a single bank, whose bookkeeping is simple and whose office expenses are small, it may pay to handle checks for so small an amount as a dollar, or even fifty cents. There is no clearing house to go through, no duplication of transfers and other records. The case is quite different in the great credit centers. The credit machinery of New York is too costly to use on sums so small. It is easier and less expensive to make such payments in money. And we cannot insist too strongly on the point that a commercial community will always choose the least expensive method of payment."

From these data it appears that the system of compensation or clearing is a factor of great importance in the economy of money. If this is so, the extent to which the clearing system is availed of in economizing the use of money may be as important as the economy obtained by the issue of notes or by use of deposit currency in the form of checks and drafts. As the volume of clearings is the product of the volume of transactions, and changes radically from year to year without producing exactly corresponding changes in the volume of money, it becomes clear that it is an influence which cannot be neglected — even if a somewhat bewildering influence — in the mooted problem of the relation of the supply of money and credit to prices of commodities.

[1] *Journal of Political Economy* (December, 1901), X., p. 87.

VI

STATE INTERFERENCE WITH BANKING

Difference between state intervention and responsiveness to commercial conditions—Why private initiative is usually safer than interested official intervention — Examples of forced loans by banks to governments—The "restriction" in England and specie suspension in Italy and France—Prudent conduct of the Bank of France—Taxation of banking privileges—Exactions of recent European bank charters—The principle of such taxation.

THE intervention of the state in the direction of banking affairs and in the money market has been a frequent occurrence since banking acquired its modern development; but the business world and the official world differ so widely in their methods and purposes that such intervention has usually been blundering and has often proved mischievous. It is not surprising, in view of such blunders, that many economists have advocated complete abstinence of government from interference in the money market. The policy of non-interference is supported by the tendency of business operations, when left to themselves, to conform to certain general principles. These derive the character of laws from the motive of self-interest which usually governs the individual, at least in his economic relations. While it is sometimes necessary that he should have had an economic education to determine with correctness in what direction his real interests lie, experience has shown that the instinct of self-interest is more likely to lead him in the right direction than a policy dictated by powers outside the business world and incapable of knowing all the influences to which it is sensitive.

The difference in the character of the influence exerted upon the money market under the operation of the principle of self-interest, and that exerted by direct intervention of the state, is due in part to the large number of separate judgments which come to an average in the money market and on the stock exchanges. While a single individual may err in regard to his interests, the average judgment of the whole business community is often more accurate in regard to any given contingency in the immediate future affecting values than judgment based upon abstract reasoning from without. Hence intervention by the state in the money market would be harmful, even if directed purely by devotion to the interests of the business community. It is still more harmful when directed, as is apt to be the case, by the hard necessities of an impoverished Treasury. Abstention from state interference in the money market is, therefore, the sound theoretical rule; but the large sums of money which enter the coffers of the state under the modern extension of state functions, and the perturbations which would often be caused if governments acted with absolute indifference to the influence of their measures upon the money market, have created relations between the state and the market which cannot be entirely severed or wisely ignored.

There are great divergences in the methods of state intervention in the banking world and in the money market which have been subjected to the test of experience within the last two centuries, but they may be roughly classified under five heads:

1. Forced loans by governments from banks by means of excessive note issues.

2. Special taxation of banking privileges and banking operations.

3. Manipulation of prices of public securities through the stock market.

4. Restriction and oppressive regulation of stock-market operations.

5. Interference by Treasury operations with the supply of currency.

The first two forms of interference, relating especially to the conduct of banks, will be considered in this chapter. Those forms of interference which reach the broader fields of the money market and the stock market, without being aimed directly at the banks, will be dealt with later.

Among the most pernicious of these interventions by the state in business affairs have been those which have sought to create public resources without adequate means or to support public credit when it was in the nature of the case incapable of being supported. The more excusable methods of intervention by the state in the money market have been those which have aimed to neutralize the effect of the withdrawal of large sums of money from the market by reason of government demands at special seasons or in the marketing of loans. These demands tend to create an artificial scarcity of money, against which prudent ministers of finance have sought to guard for the purpose of continuing normal conditions instead of running counter to them.

The instances have been many in which needy governments have sought to divert the resources of the commercial world to their support by borrowing from banks. Bank loans to governments are legitimate within narrow limits, but those are most legitimate which approximate most nearly to commercial loans. It is stipulated in the charters of the Bank of France,[1] the Austro-Hungarian Bank, and the Bank of Belgium, that the bank shall

[1] In the case of the Bank of France, which has been most free from criticism in its relations with the State, an advance of 60,000,000 francs ($11,580,000) authorized by the law of June 10, 1857, paid three per cent., and an advance of 80,000,000 francs ($15,440,000) authorized by the law of June 13, 1878, paid one per cent. until January 1, 1896. The loan was required to be continued without interest by the law of November 17, 1897, extending the charter.—*Bulletin de Statistique* (December, 1897), XLII., p. 582.

lend a certain amount to the public Treasury, sometimes without interest. This is a part of the price which the banks pay for their special privileges. This loan is intended, however, as a means of facilitating the daily operations of the Treasury by affording a working margin when receipts happen to be low. The government, in other words, keeps an account of the same character as a merchant who is given a limited open credit at the bank. It is not these loans which are open to grave objections, but those which become fixed or those which are temporary in form but are excessive in amount.

If the public Treasury were willing to accept the position of other borrowers—liability to repay its loans on call or within two or three months after making them—it would not impair the power of the bank to meet unexpected demands upon its resources. But when a government forces its obligations upon a bank as a substitute for commercial assets and demands the issue of bank-notes in exchange, two evils are threatened. The first is that the obligations are not usually paid at maturity. The Treasury thus drifts into the same position towards the bank as do other borrowers who are in default. The most serious evil, however, in the loans made by a bank to the public Treasury, when they are made by the issue of its notes, is the fact that such issues take place without regard to commercial needs. The paper is scattered broadcast by the government in payment of public dues and returns rapidly to the bank for redemption. Where such over-issues of bank paper are large, suspension of specie payments is the almost inevitable consequence.[1] So well has this come to be understood

[1] "It does not suffice that the government shall be clearly solvent and shall regularly pay interest; it suffices only that the bank has lent to it a part of its deposits or a fraction of the sums obtained by the excess of its notes over its reserve, that it has bent its steps towards specie suspension."—Leroy-Beaulieu, *Traité d'Économie Politique*, III., p. 682.

by finance ministers that the authority to suspend payments usually accompanies the mandate that the bank shall make the loans which are demanded. In recent times the evil has been aggravated by giving the legal-tender quality to these over-issues, with the result of altering the conditions under which every business contract is fulfilled. Experience has shown, however, that bank paper, even when issued under these unfavorable conditions, does not depreciate so rapidly or to the same extent as the direct issues of the government. The skill and conservatism of bankers and their ability to lean in part upon the commercial resources of the country enable them to protect business to a limited extent from the extreme fluctuations which occur in the notes of a bankrupt government, having no resources of its own to lean upon except its power to increase the supply of its discredited promises to pay.

The danger of large loans of bank resources to the state is illustrated by the early history of the Bank of England. The bank was founded (1694) upon the debt of the government, and this fact exposed its position to all the vicissitudes of the unsettled politics of the times. Suspension of cash payments became necessary in 1696, and the price of stock fell nineteen and a half per cent. in 1701, under the influence of a hostile resolution in Parliament and the news of war on the Continent.[1] There was a run also in 1745, when the Scots rose in behalf of the Stuart Pretender. The bank was able in time to build up a solvent commercial business, which made it a tower of strength to the Treasury when another serious appeal was made to its support, but was compelled, during the long wars with France and Napoleon, to suspend specie payments as the result of the reckless policy of Mr. Pitt, the prime-minister.

The bank had been since 1718 handling the public

[1] Rogers, *The First Nine Years of the Bank of England*, p. 138.

funds and making advances of money in anticipation of the land and malt taxes and upon exchequer bills and other securities.[1] The usual limit of these temporary advances was £20,000 to £30,000. The limit was stretched during the war with the American colonies to £150,000. There was such grave doubt of the legality of this action, in view of the provision of the charter that money should not be advanced to the crown except by special permission of Parliament, that application was made to Parliament for an act of indemnity. It was proposed to grant indemnity for past advances and to raise their future limit to £50,000 or £100,000. Mr. Pitt readily agreed to bring in a bill for this purpose, but in passing it he quietly dropped out all limitations upon the advances to the government.[2]

Whenever Mr. Pitt was in need of money to support English armies or to subsidize foreign armies in the war against France, he used his new powers without scruple. The management of the bank were forced by degrees to expand their note issues in the face of unfavorable foreign exchanges. They had already notified Mr. Pitt as early as October, 1795, that further loans such as he was demanding "would go nigh to ruin the country." They continued these warnings until February 9, 1797, when they informed the prime-minister that a further advance such as he had asked would threaten ruin to the bank and most probably bring the directors under the necessity of shutting their doors.[3] The inevitable drain of gold began to be felt; in September, 1795, gold rose to £4 2*s.* per ounce in bank-notes (a premium of about seven per cent.), and all the evils of specie suspension were threatened. A rumor of the landing of a French frigate in one of the Welsh harbors caused a run upon the bank for specie which brought the expected result — suspension

[1] Gilbart, I., p. 36.
[2] MacLeod, *Theory and Practice of Banking*, I., p. 517
[3] Lawson, *The History of Banking*, p. 89.

of cash payments. The bank had reduced its issues from £10,550,830 on January 21, 1797, to £8,640,250 on February 25th, but its cash had run down to £1,272,000. The cabinet met on Sunday, February 26, 1797, and issued an order in council, to the effect "That the directors of the Bank of England shall forbear issuing any cash in payment until the sense of Parliament can be taken." [1]

The first suspension of specie payments was only until June 24, 1797, but it was again and again extended, and power was given the bank to issue notes for less than £5 ($25). The policy of the directors of the Bank was so conservative that the depreciation of the bank-notes did not advance rapidly until the period of commercial speculation which caused the panic of 1810. Even as late as 1809 the gold value of the bank-notes was only about seventeen per cent. below the mint price of gold. It was on February 1, 1810, that Mr. Horner moved in Parliament for some accounts relating to the currency and exchanges, which resulted in the appointment of a committee and the preparation of the famous Bullion Report. This report plainly demonstrated that it was the over-issues forced upon the bank by the government, and the consequent suspension of specie payments, which had turned the exchanges against the country and affected the value of bank paper. Notwithstanding the clear and able manner in which these conclusions were presented, the country was not ready to return to a specie basis. Parliament voted down the recommendations of the Bullion Committee in May, 1811, and even went to the point of adopting the absurd resolution of Mr. Vansittart, "That the promissory notes of the Bank of England have

[1] The fact is worth noting that this was a command to the bank. As Bagehot says, "Mr. Pitt did not say that the Bank of England need not pay its notes in specie—he 'restricted' them from doing so; he said that they must not."—*Lombard Street*, Works, V., p. 74 Hence the act was known as the "Bank Restriction Act."

hitherto been, and are at this time held to be, equivalent to the legal coin of the realm."

The bank made a serious effort to resume specie payments after the final fall of Napoleon. Full resumption took place on May 21, 1821, two years before the date finally fixed by Parliament. The statutes restricting trade in gold coin and bullion were repealed, and Mr. Pitt's practice of borrowing from the bank without limit was forbidden without express authority of Parliament.

Among modern instances of excessive government loans from banks, compelling the suspension of specie payments, have been those of Italy and Spain. The Italian government was forced to make large expenditures to meet the expectations of the Italian people regarding the effects of Italian unity. Until war was threatened with Austria in 1866, these conditions had not prevented large imports of the precious metals and favorable quotations for Italian securities on the exchanges of western Europe.[1] But the threat of war, coupled with continuing deficits in Italian finance, were beginning to reverse the current of foreign exchange and depress prices of Italian securities. The latter influence, by bringing the securities pouring upon the Italian market, intensified the strain upon exchange and increased the export of the precious metals. When war actually broke out with Austria, forced legal tender was proclaimed (May 1, 1866) for the issues of the National Bank of Italy.

The advances made by the bank to the Treasury amounted when specie suspension was authorized to only 141,000,000 lire ($28,000,000). They were rapidly increased, however, until they reached 250,000,000 lire at the close of 1866, 445,000,000 in 1870, and 740,000,000 in 1872. It is obvious that such a rapid expansion of the

[1] It is declared by Willis that "the new Italian Kingdom had found its credit unexpectedly good abroad, thanks to the kind offices of the French Emperor."—*History of the Latin Monetary Union*, p. 62.

paper instrument of exchange went far beyond the requirements of the country, and it is not surprising that the premium on gold rose to twenty per cent. at the outset and declined but slightly during the ensuing years. It is rather matter for surprise that the maximum gold premium was kept as low as 7.30 per cent. in 1871, 14.95 per cent. in 1872, 17.65 per cent. in 1873 and 16.95 per cent. in 1874. The premium even touched a minimum as low as 1.72 per cent. in 1870 and 3.85 per cent. in 1871, but the minimum was higher in the following years.[1]

The fact that the gap between gold and paper was confined within such comparatively reasonable limits is an indication of the greater success of commercial banks in meeting adverse conditions than when the obligation is assumed directly by the government. One of the elements which tended to balance the excessive issues on account of the government was the fact that the bank had other notes afloat, whose quantity was not increased after 1877 in any such large ratio as the issues on behalf of the state. An effort to distribute these heavy advances more widely was made by the formation of the *Consorzio*, or syndicate of Italian banks, under the law of April 30, 1874. All the leading banks were combined in this syndicate to issue notes against their advances to the government, which then amounted to 840,000,000 lire. The government reserved the right, however, to ask further advances, which raised the total, even within the year 1874, to 880,000,000 lire and the next year to 940,000,000 lire ($181,000,000).

A determined effort was made through the law of April 7, 1881, to restore solvency to the Italian monetary system. The *Consorzio* was dissolved and a loan was issued, of which 600,000,000 lire was employed in retiring the notes issued by the banks making up the syndicate. The remaining 340,000,000 lire of the notes which had

[1] Arnauné, p. 374.

been issued on behalf of the government were withdrawn and replaced by direct government issues for five lire (95 cents) and ten lire ($1.90). It was proposed that these notes should be retired from year to year from the excess of Treasury receipts, and specie payments were actually resumed on April 12, 1883. Gold reappeared in the country to the amount of 780,000,000 lire, and the masses, habituated to the use of paper, showed little disposition to demand gold for it at the banks.[1] Unfortunately, the surplus which was expected in future budgets failed to appear, the government repeatedly appealed to the banks for advances, and foreign exchange again turned against Italy.

The primary fault in Italy from the beginning was with the government, in permitting continuous deficits in the public budget and appealing to the banks to cover these deficits by note issues which had no relation to the needs of trade and surcharged the circulation with a mass of paper beyond its capacity for absorption. As Raffalovich remarks, the government vainly multiplied laws in order to make the public believe that the situation of the banks was better than the reality, and as a result prevented the natural improvement which would have been produced without such meddling.[2] It was only after the government ceased to borrow of the banks and applied itself resolutely to meeting expenses from the proceeds of taxation, that the banks reduced their inconvertible assets, the volume of business rose to the level of the circulation, and Italy in 1902 entered finally upon a career of sound finance, with her foreign exchanges at par.[3]

The government of Spain drifted into difficulties towards 1890 as the result of heavy military and naval ex-

[1] Leroy-Beaulieu, *La Science des Finances*, II., p. 717.

[2] *Le Marché Financier en 1897–98*, p. 462.

[3] *Vide* Théry, *Situation Économique et Financière de l'Italie*, p. 147.

penditures and recurring deficits in the budget. The Bank of Spain had only about 150,000,000 pesetas ($29,000,000) in gold in its reserves on June 6, 1891, while it held 663,000,000 pesetas ($128,000,000) in Treasury obligations. The government, not satisfied with this heavy commitment by the bank, passed a law authorizing the bank to lend to the Treasury within three years an additional sum of 150,000,000 pesetas. The bank was authorized to increase its circulation, which then stood at 743,000,000 pesetas, to 1,500,000,000 pesetas ($289,500,000). Exchange was already adverse to Spain, but the loss was only about four per cent. until the passage of these short-sighted measures, when it went to seven or eight per cent. By the autumn of 1891 the bank had lent to the Treasury 759,000,000 pesetas, had guaranteed an issue of 250,000,000 pesetas in four-per-cents., and had made advances to individuals upon Spanish national securities to the amount of 269,000,000 pesetas. The commercial discounts of the bank amounted to only 160,000,000 pesetas. The reckless policy of the Treasury, therefore, had transformed the Bank of Spain into little more than a source of loans to the government in irredeemable paper.[1]

When war broke out with the United States over conditions in Cuba, the Spanish government had already practically exhausted the credit of the country and of the Bank of Spain. If a sound financial policy had been pursued up to this time, the state would have been in a much stronger position to negotiate loans or even to issue paper under specie suspension, as was done by the Bank of France in the war with Germany. Appeal was again made by the Treasury to the Bank of Spain, and the circulation, which as recently as 1894 had been 944,575,000 pesetas, was forced upward to 1,459,505,000 pesetas on February 11, 1899, after peace had been made

[1] Leroy-Beaulieu, *La Science des Finances*, II., p. 739.

with the United States, but while many war expenses were still unpaid. During the war Paris exchange rose for a time above 100 per cent.—a depreciation of fifty per cent. on the notes of the bank. The restoration of peace brought down the gold premium to twenty per cent., and the Spanish Treasury struggled manfully to pay the interest on the foreign debt, even when augmented by the refusal of the United States to permit the Cuban debt to continue a charge upon the revenues of that island or to assume the debt of the Philippines.

An effort to restore order to Spanish finances began with the service of Señor Villaverde as Minister of Finance after the war with the United States. He succeeded by resolute economies and new taxes in changing the persistent deficit of previous years into a surplus for the fiscal years 1900 and 1901.[1] His successors, encouraged by his example, took measures to consolidate the debt, and finally to reduce the circulation of the Bank of Spain and the heavy indebtedness of the government to the bank. A convention signed on July 19, 1902, between the Treasury and the bank, provided that the cash reserve should be gradually increased, that the bank should extend credits to commerce and to agricultural syndicates, that special gold accounts should be kept, and that the obligations of the Treasury to the bank should gradually be put upon a sounder basis.[2] As a result of this policy the gold funds of the bank increased from 276,500,000 pesetas ($53,350,000) at the close of 1898 to 419,111,250 pesetas ($81,000,000) at the close of 1904. By sale of Treasury certificates and stocks and the substitution of commercial obligations through the extension of branches, profits on commercial operations rose from 6,563,275 pesetas in 1900 to 20,795,500 pesetas ($4,015,000) in 1904.[3]

[1] *Économiste Européen* (June 6, 1902), XXI., p. 714.
[2] *Ibid.* (July 25, 1902), XXII., p. 122.
[3] *Vide* London *Economist* (March 18, 1905), LXII., p. 442.

The most successful case of resistance under trying circumstances to government interference with banking was the conduct of the Bank of France during the Franco-Prussian War. The management of the bank in that crisis of French national affairs stands forth as a striking proof of the superiority under such conditions of banking credit over public credit. Overwhelming disasters to the French arms in the field, involving the overthrow of the government and the occupation of the national capital by a foreign foe, the rule of anarchy at home, and even levies for money upon the bank backed up by force, combined to invoke a condition of political and financial anarchy. The Bank of France was authorized (August 12, 1870), on the morrow of the declaration of war, to suspend specie payments. Such action was not asked by the bank, but was taken with the unavowed object of preserving the ample metallic resources then in its coffers and to prevent the weakening of the gold resources of the country.[1] The money market for a moment showed signs of uneasiness, but the maximum premium on gold never reached three per cent., and did not seriously affect the value of bank paper in domestic exchanges.

The credit universally accorded in France to the notes of the bank was due to the fact that it was prudently managed by its directors, and was not allowed to become a victim of the misfortunes of the state. President Thiers, in reviewing the great services of the bank to the country in floating the indemnity loan exacted by Germany, and on the many occasions on which it sustained the money market, declared that "the Bank saved us because it was not a bank of state." The officers of the bank had been compelled on several occasions to fight against the proposal to convert it into a state institution. Napoleon I., in a moment of indignation when the bank refused to discount customs bills, threatened to

[1] Courtois, *Histoire des Banques en France*, p. 258.

create a new bank from the funds held by the receivers-general. The threat was not carried out, nor was the similar project of 1848, to unite the bank to the national domain under the title of "National Bank of France." [1]

The Bank of France was compelled to suspend collections on its paper during the war with Germany, and to present a firm resistance to many of the demands of the government. Advances were made to the imperial government which, before the close of the war, reached 1,470,000,000 francs ($280,000,000), but excessive demands from the provisional government and the commune were stubbornly resisted. Gambetta, in his enthusiasm to save France and his ignorance of financial principles, became so indignant that he telegraphed another member of the government on December 26, 1870, "We will break down the Bank, if necessary, and issue Government paper." [2] The bank was finally forced to make an advance of 415,000,000 francs to the Treasury, but the resistance of the governors to the first demands undoubtedly saved it from disaster, which would have carried down the whole fabric of French industry and made much more difficult the payment of the war indemnity to Germany.

One of the important advantages of a private joint-stock bank acting under such conditions is its immunity from seizure by the public enemy. If the Bank of France had been owned by the government, it would have been a legitimate part of the spoil of war and all its resources would have been seized by the Germans upon their entry into Paris. Under the modern laws of war, it was protected by the fact that it was private property. Hence it was able to sustain private credit when public credit was shattered, to prevent any serious derangement in the paper medium of exchange, and to aid in that wonderful resuscitation of French industry and finance which

[1] Noel, *Banques d'Émission en Europe*, I., p. 114.
[2] St. Génis, p. 68.

followed peace with Germany. The premium on gold, although reaching a maximum for a moment of 2.9 per cent. for bars, was little more than the measure of the cost of foreign exchange. This is demonstrated by the fact that the highest premiums were not charged at the period of acute danger, but in the autumn of 1871, when exchange movements attained an unusual magnitude as the result of large transfers of credit to Berlin in settlement of the war indemnity. Gold was at par during a part of 1874, and the highest premium during the year was one and a half per cent. The bank resumed payments on its notes in silver, which had not then depreciated greatly, as early as November 7, 1873, and partial gold payments were resumed in 1874. Final resumption did not take place formally until January 1, 1878, but was practically in force after November, 1874.[1]

The French government is entitled to the credit, after the terrors of actual warfare had subsided, of meeting its great liabilities by the issue of loans to the public rather than by leaning upon the resources of the bank. These resources were utilized for temporary advances in handling the loans, but such advances were promptly repaid as the loans were realized.[2] This policy is a very different one from wrecking a bank as a commercial institution by forcing the permanent issue of a redundant mass of bank-notes, which become a forced charge upon the industrial efficiency of the country. The partial participation of the government in the management of the bank through appointment of its higher officers, coupled with its reserve in interfering with the bank's proper functions, justify the commendation of Fachan that this form of organization "gives satisfaction to those who wish to protect against the covetousness of the state the

[1] Arnauné, p. 363.

[2] *Vide* the report of Léon Say on the payment of the war indemnity, *Les Finances de la France la Troisième Republique*, I, p. 383.

treasure accumulated in a private bank, and to those also who consider the right of issuing notes so dangerous that the state ought to regulate it in a manner to prevent its abuse." [1]

These are only a few instances of the evils resulting from the intervention of the state in banking, but they are fairly representative. Bad as they are, they are marked by one favorable feature. The depreciation in value, shown by the premium on gold, has been much less in the case of bank-notes than in those cases where legal-tender paper has been issued directly by the government. The reason for the preference accorded to bank-notes, even under specie suspension, has lain partly in the fact that the banks did not possess the power of repudiation which has been assumed by governments. The reason has lain still more, however, in the fact that the banks possessed assets more readily convertible than those of the government into the metallic money which is the touchstone of sound banking. In the case of the Bank of Spain, the depreciation of the notes has remained for several years about twenty-five to thirty per cent. The essential defect of the notes has been that they were not secured by convertible assets. Thus, in the summer of 1901, against demand liabilities of 2,400,000,000 pesetas, the bank held only 975,000,000 pesetas in coin and commercial paper, protecting the remainder of its liabilities only by various forms of government obligations. These could not be marketed promptly except at a loss which, in the language of Lacombe, "would affect disastrously the credit of the Bank and of the State." [2] No great national bank has ever seen its notes descend to such a point of discredit as the government paper issues of two of the

[1] *Historique de la Rente Française*, p. 259.

[2] *Le Change Espagnol*, p. 39. Lacombe contends that the circulation of the bank was not excessive, in view of the expulsion of coin, the expansion of trade, and the low gold value of the notes.

strongest governments in the world—France in the case of the *assignats* of the Revolutionary period and the United States in the case of the "greenbacks."

An opportunity for state intervention in banking which has been availed of to a growing extent in recent years has been the taxation of banking privileges. Several of the leading banks of issue, like those of England, Austria-Hungary, Belgium, and Russia, have been the products of political conditions. As Nitti declares, "The larger part of them, and without doubt the most important, have been created, and have obtained the monopoly of the privilege of issue, for having rendered services or made loans to the state." [1] Most of these banks are charged with payment of interest and other transactions relating to the public debt. This is a legitimate banking function, but the compensation granted by the state is usually much less than would be paid by a private corporation for the same service, and is in some cases gratuitous. The Bank of England makes not less than 500,000 payments and 250,000 transfers on account of the service of the debt, and employs at least 175 clerks entirely upon this work. It receives for this service £325 for each £1,000,000 up to £500,000,000, but only £100 per £1,000,000 beyond this limit. The Bank of France makes an advance of 140,000,000 francs to the government, which since the new charter of 1897 has been without interest. Similar advances are made by the other great banks of issue. The Bank of England is subjected to lighter taxes than are the other banks of Europe, and it is this fact, according to Nitti, which has permitted it to progress more rapidly, to discount at a lower rate, and to attain such stability.

The levy of taxes upon banking operations is of doubtful public utility. Such taxes are in substance burdens upon the whole community, because the bank adds the

[1] *Revue d'Économie Politique* (March, 1899), XIII., p. 278.

amount of the taxes to the charges which it makes to the public for its services. The public could better afford to pay such taxes in some more direct way, because by so doing they would enjoy the unfettered use of the tool of exchange by which they carry on their daily transactions. The issue of circulating notes has been selected by nearly every government as a proper subject of taxation. The theory of this taxation is to some extent well founded where the privilege of note issue is a monopoly. Even in such cases, however, the tax is a charge upon the mechanism of exchange, which hampers the free play of economic forces throughout the country. This tax, moreover, is much heavier than is generally believed. In the case of Italy the avowed rate of taxation upon bank-notes is 1.44 per cent. When this charge is compared with the low rates for money which have prevailed in recent years in England and France—where the official discount rate has been as low as two per cent.—it is obvious that in Italy the progress of manufactures and exchange must be seriously crippled at home and that Italian exporters must be greatly handicapped in their competition with those of other nations. When it is considered also that this tax does not include many other taxes which fall upon banking operations, it is not surprising that Nitti declares that "It may be said that a certain part of the distresses which have assailed the banks of Italy may be attributed simply and solely to the excessive taxes to which the banks of issue have been subjected by the state." [1]

The most scientific system of taxation for capital as well as for industry is that which leaves them as nearly unfettered as possible at the various stages of their operations, and takes for the state a certain percentage of their net profits after these operations have been completed. This system has the advantage of giving all

[1] *Revue d'Économie Politique* (March, 1899), XIII., p. 294.

industries and methods of exchange opportunity to compete with each other under the law of the greatest economy of effort and the greatest ultimate utility, without the disturbing effect of taxes, which may divert industry from its normal course by falling more heavily upon one branch than upon another. Participation in profits has been applied by the leading governments of continental Europe to the national banks in recent revisions of their charters upon a scale which almost reaches the limits of state socialism. In several cases, after a modest allotment of interest on capital to the shareholders, the state takes half or more than half of the remaining profits for its own use.

In the case of the Bank of France the direct division of profits has not been carried so far as taxation of the note circulation. The latter, under the law of 1897, pays to the state a proportion equal to one-eighth of the rate of discount on what is considered the productive circulation, but this payment is not permitted to fall below a minimum of 2,000,000 francs.[1] The principle of state appropriation of profits comes into operation when the rate of discount charged by the bank rises above five per cent. A quarter of this special profit is then added to the reserve fund of the bank and all of the remainder falls to the public Treasury. This would have meant a considerable revenue for the Treasury under conditions of a generation or two ago, but in view of recent low rates for the rental of capital, and under the policy of steadiness of discount rates long followed by the bank, this provision will become operative only in grave crises.

Much more comprehensive are the provisions of recent laws in Germany, Austria-Hungary, Belgium, and the Netherlands in regard to the division of banking

[1] Even under this moderate provision the amount paid into the public Treasury for 1900 was 5,655,333 francs ($1,091,500) and rose for 1904 to 7,595,654 francs ($1,466,600).—*Bulletin de Statistique* (February, 1905), LVII., p. 169.

profits with the state. In Germany such a division of profits was already required by the original constitution of the Imperial Bank. A change was made by the statutes of December 18, 1889, by which the dividend first allotted to the shareholders was reduced from four and a half to three and a half per cent. After other reservations, it was provided that after the profits allotted to the shareholders reached six per cent. only a quarter of the remainder should go to the shareholders and the remaining three-quarters should be paid into the Treasury of the empire. By the law of June 7, 1899, this provision was made even more drastic. The shareholders under this law are still allotted three and a half per cent. in dividends before the state intervenes to take a share of the remainder. An allotment of twenty per cent. of surplus profits above the first dividend is then to be paid into the reserve fund of the bank, until this fund has attained 60,000,000 marks ($14,280,000). It was proposed in the first draft of the new act that one-half of the remaining dividends should go to the shareholders until they had received a total dividend of five per cent., and that thereafter the state should take three-quarters.[1] This provision for the shareholders was stricken from the law as finally enacted, and after the dividend of three and one-half per cent. and the other allotments already set forth, three-quarters of the remaining profits are paid into the public Treasury.[2]

In the case of the Austro-Hungarian Bank a dividend of five per cent. is distributed to the shareholders, under the law of 1887, after which some small allotments are made to the reserve fund, and the remainder goes to the shareholders until their dividends reach a total of seven per cent. Any further profits are divided equally between the shareholders and the public Treasury. In the case of the Bank of Belgium, the extension of the charter

[1] *Bulletin de Statistique* (February, 1899), XLV., p. 178.
[2] *Ibid.* (July, 1899), XLVI., p. 82.

by the act of March 26, 1900, carried still further the policy long since adopted of appropriating for the public Treasury a considerable share of the net earnings of the bank. A quarter of the profits, after a dividend of four per cent., goes to the state, in addition to the tax of one-quarter of one per cent. on the excess of circulation beyond 275,000,000 francs. All profits earned by the bank by a discount rate exceeding three and one-half per cent. are also to be paid entirely into the public Treasury.[1] The Bank of the Netherlands is required, when its profits exceed five per cent., and ten per cent. of the remainder has been set aside for the reserve fund, to divide the balance equally with the state until dividends of seven per cent. have been reached, when two-thirds of the remainder is covered into the Treasury.[2]

The policy of apportioning to the state a large share of the earnings of the continental banks is based upon the fact that they have been accorded by the state the monopoly of the right of note issue. It is proper, if a price is to be charged for this privilege, that it should fall upon profits after they have been earned under conditions of free competition rather than that it should be levied upon the processes of exchange as they are going on. If the free action of the banks of Germany, Austria-Hungary, Belgium, and the Netherlands results in large profits, of which an allotment is made to shareholders in dividends large enough to compensate them for the use of their capital, the state does not interfere seriously with the freedom of commercial operations and with the downward tendency of the rate for the rental of money, when it exacts for itself a portion of the accumulated profits.[3] It might even be asserted that the

[1] *Bulletin de Statistique* (April, 1900), XLVII., p. 422.

[2] Nitti, *Revue d'Économie Politique* (March, 1899), XIII., p. 291.

[3] Seligman points out that a general tax on the net profits of a single industry will be felt by the consumer by its tendency to drive capital from that industry, if its profits are thereby reduced

state, by appropriating to itself all or nearly all of the excess of earnings above a certain rate of discount, for the benefit of the people as represented by the public Treasury, takes away from the banks the temptation to charge more than the minimum rate justified by commercial conditions, and thereby intervenes on the market in favor of a low rate for the rental of money and capital. It is hardly probable, however, that intervention in this form is practically effective in the important markets where this system of taxation prevails; for in those markets the free competition of the private and joint-stock banks would in any case keep the discount rate at the minimum fixed by the laws of demand and supply, and would not prevent its rise when a high rate was required for the protection of the metallic reserve of the country.

below the average rate of profits in other industries.—*Shifting and Incidence of Taxation*, p. 289. But this element is provided for in these European bank taxes by first allotting to the shareholders the minimum rate of profit on money and levying the tax on the remaining profits.

VII

THE PROGRESS OF MODERN BANKING

Gradual decline of the importance of the note-issuing function—Usefulness of notes in introducing deposit banking—Change in the position of central banks of issue in Europe—Ratio of business done with capital and with deposits—Tendency to unity of note issues—Rise of joint-stock banks—Consolidation of their resources in London, Paris, Berlin, and New York—Co-operation among banks in meeting emergencies.

IN the development of modern banking methods there has been a distinct evolution, like that of the perfected coined money of the present from the rude barter of primitive times. The most conspicuous steps of this evolution, since the transformation of the deposit receipt into the bank-note only partly covered by the metallic reserve, have been: (1) predominance of bank-note issues in the early stages of modern banking; (2) decline in their importance as the mechanism of the check and deposit system has grown in favor; (3) concentration of banking capital in great private banks and loss of primacy by the national note-issuing banks, except as custodians of the ultimate banking reserve in times of crisis; and (4) growth of the principle of mutual support among banks. As one result of this development bank-notes have been raised to an equality with money as a medium of exchange; and the last step in the process—not yet completed in all parts of the commercial world, though well advanced in the great centres of trade—has been the elevation of transferable banking credits to a like equality with money.

This evolution has taken place within times so recent that its history has hardly yet been written, and the mistakes incident to every new experiment still obscure in many minds the benefits of the different forms of banking credit which have been developed under varying local and commercial conditions. While most of the principles of banking were discovered several centuries ago, they attained their widest development after the beginning of the nineteenth century. The Bank of France was founded in 1800; the National Bank of Austria was chartered in 1817; the first Swiss bank of issue was established in 1836; the National Bank of Belgium came into being in 1850; and the Bank of Russia acquired a definite character in 1860. In all these countries there were forerunners of banking at earlier dates, but none of them, except in Great Britain, played an important part in providing the medium of exchange.

The issue of bank-notes only partially covered by the metallic reserve was a most important step in the development of modern credit, but it was only one of several stages in the progress towards a more refined system of banking. Among merchants the advantages of deposit banking and of the transfer of credits by book accounts were understood long before the bank-note was developed. It has, however, been the mission of the bank-note to introduce deposit banking where it could not otherwise obtain a footing, to obtain the use of capital for the community without the direct and conscious action of the lender, and to provide a convenient substitute for metallic money. Which of these functions of the bank-note is most important in any country can be determined only by a knowledge of the banking conditions which exist there. In most countries, indeed, the process of evolution is still going on; and while the bank-note still acts in the remote districts as the pioneer of credit and the apostle of deposit banking, it has become in the great centres only a convenient certificate of coin in retail

transactions and in the settlement of balances too small to justify the use of other credit instruments. As Bagehot says:[1]

"Deposit banking is a very difficult thing to begin, because people do not like to let their money out of their sight; especially do not like to let it out of sight without security; still more, cannot all at once agree on any single person to whom they are content to trust it unseen and unsecured."

Under such conditions the introduction of banking methods would be extremely slow but for the issue of notes. As Bagehot points out, "No nation as yet has arrived at a great system of deposit banking without going first through the preliminary stage of note issue." Thus, the notes of the Bank of England and the country banks paved the way for the introduction of the deposit system in that country, and the notes issued by the Scotch banks gradually drew almost every penny of available capital in Scotland into the channels of circulation. A similar experience was that of the independent departmental banks in France. Founded after the downfall of Napoleon — in Rouen, Nantes, Bordeaux, Lyons, Marseilles, Havre, Lille, Toulouse, and Orleans— they conducted a successful business almost entirely by their capital and note issues. In 1847, the last year of their independent existence, their current deposit accounts reached only 16,800,000 francs ($3,300,000), while with capitals of 23,400,000 francs and note issues of 90,100,000 francs they were able to maintain average discounts of 85,000,000 francs and to discount 851,600,000 francs of paper during the year. Their operations were so successful that, with discount rates lower than those of the Bank of France, they were able to pay dividends of from 9.7 to 28.8 per cent. upon their capital.[2]

[1] *Lombard Street*, Works, V., p. 53.

[2] The discount rate in 1847 was four per cent. at Nantes, Lyons, and Bordeaux, while at the Bank of France it was five per cent.—

Nearly the whole of the current deposit accounts were in the old commercial city of Lyons; for in the other cities accommodation was extended to commerce by means of the capitals of the banks and the unconscious loans of the public by the acceptance of notes. The history of the departmental banks, which succeeded in several cities where branches of the Bank of France could not obtain a profitable footing, is one of the most striking proofs of the value of bank-note issues in affording credit and extending facilities for business.

The national note-issuing banks of Europe were practically the creators of banking credit in its wider scope in their respective countries, and down to a recent date maintained effective control over rates for credit. The Bank of England, the Bank of France, the Austro-Hungarian Bank, the Bank of Prussia, and even the Imperial Bank of Germany during its earlier years, determined the rates at which loans should be made, handled the larger enterprises of the countries in which they were established, and formed the chief reservoirs of credit and of money. This condition has materially changed within the last quarter of a century; for each of these banks has witnessed the growth of competitors without the power of note issue, but capable of more flexible management and equipped with great masses of capital derived from shareholders and depositors. This modern system of banks of deposit and discount could not have grown up without the preliminary education of the bank-note system, and even yet it is only in financial centres that these great private banks—private in the sense that they are not national institutions, whatever may be the laws governing their incorporation—flourish to the greatest advantage.

Courtois, *Histoire des Banques en France*, p. 152. Horn says that the rate at Lyons was two and a half per cent. when that at the Bank of France was scarcely ever below four per cent.—*La Liberté des Banques*, p. 364.

In the evolution of modern banking, the note circulation has largely ceased to be a source of direct profit to the central banks of Europe, but continues to render an important service to the public. Théry, comparing the situation of the Bank of France with that of the *Crédit Lyonnais*, the greatest of the French private banks, shows that even the half of one per cent. interest which is paid by the private bank to its depositors is not a heavier charge upon its income than the costs of the note issue of the Bank of France, the shipment of money, the stamp tax paid upon the notes, and other services rendered gratuitously to the government and the public.[1] Even in the case of the Scotch banks, where small notes have proved so much more acceptable to the people than coin, the excess of the circulation above the metallic reserve affords but a trifling profit, if any, to the banks.[2]

One of the chief objects of banking is to bring into profitable use the saved capital of the community. This is accomplished under the deposit system, by the unconscious—or at least passive—loans made by holders of notes to their issuers. If capital is not available by either of these methods, it can be obtained only by high capitalization of banking companies. This has been the evolution of the large banks of Germany in recent years. Their deposits are so small and the note circulation is so restricted that neither at the Imperial Bank nor at the few surviving banks of issue in the states can accommodation be found by these means sufficient for the great enterprises on which German capital has embarked. German private banks do business largely with their own capital instead of that of depositors. Raffalovich declared in 1898 that the German banks had been "a prey to a genuine mania for increasing their capital." There was then upon the average for 100 marks of banking

[1] *Valeurs Mobilières en France*, p. 91.

[2] Kerr, *Scottish Banking during the Period of Published Accounts*, p. 89.

capital in Germany 50 marks in deposits, while in England there were 1207 marks of deposits.[1] Even at that time the capitals and reserve funds of the German banks were larger than those of all the banks of Great Britain, while their deposits were many times less. Nor was this disproportion seriously modified during the next seven years. The increase in banking funds in Germany was in the form of capital, in Great Britain in the form of deposits. In Germany banking capital was increased from 1,248,700,000 marks ($300,000,000) in 1883 to 2,163,500,000 marks in 1897 and to 2,869,500,000 marks ($690,000,000) at the beginning of 1904.[2] The ratio of capital to deposits and creditor current accounts in the three leading banks of Germany is disclosed by the following statistics from their reports for the close of 1903:

CAPITAL AND DEPOSITS OF BERLIN BANKS

Bank	*Capital and reserves* (in marks)	*Deposits and creditor current accounts* (in marks)	*Per cent. of capital and reserves*
Deutsche Bank.....	215,400,000	789,300,000	27.3
Diskonto Gesellschaft..	200,200,000	248,700,000	80.5
Dresdner Bank.....	164,200,000	325,700,000	50.4

While the ratio of deposits to reserves here shown has increased materially within a few years, it is still trifling in comparison with the steady growth of deposits in the United Kingdom. There it has become a subject of criticism that the rule laid down by Gilbart has been long forgotten, that the capital of a bank should not be less than one-third of its liabilities. Banking capital in the United Kingdom (excluding foreign and colonial

[1] *Le Marché Financier en 1897–98*, p. 263.

[2] *Bulletin de Statistique* (November, 1904), LVI., p. 536. According to a study in the *Frankfort Gazette*, the ten chief banks of Berlin increased their capital from 1896 to 1902 by 56 per cent. and their reserves by 54 per cent.; while the provincial banks increased their capital by 43 per cent. and their reserves by 76 per cent.—Raffalovich, *Le Marché Financier en 1903–04*, p. 524.

banks) increased, indeed, £52,034,446 ($253,500,000) over the long span between 1876 and 1903; but the increase for the six years ending with 1903 was only £8,700,000 ($42,500,000), and the percentage of capital and reserve to liabilities has for a long time oscillated around fifteen per cent. How little capital has increased in recent years in proportion to deposit and note liabilities may be judged from these returns: [1]

CAPITAL AND LIABILITIES OF BRITISH BANKS

Year	*Capital and reserves* (In pounds)	*Liabilities* (in pounds)	*Per cent of capital and reserves*
1897	124,630,000	816,428,000	15.26
1900	130,252,000	889,668,000	14.64
1902	133,182,000	904,130,000	14.73
1903	133,326,832	885,508,128	15.05

In these six years, therefore, while the capital of German banking institutions has been increased by more than thirty per cent., British banking capital has been increased by only about seven per cent. In gross amount the increase in Germany was about four times that in the United Kingdom, but this difference was offset in a large measure by the increase in British deposits, which was $340,000,000, or about twice the increase in German banking capital.

The true significance of this distinction between growth in capital and growth in deposits will not be clearly understood, however, without taking into account another important factor in the evolution of modern banking. This factor is the tendency to concentration of banking power. Such concentration has tended to check the increase of capital and reserves which would naturally follow the demand for increased banking facilities if such an increase were obtained by the creation of new in-

[1] London *Bankers' Magazine* (June, 1904), LXXVII., p. 824. There was a net decrease of capital and reserves of £683,890 ($3,350,000) in 1904, due chiefly to amalgamations.—London *Bankers' Magazine* (January, 1905), LXXIX., p. 20.

stitutions. In the United States, where branch banking is not permitted by the National Banking Act and is seldom encouraged by state laws, we have seen the capital of national banks alone increased by $110,000,000, or about fifteen per cent., from 1895 to 1905.[1] To some extent this has been a waste of that economic efficiency of capital which would have been obtained by strong banks with local branches, adapted in cost of maintenance and in resources to diversified local needs. In almost all commercial countries but the United States the tendency to concentration of banking power has not been impeded by restrictions upon the creation of branches.

This tendency to concentration has assumed several phases. In one sense it might be asserted that the modern tendency had been against concentration, because in every rich country has grown up a hierarchy of powerful joint-stock and private banks, which have come to overshadow in the volume of their dealings the privileged national banks. This development has been a part, however, of the consistent evolution away from the system of banking with circulating notes and paid-up capital towards the system of accumulating in strong hands the capital of the public intrusted to the banks in the form of deposits. Along with it has gone, except in the United States, the tendency to unify the note-issuing function as it was already practically unified by the middle of the nineteenth century in Great Britain, France, Russia, and Austria-Hungary.

The German empire adopted the principle of unity of note issues in 1875. Of the thirty-three German banks

[1] Much of this increase was under a special provision of the act of March 14, 1900, by which national banks with capital as low as $25,000 were first authorized, the previous minimum having been $50,000. Under this provision 1437 national banks were organized up to October 31, 1904, with aggregate capital of $37,459,500; but of these only 814, with aggregate capital of $20,761,500, were entirely new institutions.—Report of the Comptroller of the Currency, 1904, p. 21.

of issue which were then offered the option of abandoning their privilege of issue or accepting severe restrictions, only six retained the privilege in 1905, while the number of banks in Germany increased from 113 in 1885 to 170 in 1905. In Italy the number of banks of issue was reduced, after the scandals of 1893, to three, and in countries as opposed in character and financial policy as Sweden and Switzerland efforts have been made within a dozen years to depart from the system of competing banks of issue to the system of national monopoly. In Sweden this movement took shape in the law of May 12, 1897, by which the twenty-six note-issuing banks were required by January 1, 1904, to surrender their privilege to the Royal Bank (*Riksbank*). The latter institution, an heir in some degree of the first bank of issue known to European history, already had (since 1879) the monopoly of issuing notes for five kroner ($1.34). The privileges of the other banks terminated with their charters, which were for only ten years, but special advantages in respect to rediscounts were offered to those local banks which surrendered their note issues at earlier dates.[1] Under this pressure, the note issues of the private banks, which remained till the close of 1901 near their maximum of 80,000,000 kroner ($21,440,000), gradually dwindled during 1902 and 1903, and the circulation of the Royal Bank increased by more than a corresponding amount.[2]

In Switzerland the effort to supersede the local banks of issue by a central bank has been more stubbornly resisted. A proposal to establish a central bank owned by the state was submitted to popular vote on February

[1] Flux, in *Yale Review* (February, 1903), XI., p. 369. The concessions offered were coupled with the condition that the bank should keep open all the offices which it had on January 1, 1896.

[2] It stood at the close of 1904 at about $47,000,000, as compared with $25,000,000 at the close of 1901.—*Bulletin de Statistique* (January, 1905), LVII., p. 64.

28, 1897, and received only 195,764 votes, with 255,984 votes in the negative.[1] This defeat did not discourage the partisans of a central bank. Again and again committees from the chambers of commerce and different branches of the government struggled with questions of the manner of raising the capital and dividing the profits, but without conclusive results.[2]

While these movements were going on in Europe, the tendency towards unification of the note-issuing function was making headway in other parts of the world as far removed as Mexico and Japan. In Mexico independent banks of issue are still tolerated, but nearly half of the circulation is issued by two strong institutions in a total number of nearly thirty. In Japan the experiment of multiple banks of issue was abandoned by the creation of the National Bank of Japan in 1882 and the gradual retirement of the notes of the local national banks. The national banks, numbering 153 at the maximum in 1879, disappeared in 1898. They were gradually converted into ordinary commercial banks, without the power of note issue, whose numbers rose from 222 in 1890 to 1841 in 1902.[3]

This movement towards unification of the function of note issue has been due in part to the general tendency to concentrate banking capital, but more directly to the belief that a single institution would be directly responsible to the commercial community and to the state in so fixing the rate of discount as to properly govern the ebb and flow of the precious metals. The growth of the deposit currency, which is in only a few countries regulated by law, has made it the more necessary, according

[1] *Vide* New York *Bankers' Magazine* (April, 1898), LVI., p. 523.

[2] *Vide Économiste Européen* (December 2, 1904), XXVI., p. 732.

[3] *Vide Financial and Economical Annual of Japan, 1904*, pp. 98–111; *An Outline of Banking System in Japan*, p. 24.

to this theory, that there should be a central financial power having both the means and the sense of responsibility to act as a reserve bank in emergencies and to influence directly the rate for the rental of capital and the supply of currency. Independent local banks might have neither the power, the intelligence, nor the sense of responsibility to perform this function promptly and efficiently. It was the criticism of the federal council upon the Swiss banking system, in their report upon the operations of 1902, that the Swiss banks did not limit the employment of their notes to the single end of facilitating payments, but employed them in every species of credit.[1]

This effort to strengthen the position of the national banks of issue has been in some degree the natural consequence of centralization in private banking. It has been accompanied by a subdivision of functions which has recognized the greater adaptability of private banks for many classes of operations, but has left more and more to the national banks the position of protectors of the monetary system and the national credit. In Great Britain 42 banks were absorbed by others from 1877 to 1886, 90 from 1887 to 1895, and 91 from 1896 to 1904.[2] During this long period comparatively few new banks were created. In England and Wales the services performed as recently as 1895 by 99 joint-stock banks with aggregate deposits of £438,866,000 ($2,140,000,000) were performed in 1904 by only 64 banks, whose deposits were £583,011,000 ($2,843,000,000).[3] Private banks, which are not included in these figures, have been rapidly dimin-

[1] *Bulletin de Statistique* (June, 1903), LIII., p. 856. It was admitted, however, in the report of the inspectors for the previous year, that during the period of business depression notes had not flowed into the banks, but the metallic reserve had increased from 54.3 per cent. in 1900 to 59.2 per cent. in 1901.—*Ibid.* (March, 1902), LI., p. 395.

[2] London *Bankers' Magazine*, 1898–1905.

[3] London *Economist*, supplement of October 22, 1904.

ishing in numbers as they have been "taken over" by their huge rivals in London.

But this process of consolidation has not been accompanied by diminution in the facilities afforded the public in the way of banking offices. At the close of 1904 there were 7238 banking offices in the United Kingdom. This represented a net increase of nearly 100 per cent. since 1877, when the number was 3664, and an increase in the number of places formerly without a banking office where one is now established of 1293. This increase came chiefly during the period from 1890 to 1904, within which 2625 new offices were opened, and largely from 1899 to 1904, when the net increase was 1100. Twenty-four banks in the United Kingdom have more than 100 offices each, and of these there are four which have more than 300 each.[1]

In Germany forty private banking houses were absorbed by the leading banks of Berlin in the single year 1897. This was largely the result of the bourse law of 1896, which tended to transfer to banks of large capital the dealings in negotiable securities.[2] The process has not halted in more recent years. At the beginning of 1905 the *Deutsche Bank*, with a capital of 180,000,000 marks ($42,800,000), had grouped around it thirteen smaller banks whose policy it controlled. The *Diskonto Gesellschaft* and other large Berlin banks exercised a similar hegemony through the principle of community of interest, and it was calculated that within three years seventeen joint-stock banks, with capitals of 154,000,000 marks ($36,500,000), had been absorbed by larger establishments.[3] In France, the *Crédit Lyonnais*, which had gradually driven to the wall most of the provincial bankers, increased its deposits and creditor current ac-

[1] London *Bankers' Magazine* (February, 1905), LXXIX., pp. 178–193.

[2] Raffalovich, *Le Marché Financier en 1897–98*, p. 262.

[3] London *Economist* (January 14, 1905), LXIII., p. 53.

counts from 383,000,000 francs ($74,000,000) at the close of 1880 to 677,000,000 francs in 1890, 1,167,000,000 francs in 1900, and 1,656,000,000 francs ($320,000,000) in 1904.[1] Its paid-up capital, which in 1872 stood at the comparatively modest sum of 25,000,000 francs ($4,825,000), was progressively increased to 100,000,000 francs in 1882, 200,000,000 francs in 1896, and 250,000,000 francs, with reserves of 100,000,000 francs (in all $67,500,000) in 1900. By a vote of the share-holders late in 1904 the capital was raised to 300,000,000 francs, while the *Comptoir d'Escompte* at about the same time increased its capital to 200,000,000 francs[2] and the *Société Générale* to 200,000,000 francs.

In the United States the tendency to concentration of banking power has gone on apace, in spite of the deterring influences of the legal disability of national banks to create branches. This tendency to concentration of capital has naturally accompanied the consolidation of industrial enterprises. Banks with sufficient capital and resources to handle the small businesses of a generation ago are unable to meet the demands of the larger enterprises of recent times. They would be unable, moreover, to inspire readily the confidence abroad necessary in the exchange operations which have been so considerable a factor in the money market since certain classes of securities acquired an international character.

Among the national banks there was none prior to 1902 with a capital of more than $10,000,000, and only three with this capital—all in the city of New York. Within the next few years two New York banks raised their capital to $25,000,000 each, independent of large surplus funds.[3] The concentration of deposits justified

[1] *Économiste Européen* (February 3, 1905), XXVII., p. 136.

[2] London *Economist* (January 14, 1905), LXIII., p. 53.

[3] One of these was the old "Bank of Commerce in New York," which was brought into the national system somewhat reluctantly by the grant of special privileges by Congress.—McCulloch, p. 169.

these increases of capital. While the number of banks in the chief reserve cities steadily declined at the close of the nineteenth and the beginning of the twentieth centuries, the ratio of their resources to those of other national banks as steadily rose. In Boston a drastic policy of consolidation reduced the number of national banks from 54 in 1898 to 27 in 1905. During the official year 1904, 32 national banks in different parts of the country, with capital of $12,700,000, were absorbed by or consolidated with other national banks, and nine such banks, with capital of $4,480,000, were absorbed by trust companies.[1] In the autumn of the same year 347 banks in the reserve cities held 56 per cent. of the aggregate resources of the banks in the national system, while 5065 "country banks" held only 44 per cent. The three central reserve cities—New York, Chicago. and St. Louis—with their 62 banks, held 30 per cent. of the resources of the 5412 banks in the national system, and five of the New York City banks held more than eleven per cent. of the total resources.[2] These five controlling New York banks held in March, 1885, deposits of $67,834,800, or 19.6 per cent. of the total deposits of $353,726,400 held by the banks which were members of the New York Clearing-House. These same five banks in March, 1905, held deposits of $576,632,600, which was 48.5 per cent. of the deposits of $1,187,635,800 in the custody of the clearing-house banks.[3] Around each of these leading banks were grouped trust companies and insurance influences which enabled them to command large amounts of capital, to distribute readily new issues of securities, and to act promptly and secretly in meeting emergencies and financing great enterprises.[4]

[1] Report of the Comptroller of the Currency, 1904, p. 22.

[2] *United States Investor*, November 19, 1904.

[3] *Wall Street Journal*, March 21, 1905.

[4] "Only a large institution, or a group of powerful banks and trust companies, can effect a $5,000,000 loan at an hour's notice,

The national banks of issue have thus been dethroned from their old position as the chief distributors of commercial credit. But they have still an important part to play in the delicate mechanism of modern banking; for they have become by the evolution of events the keepers of the ultimate cash reserves. The importance of a central reservoir of credit in each leading commercial nation has grown, rather than diminished, with the growth of the credit system. While transactions in normal times approach a refined system of barter, decline in the exchange value of commodities in periods of panic shakes confidence in the credit of individual manufacturers and merchants; and as the credit of commercial banks depends largely upon the solvency of the merchants whose paper they have discounted, they suffer to some extent the distrust which arises regarding their individual patrons.

The essential requirement of such occasions is an ultimate source of credit which shall be strong enough to inspire confidence in its ability both to redeem its circulating notes and to grant discounts. A central reserve bank, whose credit is unquestionable, is then enabled to meet the demand for credit from private bankers by rediscounting the paper in their hands. This ability to secure rediscounts permits private banks to obtain cash credits having the exchangeable character of cash and to continue their accommodations to their patrons.

The earlier panics were marked by the demand for metallic money; for the banks had not obtained a sufficiently assured position in public confidence to give the character of money to their notes. It was thus that the

or undertake the vast enterprises that are characteristic of the times. Frequently such movements must be conducted with secrecy, at least in their early stages; and this condition is difficult to secure when the co-operation of a large number of banks must be invited."—Bullock, "The Concentration of Banking Interests," in *Atlantic Monthly* (August, 1903), XCII., p. 189.

goldsmiths drove the Bank of England to suspension in 1696 by presenting £30,000 of its notes for redemption, and that the Bank of Scotland was compelled to suspend in 1715, when the rebellion in favor of the Stuarts broke out. It was, again, by the presentation of notes for redemption that the senior Belgian bank attempted to break down the credit of the new Bank of Belgium in 1838.[1] More recent years have, however, witnessed two important steps in the extension of banking power. The first of these has been the conquest of public opinion, so that well-secured notes have become as acceptable as metallic money in meeting the demand for negotiable credit. The second step has been the substitution of other negotiable credit instruments for gold and bank-notes, where the solidity of the banking system has been such as to justify public confidence. It is this step which has been made easy by the great national banks. They have become in periods of panic the sheet-anchors of credit.

The tendency towards centralization and towards the use of paper substitutes for metallic money has materially strengthened the great reservoirs of credit, the national banks, during the last quarter of a century. There was grave apprehension in England, when Bagehot wrote (about 1875) regarding the sufficiency of the reserves of the Bank of England to sustain a severe shock to credit. He considered "the apprehension minimum" to be £10,000,000, and it was not until after 1890 that the reserve attained an average greatly exceeding £20,000,000. The gold reserves of all the European banks of issue in 1877 were only $575,000,000, and had risen in 1885 to only $700,000,000,[2] but the amount nearly doubled in the next dozen years, and now affords almost inexhaustible reservoirs of metallic money. Between December 31,

[1] Courcelle-Seneuil, *Traité des Opérations de Banque*, p. 382.

[2] These figures are based upon the careful calculations of Soetbeer, *Bimetallism in Europe*, p. 180.

1883, and December 31, 1897, it is pointed out by Théry,[1] the gold reserves of the European banks of issue increased by 5,189,700,000 francs ($1,000,000,000), and reached 8,745,600,000 francs ($1,740,000,000), while the circulation increased only 3,035,507,000 francs ($600,000,000). After 1897 the production of gold was somewhat retarded by the troubles in the Transvaal, but the reserves of the European banks continued to increase until their ratio to outstanding notes became nearly sixty per cent. The manner in which the proportion of gold to notes has thus increased within a period of less than a generation is shown in the following table:

RESERVES OF EUROPEAN BANKS OF ISSUE

YEAR	*Gold reserve*	*Silver Reserve* (In millions of francs)	*Circulation*	*Per cent. of gold to notes*
1883.....	3555.9	2049.9	12,246.9	29
1888.....	4376.1	2517.0	12,757.8	34
1890.....	4592.7	2339.2	13,205.8	35
1892.....	6207.1	2495.1	14,805.5	42
1894.....	6952.0	2603.7	15,539.5	45
1896.....	7859.9	2512.7	14,536.6	54
1898.....	8160.0	2636.0	14,975.0	54
1900.....	8211.0	2607.0	15,906.0	51
1902.....	8752.0	2821.0	16,215.0	54
1904.....	9837.0	2841.0	16,737.0	59

These immense reserves of the precious metals are held in part against the deposits and other liabilities of these banks as well as against their notes, but these liabilities have been so reduced by the competition of the private banks that a great increase in the issue of notes could be made, if required, without straining the resources of the national banks. Under these circumstances Liesse is justified in declaring that the existence of these reserves "makes these banks a sort of special bank or reservoir, where in times of crisis an important reserve permits the deposit banks to have rediscounted

[1] *L'Économiste Européen* (October 11, 1898), XIV., p. 490.

the greater part of their commercial paper." [1] The Bank of France was denounced during the debates on the renewal of the charter in 1897, as having become "the bankers' bank." There was truth in this characterization, as there was in the same name when given by Bagehot to the Bank of England twenty years before. But the very fact that the private banks have this sheet-anchor in emergencies enables the national bank, in the words of Leroy-Beaulieu, "to save the public at the opportune moment from the ruin which might result from the blunders of great private banks." Commenting upon this function of the national bank he says:[2]

"Let a single house which had held for nearly a century the place of the first free bank of the world, like the Barings, fall under a cloud, as was the case seven or eight years ago, and the Bank of England is ready with resources and credit intact to sustain the compromised edifice of British credit and to settle the affairs of this house under conditions which ended, after a half dozen years, by leaving it an excess of assets over liabilities. It was the same in France. When a great, ancient, and famous house, like the old *Comptoir d'Escompte* or the *Société de Dépôts et Comptes Courants*, meets a failure, the Bank of France is there with its resources and its credit equally unimpaired to rediscount all the paper of the failed bank, to take charge of its merchandise warrants, to make all necessary advances, and in reality to save the market. The Bank of France is 'the bankers' bank,' it is true, but in whose interest? It is in the interest of depositors and creditors of all classes. The Bank of France is a bank of rediscount for serious conditions, a bank of reserve, and this is why it is not necessary that it employ its resources in large rediscounts and advances in normal times."

The solidarity of sentiment, which has resulted in union

[1] Courcelle-Seneuil, *Traité des Opérations de Banque*, p. 271.
[2] *L'Économiste Français* (June 5, 1897), p. 771.

among the banks of the world for sustaining one another in great emergencies, is one of the important phases of recent banking development which is brought into relief by the incidents to which the French economist refers. This union of the banks for mutual support has given a strength to the banking system which it did not possess in early years. The early banks stood practically alone, and conducted their exchange operations only by special agreement with other institutions or through their own branch houses. Yet, union among the banks for the support of commerce, by extending credit to those who deserve it, is of especial importance in a crisis where there is no strong central bank capable of directing the course of the market and rediscounting for the smaller banks. Without such union, as Dunbar properly declares: [1]

"It is then possible, and in any sharp crisis is even probable, that some of the bank managers may decide to take care of themselves by reducing their loans and filling up their reserves, and leave it to others to take care of the general welfare by enlarging discounts and satisfying the public demands. The knowledge that some may pursue a selfish course weakens the disposition of others to take a more liberal course, and thus may practically lead the whole group of banks to pursue a policy of contraction, which is condemned by the judgment of the majority."

The necessity for guarding against such a struggle led the banks of the United States in 1860 to adopt a method of co-operation which has since been so often resorted to that it has been reduced to a system. Harmony of action was secured by means of the Clearing-House Association, in which the banks, in the language of Dunbar, "were already united for important purposes and from which no bank would willingly find itself ex-

[1] *The Theory and History of Banking*, p. 68.,

cluded." It was agreed that, for the purpose of enabling the banks to expand and maintain their loans, their specie should be treated as a common fund and that loan certificates should be issued for use in clearing-house settlements as a substitute for coin.

The system of clearing-house certificates has not been required in Europe, because of the greater concentration of banking capital there. Nevertheless, there have been several occasions on which the great banks have come to the support of one another and of smaller institutions. This was the case as early as the panic of 1825, when in three days the Bank of England issued £5,000,000 in new notes upon securities and exchequer bills as well as upon discounts. The aid of the Bank of France was also sought, and a credit for £2,000,000 upon bills was opened for three months. Again, in the crisis of 1847, the Bank of France sold French national securities amounting to 20,000,000 francs to the Barings of London for gold, but even this step was insufficient to arrest the panic. The Emperor of Russia then came forward and offered to buy French securities to the amount of 50,000,000 francs.[1]

The crisis of 1890 was met in a somewhat different manner. A sum of £3,000,000 in gold was brought over to London under a special contract with the Bank of France, secured by the deposit of exchequer bonds issued to the Bank of England by the government for the purpose,[2] and £1,500,000 was obtained from St. Petersburg. The cause of the crash was the suspension of Baring Brothers & Co., with liabilities of about £30,000,000. The fact that the suspension was likely to occur had

[1] Noel, *Les Banques d'Émission en Europe*, I., p. 111. The crisis was due in a measure to the deficiency of the French crops; and the possession of a credit on the Russian Treasury created an exchange fund against which bills could be drawn in payment for Russian grain.

[2] *Political Science Quarterly* (March, 1894), IX., p. 23.

been whispered quietly among the leading financiers for some days and afforded Mr. William Lidderdale, the governor of the Bank of England, the opportunity to prepare for a storm. He perfected arrangements by which it was announced, on November 14, 1890, that the liabilities of the Barings would be provided for by the Bank of England and that any loss to the bank would be made good by a circle of guarantors embracing the greatest banking institutions of Great Britain. The joint-stock banks of London, the leading banks of the provinces, and the joint-stock banks of Scotland entered into a combination aggregating £15,000,000, "to make good to the Bank of England any loss which may appear whenever the Bank of England shall determine that the final liquidation of the liabilities of Messrs. Baring Brothers & Co. has been completed so far as, in the opinion of the governors, is practicable." The masterly management of Mr. Lidderdale in uniting the great banks for the maintenance of credit thus averted a crash which might have shaken British finance to its foundations.

The effect of the successful co-operation of the great banks has been to make transferable banking credits, in the advanced commercial nations, practically as secure a medium of exchange as gold and silver. The experience of recent crises has shown that the mechanism of banking credit is sufficiently understood by the mercantile community to prevent serious raids upon the deposits of solvent banks. Deposits are withdrawn where the banks are known to be unsound, but are left intact, except so far as the credits are actually needed by the depositor, where the bank is known to be solvent. This comparative stability of deposits and cash resources is of as much importance to the commercial community as to the banks. The withdrawal of deposits means the restriction of the power to make loans, and was one of the greatest difficulties with which the early bankers had to reckon. When the empire of Napoleon I. was

tottering to its fall, a run set in upon the Bank of France which reduced its holdings of commercial paper early in 1814 to 1,715,000 francs ($320,000).[1]

Far different was the situation of the bank when the Second Empire fell in 1870, partly because the fate of the bank was no longer bound up with that of the state, and partly because of the growth in the knowledge and use of banking credits. "While the credit of the state staggered under the weight of our reverses and our errors," says St. Génis, "the Bank of France preserved its own firm and intact."[2] The bank was the pillar of public credit, and even through the exciting days of the Commune kept its doors open for the payment of its obligations. Its great reserves of gold and silver, protected from robbers by filling the subterranean staircases with sand, awaited undisturbed the restoration of civil order. It is not surprising, after meeting such tests, that the Bank of France passed unscathed through the crisis of 1882. French credit was severely shaken with the collapse of the *Union Générale* early in that year. The failure of this organization was accompanied by that of several other large credit companies and a tumble in the stock market. The foreign banks raised their rates of discount—the Bank of England to six per cent., the National Bank of Belgium to seven per cent., and the Imperial Bank of Germany to six per cent. The accounts of the Bank of France showed scarcely a perceptible influence from the crash except an increased demand for

[1] Even at this early date, however, there was a disposition among the merchants of Paris to stand by the bank and accept its notes. J. B. Say, in a letter written soon after these events to Mr. McVey Napier (August 14, 1816), declared that several persons, fearing the results of an assault on Paris, preferred to put their money into bank-notes because of the greater ease of concealing them, but that the bank, desiring for the same reasons to reduce its stock of cash, ordered all payments to be made in specie.—*Journal des Économistes* (June, 1897), XXX., p. 324.

[2] *La Banque de France à Travers le Siècle*, p. 69.

discounts. These rose from 1,407,800,000 francs on January 19, 1882, to 1,646,100,000 francs on February 2d. The gold reserve, however, increased between these two dates from 668,800,000 francs to 729,600,000 francs, and rose on February 16th to 816,200,000 francs. Moreover, the private accounts current, instead of declining, increased from 550,700,000 francs on January 19th to 684,000,000 francs on February 2d, and to 903,000,000 francs on February 16th.[1] There was not in any of these movements the slightest indication of pressure for the redemption of notes or for the withdrawal of deposits upon the great reservoir of gold and banking credit in France.

The national banks of the United States also retained the support of the mercantile community during the crisis of 1893, in the face of national-bank suspensions to the number of 141 during June, July, and August.[2] A feature of the crisis which brought out in a strong light the growing appreciation by the business community of the real mechanism of credit was the refusal of the banks for several weeks to pay checks freely in currency. The economic reason was found in the fact that the restriction or distrust of other forms of credit created an unusual demand for currency. As the banks, under the existing banking law, were practically without the means of meeting this demand by the issue of notes, they could meet the demand for credit only by granting loans and discounts. Those who were able to transact their business by banking credits had no cause for complaint, but those whose business required currency were required to buy it at a premium. The remarkable feature of the situation was the absence of unreasoning panic. The average business man appeared to grasp the fact that

[1] Théry, *Les Valeurs Mobilières en France*, p. 83.

[2] Eighty-four of these banks afterwards resumed business. The capital of sixty-seven national banks actually insolvent during the year ending October 31, 1893, was $11,035,000.—*Vide A History of Modern Banks of Issue*, p. 535.

the machinery of credit was only stopped for a moment and was not seriously crippled. There was no rush of depositors to the city banks to withdraw deposits, either in notes or coin, because it was well known that the security of each bank rested upon the union of all through the Clearing-House Association and that the temporary scarcity of the currency medium of exchange, caused by restrictive banking laws, did not seriously impair the exchangeable character of banking credits or their command over commodities.

Banking credits, therefore, constitute as effective a medium of exchange as notes or coin, so long as they command commodities; and the best test of their command over commodities is immediate convertibility into standard coin. When such convertibility is assured, the deposit currency of the commercial world becomes a part of its purchasing power. The amount of metallic money required as a basis for this structure of credit varies according to local laws and the business habits of the community. The amount of bank-notes or of other currency varies also, not according to any mathematical rule but according to the demand for this particular form of banking credit in a given community. Thus, bank-notes are in large demand in France as certificates for coin, because of their convenience; and they are in large demand in Germany as instruments of credit, because of the recent development of a great mass of transactions, without a corresponding accumulation of capital by small deposits. It is the mission of banking credit to give flexibility to capital and to put into generic form, capable of commanding all commodities, the special titles to wealth created for each individual by his sales of goods or services. As the matter is expressed by McPherson:[1]

"The more extended the territory throughout which, and the greater the number of people among whom, such

[1] *The Monetary and Banking Problem* p. 35.

a currency would circulate, the less would be the need over such territory for the use of bullion or coin as money or the basis of paper representatives of value. And the monetary systems of the peoples among whom commerce has obtained the greatest development are gradually reaching such a basis. The paper representatives of value, which at first were direct representatives of coin, are tending more and more to become the representatives of value, as expressed by the result of effort, without the intervention of coin, and in the furtherance of this tendency banks perform an essential part."

The complete success of the modern banking system will be achieved when banking credits have, under all conditions, the command over commodities which is possessed by metallic money. The process of evolution has given this security, in some degree, to such bank-notes as are issued by the great national banks or under a system of mutual guarantee among the banks which insures their redemption in standard coin on demand. The movement which shall give the same character of absolute security to all banking credits has also made great progress. Union among the banks and the accumulation of cash reserves in a central bank are making banking credits in commercial countries a secure means of storing capital. The security of banking credits has become so great that deposits often increase, instead of diminishing, in times of crisis, because the banks are recognized as successful agencies for transforming the productive resources of the community into the safest and most efficient form of negotiable capital.

BOOK VI

THE CO-OPERATION OF THE FACTORS OF EXCHANGE

BOOK VI

I

THE EVOLUTION OF NEGOTIABLE SECURITIES

Their place in modern commerce—Distinction between bonds and stock—Definition of a stock exchange or bourse—Character and usefulness of speculation—Origin of trading in shares—Growth of government debts—Early predominance of the London Stock Exchange—Its freedom from government control and high standard of morality—Origins and development of the New York Stock Exchange.

AMONG the important instruments of modern commerce, coming next to banking credits in their usefulness as a medium of exchange, are negotiable securities. The term "negotiable securities" is applicable in a general sense to many forms of commercial paper, including drafts and bills of exchange, but is usually employed for the share capital of corporations and for bonds of such corporations and of local and state governments. It is in this sense that the term is here used. The most important of such securities are quoted upon the stock exchanges and are the subject of stock-exchange transactions. For this reason they are important factors in the movements of money and capital. There are several types of securities on the market, which may be broadly classified thus:

Bonds issued by national, state, and municipal governments.

Bonds and stocks of transportation companies and financial, industrial, and other corporations.

Two distinctions run through this classification. First

is that between the bond and the share; second, that of the legal and economic position of the issuer.

A bond is a written promise by a government or corporation to pay a certain sum of money and to pay interest upon said sum at fixed intervals until maturity. It is the promissory note of the state or corporation, usually secured in case of the corporation by a mortgage upon definite property, and in the case of the state sometimes by the pledge of revenues from a particular source. In the case of railway and industrial corporations, the mortgage executed is usually in the hands of a bank or trust company, acting as trustee, and thereby guarding the interests of both parties.[1]

A share of stock, on the other hand, is a certificate of partial ownership with other shareholders in a property. The owner of a share of stock usually has a voice in the management of the property, while the bondholder stands only in the position of a lender without any share in the control; but, on the other hand, the bondholder's claim has a preference over that of the stockholder, just as in the case of a mortgage upon a dwelling, in which the owner of a mortgage has the first claim to the proceeds of the sale of the property, but is not the owner and manager of the equity in it.

From this distinction in the legal status of the bond and stock arises a distinction in their claim upon the earnings of a company. The bond usually bears a fixed rate of interest, which the company cannot refuse to pay without subjecting itself to foreclosure and bankruptcy. The share, on the other hand, is only a claim upon the surplus earnings of a company after legal obligations have been met. Dividends upon shares of stock may be paid or not at the pleasure of the controlling powers in

[1] Much variation and complication have been introduced into mortgages by railway and industrial leases, consolidations, and the organization of "holding companies" in recent years, especially in the United States. Several of these are described by Nelson, *The A B C of Wall Street*, p. 24.

the company. They usually bear some relation to surplus earnings, but not all the surplus earnings are usually thus employed, and sometimes dividends are thus paid from the accumulated surplus of previous years. From these conditions it results that a bond, other things being equal, will command a higher price than a share of stock, because the assurance is greater of the permanency of the income from it; but, as there is no maximum limit to the rate of dividend which may be declared from sufficient earnings, while the income from a bond is fixed, stocks in certain companies representing large earnings rise much higher in price than bonds issued by the same company.

The only form of securities issued by governments are bonds, except short-term obligations, as certificates and notes, which bear the same essential character. Railway and industrial companies issue both bonds and stock, while banks, unless they carry on some special class of business which permits them to accumulate capital by the sale of debenture bonds, issue stock only.

The negotiable securities most useful as an auxiliary to money and banking credits are the bonds of cities and states and the stocks and bonds of manufacturing and transportation companies, which are regularly dealt in on the exchanges. The shares of important banks are dealt in to some extent upon the exchanges, but the public policy of most states has hedged such shares with restrictions which are not thrown around other classes of securities. The shares of the Bank of France, for instance, are not permitted to be transferred to bearer,[1] but the name of the holder must be registered at the office of the bank. In England the law prohibits trading in bank shares on credit. The shares must be in the possession of the seller, and he cannot sell for future delivery, however clearly he may anticipate a fall.[2] The

[1] *Dictionnaire du Commerce*, article "Actions," I., p. 56.

[2] While this is the provision of the law (Leeman's Act), a witness before a Parliamentary committee declared that it was

national banks of the United States are forbidden to deal in their own stock,[1] and their shares are seldom the subject of speculation upon the exchanges.

Negotiable securities which are quoted upon the exchanges rank next to banking credits as a medium of exchange because they are more readily convertible into money or credits than any specific commodity. Their value in this respect was recognized at least a century ago in the London market. It was declared by Thornton, in 1807, that stocks, "by being at all times a salable and ready-money article, are, to a certain degree, held by persons in London on the same principle as bills, and serve therefore, in some measure, like bills, if we consider these as a discountable article, to spare the use of bank-notes."[2] Such securities partake of the exchangeable character of money because they are not themselves specific commodities of limited consumption, but are titles to the earnings of corporations or pledges for periodical payments of sums of money in the form of dividends or interest. They come nearer than any other article to performing the function of money, in commanding all commodities, because they are desired for their power to earn money rather than for their power to satisfy any special want.[3]

The employment of credit and the extension of commercial operations have created two great classes of mar-

never regarded, and that if any member of the stock exchange were to plead the act in bar of any bargain he would be put out.—*The Rationale of Market Fluctuations*, p. 30.

[1] Revised Statutes, § 5201.

[2] *The Nature and Effects of the Paper Credit of Great Britain*, p. 34.

[3] Pratt declares that a stock market is an income market—"a place where incomes are bought and sold." In Paris, he says, "an investor will say to his broker, 'Buy me enough rentes to pay me an income of, say, 50,000 francs a year'; he goes into the market to buy not rentes, but income."—*The Work of Wall Street*, p. 30.

kets for transactions which do not involve the selection of particular commodities. A general term, the bourse, is applied on the European Continent to both these classes of markets—those where negotiable securities and those where certain classes of merchandise, like cotton and wheat, are the object of operations. Both of these markets approximate in some degree to the money market or the market for available capital, but the market for negotiable securities approximates more nearly to the money market than do the produce exchanges. The reason for assimilating the produce exchanges to the stock exchanges and the money market is the fact that the articles dealt in are of general transferability by classes. The purchaser of a bale of cotton or a bushel of wheat on the international exchanges does not make personal inspection of a particular lot, but only requires the knowledge that the lot conforms to recognized standards. These standards are fixed by samples, and a bale of cotton or a bushel of wheat of a given grade are the same in all international markets.[1] They are used as substitutes for money through the exchanges in a manner which would not be possible with articles not thus graded.

A bourse, whether for merchandise or securities, is primarily a central market, where values are regulated by the unfettered competition of those who represent supply and those who represent demand. The differences between individual judgments and the private and public knowledge of particular facts are reduced to a minimum under modern conditions. The telephone and the telegraph connect all markets and make known all important changes in demand and supply until "their

[1] "The merchandise of the Bourse, aside from securities, consists preferably of things which are easily transportable, meeting general necessities, and of which one considers only the quantity or simply a gradation of value."—Behrend, *Lehrbuch*, quoted by Sayous, *Les Bourses Allemandes*, p. 63.

relations assume an international character and the conceptions of value formed, while they remain variable, yet as they are fixed by all the bourses interested—often by those of all the world—furnish data of the greatest value." [1] Corners in commodities and securities, which were once possible in isolated markets, become increasingly difficult under modern conditions.[2] Such achievements as that attributed to Nathan Rothschild—hurrying on horseback from the field of Waterloo, crossing the English Channel in a fishing-boat in a storm, and buying stocks secretly while reports of disaster to the English arms kept the national securities at low prices [3]—are not easily repeated to-day.

Speculation in its proper sense is the result of intelligent study of the relations of production and supply to possible future demands. Commercial speculation of this character is very different from a game of chance, but the difference lies with the speculator rather than in the form of the operation.[4] It is the function of the intelligent speculator to anticipate future needs by buying goods for future delivery at prevailing prices, which he believes are below those which will prevail in the future,

[1] Sayous, *Les Bourses Allemandes*, p. 58.

[2] Wells declares that in the case of grain the railway and steamship "have decided that there shall be but one market—the world," the speculator for a rise in wheat in any one country "finding himself practically in competition with all wheat-producing countries the moment he undertakes to advance prices."—*Recent Economic Changes*, p. 47.

[3] Varigny, *Les Grandes Fortunes aux États-Unis et en Angleterre*, pp. 89–91. This report is declared to be legendary. Rothschild appears to have received early news of Wellington's victory from his Ostende agent.—Duguid, p. 140.

[4] Raffalovich declares that "One cannot distinguish by exterior signs transactions which are legitimate and simple gambling," and that the evil arises "when the manufacturer speculates in securities which he knows little about, or the banker in merchandise, or the outsider as a dilettante, under the idea that the bourse is a gaming house."—*Le Marché Financier en 1893–94*, p. 101.

and by selling goods at prevailing prices when he believes they are higher than those which will prevail in the future. His appearance as a buyer and seller for the future thus tends to mitigate the intensity of present price movements, which are based upon visible and present supplies and upon the limited knowledge of retailers. If the judgment of the speculator is sound, he obtains a supply of commodities for delivery in the future which will afford him a profit in time of scarcity, or, in the reverse case, he brings into competition with present prices which are unduly high his offer of the production of the future.

The word speculation means reflection and deduction —the process of abstract reasoning. "It is not by virtue of a coincidence," says Georges-Lévy, "that the same word is employed to designate the labor of philosophers and the enterprise of those who, as the result of extended reflection and carefully considered calculations, believe that they can foresee the fluctuations in price of objects necessary to humanity, and direct their acts accordingly."[1] Their services are useful not only to the community as a whole, in anticipating future needs and turning capital into the most productive channels, but they benefit greatly the producer and manufacturer. The opportunity of selling products and securities in anticipation of future delivery operates as a form of insurance and diminishes the speculative element in transactions instead of increasing it. The manufacturer, by making contracts for the delivery of his goods at fixed prices, is able to calculate with some degree of certainty upon the relation of the amount realized to the cost of his raw materials, and to manufacture goods upon a scale which would not be possible if he trusted to the accidents of the market at the moment when his products might be finished. The broker who has a new security which he

[1] *Mélanges Financiers*, p. 4.

desires to place from time to time in the future, making possible, for instance, the opening of a new country to railway traffic, protects himself against loss resulting from future changes in market conditions by selling other securities for future delivery at current prices. These securities will realize a profit when the date arrives for delivery if the market has in the mean time become unfavorable, and will offset the loss upon his new securities. They will have to be bought at a loss if the movement of prices has been upward, but the upward movement will afford a profit upon the new securities which he is seeking to place upon the market. Thus, to quote again from Georges-Lévy, "there is a genuine insurance, which the broker will have himself organized and on which he will willingly pay the premium for protection against any accident." [1]

The value of securities is governed by different laws in some respects from the value of commodities, because securities, like money, are not consumable. Any one type of security, moreover, is limited in quantity and not subject to increase by increased demand; but in respect to the levelling power of central markets, by the convergence at a common point of the influences which govern prices, commodities and securities are subject to similar laws. In the case of a limited supply, which is not capable of increase by increased demand, as is the case with any particular security, the price will be related to the demand rather than to cost of production. This influence accounts for the price of certain first-class securities like British consols, whose price is disproportionately high to their earning capacity because they are in demand for trust funds.[2] In the security market as a whole,

[1] *Mélanges Financiers*, p. 16.

[2] "The voice of the courts of law makes them in effect articles of luxury and monopoly to a certain extent."—Giffen, *Stock Exchange Securities*, p. 92. Mr. Giffen pointed out in 1899 that "when large new issues take place, and when practically a new

however, the law of substitution will restrain the price of any single security within certain relations to the prices of other securities according to relative safety and earning power. Apart from special causes, the whole mass of securities is in a sense homogeneous. The differences between one type and another are governed by the law of marginal utility, which will fix the price of any one security upon the margin where it ceases to be more desirable than some competitive security of a slightly different degree of safety or earning power.[1]

The division of undertakings into shares dates back to the ancient world, when associations were formed in Rome for farming the taxes. The publicans, or tax farmers, according to the language of Cicero, associated various capitalists with them, who were permitted to share in the profits of their operations, but had no share in the management. The Forum was the gathering-place of the *argentarii*, the official money-changers and brokers, and there, says Léon, "and in the space between the two temples of Janus, financial operations were carried on which led to furious speculation, creating and in turn destroying fortunes."[2] The shares in the associations of the publicans were the subject of lively transactions, and their quotations fluctuated daily with political events and the reported fruitfulness of their enterprises. But the Romans were not familiar with stock companies nor public loans, and when Augustus reorganized the tax system this form of speculation came to an end.[3]

Modern dealings in transferable securities date from the issue of public loans by the Italian cities in the Middle

market would have to be found, the price would be considerably lower than it is now."—*Economic Inquiries and Studies*, II., p. 190. This prediction was abundantly verified by events.

[1] *Vide* Von Wieser, *Natural Value*, Preface by Smart, p. xii.

[2] *La Coulisse et ses Opérations*, p. 8.

[3] *Vide* Jannet, *Le Capital au XIXe Siècle*, p. 337.

Ages. Venice, Genoa, and Florence were among the governments which thus appealed to their citizens. The Bank of Venice, at its creation in the twelfth century, was only a transfer office for the national debt, and in the fourteenth century sales of the debt for future delivery, settled by the payment of a difference, were a common practice on the Rialto. The credits against the government, there and at Genoa, were inscribed in a book of the public debt and were divided for convenience into equal parts, which were transferable and could be transmitted to heirs under various privileges, such as exemption from taxation. It is declared by Arthuys that the creditors of the state had need of a strong organization, as the guarantees granted them for the payment of interest and reimbursement of the capital bore upon the revenues farmed out by the state, like the salt tax. This community of interest resulted in the formation of a society for farming the taxes.[1] The most ancient French loan of which there is record was issued in 1287 by *Philippe le Bel*, but as early as 1316 an ordinance of Philip V. recognized the existence of a perpetual debt by a provision that the sums arising from the confiscations should be applied to its extinction.[2] The systematic organization of the debt dates from the reign of Francis I., when a decree of September 27, 1522, authorized the issue of bonds secured upon the revenues of the city of Paris. As these obligations were paid with little regularity, they became a subject of violent speculation, in which the favorites of the king bought them at a low price and then obtained from him the privilege of full payment.[3] The public credit was so bad and free capital was so scarce, that notaries were forbidden to authorize the issue of securities for private enterprises until the public obligations were entirely subscribed.

The obligations of private corporations for commercial

[1] *De la Constitution des Sociétés par Actions*, p. 7.
[2] Vuhrer, I., p. 4. [3] Léon, p. 12.

and industrial purposes gradually grew up alongside those of the state. In France chambers of commerce, authorized as early as the close of the sixteenth century, paved the way for the *bourses de commerce*, which were described as public places where merchants, bankers, brokers, interpreters, and others engaged in commerce met to deal in everything pertaining to bills of exchange, large enterprises, insurance, loans, and similar matters.[1] The British East India Company was established in 1599; but the company of Merchant Adventurers and the Eastland Company were already succeeding to the business of the Hanseatic League, and the Levant Company had been incorporated in 1581 for carrying on the trade with Turkey, which had formerly been monopolized by the Venetians.[2] The shares of the Dutch East India Company, chartered in 1602, were transferable to bearer, if desired in that form, and were the subject of lively transactions on margins on the Bourse of Amsterdam. Regulations against speculation were made by the States-General as early as February 27, 1610, and were renewed without avail in 1621 and 1677.[3] The French East and West India companies were established in the latter part of the seventeenth century, but the shares were almost entirely subscribed by the king and his associates so that they did not appear largely upon the stock exchanges.

Among the most valuable of the new securities which grew out of the development of modern commerce were the shares in the banks which were organized late in the seventeenth century and the beginning of the eighteenth century. The shares in the Bank of England were a highly prized investment, from the beginning, but dropped from one hundred and seven to eighty-three within two

[1] Martin, *La Grande Industrie en France sous le Regne de Louis XV.*, p. 82.

[2] Cunningham, *Growth of English Industry and Commerce*, II., p. 24.

[3] Jannet, *Le Capital au XIXe Siècle*, p. 432.

weeks in 1696, when the Land Bank was authorized to throw its stock upon the market.[1] The joint-stock principle was only beginning to make its way, and as late as 1764 had hardly been applied at all to manufacturing enterprises. It is declared by a careful writer that "The funded debt, the Bank of England, the East India Company were the only examples of really large and safe investments at the opening of the eighteenth century."[2]

It was the speculative mania which developed between 1716 and 1720, when John Law was floating his gigantic schemes for readjusting the national debt, which introduced widely into France securities payable to bearer. The Rue Quincampoix, then in the centre of commercial Paris, had long been the favorite quarter of the Italian bankers, who speculated in the public debt after the peace of Ryswick in 1697.[3] This street became packed with furious crowds of speculators, while the Mississippi frenzy was at its height, and was finally closed by the police in order to check the violence of speculation. The decree of October 25, 1720, which closed the Rue Quincampoix, gave an official character to the organization of French stock brokers (*agents de change*), which has been perpetuated with some interruptions to the present day. Their business attained such dignity that the bourse was legalized in 1724 and assigned quarters in the Hôtel de Nevers, between the Rue Vivienne and Rue Richelieu.

When industry was made free in France by the decree of the Constituent Assembly of March 2, 1791, many new corporations were formed and a spirit of speculation in securities ran riot, which was brought to a sudden check by the abolition of all stock companies by the decree of August 24, 1793. The bourse had already been closed

[1] Rogers, *First Nine Years of the Bank of England*, p. 50.
[2] Hobson, *The Evolution of Modern Capitalism*, p. 42; *Cos.* Smith, *Wealth of Nations*, II., p. 340.
[3] Courtois, *Histoire des Banques en France*, p. 35.

by a decree of June 27, 1793, and remained closed until April 25, 1795.[1] The French stock market has since remained under official supervision, although alongside of the seventy official *agents de change*, occupying the *parquet*, has arisen the unofficial board known as the *coulisse*. Several legal conflicts have occurred between the privileged brokers and the *coulisse*, which led in 1898 to the reorganization of the stock exchange and the prohibition of dealings on the *coulisse*, except in certain classes of securities.[2]

The foundation of organized markets is shrouded in obscurity in England from the fact that they were not, as in France, the objects of official solicitude. "Liberty of organization, liberty of administration, liberty of recruitment, liberty of quotations, liberty even of jurisdiction," affords the reason, in the opinion of a French writer,[3] why documentary records are lacking regarding the English stock exchanges. It is known only that the Royal Exchange was erected in 1554 by Sir Thomas Gresham and that stock transactions were carried on there until well into the eighteenth century, when they were transferred to the rotunda of the Bank of England and in 1798 to a coffee-house in Threadneedle Street. The number of securities dealt in was so small and public credit was so feebly established that prices of consols fluctuated violently under the incidents of doubtful finance or war and peace. A surplus of free capital seeking investment, which, in 1737, carried these obligations to 107, did not prevent a fall to 61⅞ in 1762 and 53¾ in 1782. These wide fluctuations afforded great profits to speculators, and so enriched the brokers that they were able in 1801 to lay the corner-stone of the present exchange in Capel Court.

England was for many years the chief source of new

[1] Vuhrer, I., p. 413.

[2] *Vide Bourses des Valeurs Mobilières;* Vidal, *Dictionnaire du Commerce*, I., p. 625.

[3] Boudon, p. 5.

capital seeking investment. The result was at once to make the London Stock Exchange the broadest and most important and to make the English people, in spite of their natural conservatism, the most venturesome in risking their capital abroad. As early as 1824 a score of foreign loans, largely to the revolutionary governments of Latin America, had absorbed no less than £52,000,000 of British capital, much of which was ultimately lost.[1] At home also much was lost through the mania for new company incorporations, of which no less than 283 were known on the stock exchange, with nominal capital of £150,000,000.[2] Similar experiences were endured with American and other foreign securities again after the crashes of 1837, 1857, 1873, and 1890; but nothing permanently checked the growth of the English exchange, or destroyed the appetite of the British public for foreign investments.

In spite of the practical freedom from government control prevailing on the London Stock Exchange, a license was paid to the lord mayor of London up to 1886, and several Parliamentary commissions undertook to dictate rules to the exchange. In 1875 a select committee on foreign loans made a scathing report regarding the flotation of the securities of certain South and Central American states, and this was followed in 1878 by a recommendation from a royal commission on the stock exchange that the exchange should be incorporated. It was pointed out, however, by a minority of the committee that a higher standard of morality was enforced on the exchange than could be reached by the law of the land and that the freedom of the governing committee to sustain this standard would by incorporation be greatly hampered.[3] The failure of the government to take any effective steps to carry out the recommendation of the majority confirmed the judgment pronounced

[1] Gilbart, I., p. 64. [2] Duguid, p. 125. [3] *Ibid.*, p. 280.

by the commission itself, that they felt assured that the want of a written contract between members had in practice no evil results, and that out of the millions of contracts made on the stock exchange such a thing was hardly known as a dispute as to the existence of a contract or as to its terms.[1] The change of the rules to meet new conditions has been made from time to time by the members themselves, one of the last changes being a limitation of membership to 5000.[2] The very mention of so wide a limit indicates how far the English view of the control of such institutions departs from the jealous supervision exercised by such a government as that of France, where the members of the bourse are nominated by the government, are mutually responsible for one another's obligations, and were increased in number by the reforms of 1898 only from sixty to seventy.[3]

The germ of the New York Stock Exchange is found in the organization of twenty-four persons in 1792 into a company of "Brokers for the Purchase and Sale of Public Stock." A paper was signed agreeing not to charge less than one-fourth of one per cent. commission on such transactions. The favorite meeting-place of the brokers was near a buttonwood-tree, which stood in front of 68 Wall Street. This street, so called from the old stockade or wall which protected the early Dutch city from the Indians, was in 1792 an important street. The City Hall had been erected in 1699 on the present site of the Sub-Treasury, and Hamilton lived nearly opposite, not far from the corner of Broad Street.[4] The actual stock exchange was not organized until 1817, and even then

[1] Duguid, p. 264.

[2] *Vide* London *Economist* (November 5, 1904), LXII., p. 1770.

[3] That the English system of self-government is better adapted to the exigencies of modern commerce was set forth in forcible language at the International Congress of Negotiable Securities, held in Paris in June, 1900, by Messrs. Raphael Georges-Lévy and E. Vidal. *Vide* Courtois, *Opérations de Bourse et de Change*, p. 664, et seq.

[4] Pratt, p. 5.

the dealings were chiefly in the national debt, which amounted in 1816 to $108,510,000—the highest sum attained prior to the Civil War. As the public debt was reduced, the demand for railway capital had a large share, as in England and France, in maintaining the business of stock brokerage in New York. The gold exchange, which was organized in 1864, was one of the famous episodes of the Civil War. The events of Black Friday in 1869 practically destroyed outside speculation in gold, and the gold room was closed in 1877, when the approach of specie payments wiped out the premium on the yellow metal.

Only in the brief and disastrous attempts to check speculation in gold by the act of June 17, 1864, have the American exchanges been subjected to serious official control. They are private, voluntary associations, governed, as in Great Britain, by a more strict code of morals than could be enforced by the courts of law. Membership in the New York Stock Exchange is limited to 1100, and candidates must not only pay a large sum for seats, but must meet the requirements as to character and responsibility imposed by the committee on admissions. The price of seats was as low as $2750 in 1871; advanced to $32,500 in the "boom" year of 1882, to fall in the panic of 1893 as low as $15,250 and in 1896 to $13,000; but advanced in 1901 as high as $80,000.[1] Government interference has never gone far, even in levying taxes on the stock exchanges of the United States. The rapid growth in the volume of their transactions and their prompt responsiveness, under this policy of freedom, to actual conditions, justifies the declaration of a veteran member of the exchange:[2]

"Wall Street has been very aptly described as the 'business pulse of the nation,' and that is what it is, in the truest sense of the term. As the mercury in the

[1] Pratt, p. 96.

[2] Clews, *The Wall Street Point of View*, p. 2.

thermometer denotes the degrees of heat and cold, so do the fluctuations in the Wall Street markets show the rise and fall of the business activity in mercantile or manufacturing circles, and it is immediately reflected in the Stock Exchange and the other exchanges where values are dependent upon business activity and financial confidence."

II

HOW THE STOCK MARKET REFLECTS VALUES

The market the barometer of the supply of uninvested capital—Gold and securities on the margin of value—How changes in their relations affect other values—Relative position of bonds, inactive and active securities—Changes in prices due to changes in supply of capital or in earning power of properties—Influence of the money market—How the stock market determines equations of production.

IT is a truism that changes in the value of corporate properties are reflected by changes in quotations for their shares in the stock market. It is not always so clearly understood, just how far values in the stock market also reflect the values of other forms of property, and determine the direction of the employment of capital. It is sometimes assumed that the stock market is a thing apart from other markets, and that such persons as the manufacturer, the merchant, and the dealer in real estate need not give attention to its vagaries as having any bearing on their own transactions. It is proposed here to show that quotations on the stock market, while more sensitive than those for other forms of property, in the long run reflect all values which are influenced by the supply of capital and determine the direction in which new capital shall be applied.

The stock market is the barometer of the supply of uninvested capital and the demand for it. The fluctuations in prices of different classes of securities on the stock market afford an index to owners of free capital in what direction it can be most profitably invested. If

Western railway stocks, for instance, are high, it is an indication that they are earning large dividends, and is an encouragement to float new enterprises of a similar character. Similarly, if the earnings of steel companies are poor, their securities decline in value, and this is a convincing warning to capitalists not to buy the securities of new steel enterprises. Mistakes, miscalculations, over-sanguine estimates of the future, too rapid discounting of prospective benefits, are, of course, constantly taking place, but they are mistakes which are quickly corrected when the sensitive indications of earning power and stock-market values give clear warning.

Prices, whether of commodities or of securities, are an index of relative values. If a bushel of wheat sells for one dollar at the same time that ten pounds of cotton sell for one dollar, it is an indication that these quantities of these two articles are of equal value. But when a bushel of wheat sells for eighty cents and ten pounds of cotton continue to sell for one dollar, the fact is expressed that wheat has fallen in relation to cotton in the value proportion of one-fifth. It is the same in regard to securities. If Pennsylvania railway stock sells at 120 while some other stock sells at 100, it is an indication that in the estimation of buyers Pennsylvania railway stock is worth twenty per cent. more than the other stock. Any common denominator would express the ratio of value between wheat and cotton, like the use of the numerals 4 to 5 or $\frac{4}{5}$ to 1. Money has come to be used in civilized communities, however, to express this relation, so that relative values take the form of prices. It remains to point out how these ratios of value, as reflected in prices, determine in the long run the direction of the entire economic efficiency of a community—that is, the direction in which every man shall apply the savings of his past labor and his actual future labor.

The interposition of money in a sense complicates the determination of value. It greatly simplifies the ex-

pression of other values because it affords a common denominator, but it introduces the element of possible fluctuations in the value of money into the fluctuations of relationship between different commodities. Money is itself a commodity highly sensitive in its relationship to other commodities. Whether changes in its value are the result of causes arising in connection with money or causes arising in connection with goods can be passed over here. It is only necessary to point out that money is in a sense a commodity of a highly variable value, because it reflects the changes of relationship between all other things.

Real money in gold-standard countries consists of gold. The floating stock of gold, therefore, in any community may be described as on the margin of values, because it is highly sensitive to events affecting the economic relations of demand and supply of other articles. Almost equally available, however, for exchange are other forms of currency, many forms of credit, like bills of exchange, drafts and foreign balances, and the active stocks quoted on the stock exchange.

While securities are, therefore, practically as sensitive to changes in value as gold or foreign credits, yet in a graded scale of such sensitiveness or mobility gold would, logically at least, be put first; other classes of currency next; then other forms of credit; then stocks on the active list; next stocks and bonds suitable for trust funds and usually on the inactive list; then raw materials of production; and, finally, fixed capital in the form of manufacturing plants, railways, and improved real estate. A disturbance of the economic order, whether by a shock to confidence or by an increased demand for given products, acts first upon the demand for banking credits, which rest upon gold; then upon prices of active stocks; then upon prices for those less active; and, if persistent in its operation, upon prices of the materials of industry, upon the values of manufacturing and trans-

portation plants, and even upon real-estate values of all classes.

It might seem at first blush as though only those values were affected by the stock market which are represented by securities quoted on the market. It is undoubtedly the fact that it is these quoted properties which are most sensitive to changes in the conditions which affect value. The so-called "active" stocks in the market—those which are most traded in by speculators—constitute a sort of elastic element, below which are the more solid securities which are less active, and, farther down, properties which are not represented by securities at all. Many of the changes in the stock market, especially those of a day or a week, do not seem to be reflected directly by corresponding changes in the values of other property. The owner of a house or a building-lot in New York or Washington, or of a farm in Illinois or Nebraska, does not change the price of his property because Pennsylvania railway stock has fallen three points the previous day in Wall Street, or the Steel Corporation has reduced its dividend. If, however, the causes which produce these changes in the quotations for stocks are permanent or serious in their character, they sooner or later react upon all values, whether they are represented by stock-exchange securities or not.

Even in respect to the fluctuations of a day, while they may not result in deliberate change in the price of a property, they may affect the possibility of its sale. In an ascending stock market, regarded as the index of genuine business progress, an intending purchaser of ground for a new factory will be much more disposed to pay the price charged than in a falling or irregular market, which may be the index of industrial troubles to come. Subject also to the influence of stock-market hopes or fears will be the man purchasing land for a new home, in expectation of continuous business prosperity. If he doubts the future, he will wait, and if he waits long

the market for real estate, as well as that for stocks, will feel the influence of his waiting. Thus, it is clear that all properties substantially reflect sooner or later the sensitive indications of changes in value afforded by the stock market. Those influences which merely make for delay and for a "slow" or "heavy" market are less apparent, because they cannot be reduced to a definite mathematical expression. It is upon the stock market that new influences affecting values are felt most promptly and keenly, because the market is capable, by fractional changes in quotations, of measuring them through the medium of price.

The "active" stocks fluctuate more frequently and widely than other classes of property, because they are on the margin of speculation. They represent marginal investment in several senses. They represent usually properties whose dividends are more likely to be suspended, or their prospect of future dividends postponed or impaired, by unfavorable developments affecting value than the bonds or "gilt-edged" stocks which are not the subject of speculation. Their origin and position are well defined by Emery:[1]

"Each new enterprise must stand the test of criticism, and unless unusually sound will be the subject of active speculation. Its ups and downs follow the changes of opinion, until gradually a continuous flow of dividends of moderate amount shows the stability of the real value (or lack of dividends shows the valuelessness) of the security, and speculation ceases. The particular investment has been put through the ordeal and come out whole. It then becomes a field for the private investor. Many of the more active stocks of to-day may run the same course, and fall into the honorable obscurity of certainty."

[1] *Speculation on the Stock and Produce Exchanges of the United States*, p. 153.

In another and perhaps more distinctive sense active stocks are on the margin of speculation, because they are more influenced than other properties by the amount of free capital in the market. There is always an undistributed supply of these active stocks which is readily absorbed when surplus capital is plentiful, but which proves a weight upon the market when free capital becomes scarce. While these supplies of capital are daily influenced by those forces which influence earning power, it might theoretically be possible that capital had become scarce while earning power continued unimpaired. In such cases the market prices of stocks would fall because of scarcity of capital. This cause might be described as extrinsic to the stock, while the causes influencing its dividend-paying power would be intrinsic. It is the constant interplay of these two classes of forces—those which influence earning power directly and those which influence the supply of free capital—which determines actual quotations in the stock market.

Each of these influences, moreover, reveals itself in manifold forms. Among the influences which affect prospective earning power are all the facts and rumors which indicate the economic future—not only whether crops are to be large or small, but whether consumption is to be greater or less; whether given properties are managed well or ill; whether the rate of growth of population and wealth promises increased earning power in the future, or whether competitive establishments threaten to reduce the margin of profit; whether legislatures are disposed to grant new franchises and continue old ones, or to impose direct burdens to be paid out of dividends, and indirect burdens, which gradually cripple the producing power and the initiative of the community.

It is because these facts and many others have a bearing on the present and future earning power of property represented by securities on the stock exchange that

every particle of news having any business significance, even though it is in part diplomatic or political, is so eagerly sought and closely scanned by the careful broker and speculator. It is in estimating the exact weight to be given to each of such probabilities in affecting the price of a given stock that the speculator is said to "discount" the market, and inevitably he makes a larger allowance for the effect of such contingencies upon "active" and undistributed securities than upon those whose earning power such contingencies are likely to affect less seriously.

"Gilt-edged" securities — those suitable for the investment of trust funds — acquire their character because they represent enterprises which are not on the margin of speculative investment. If they are manufacturing enterprises, they are engaged in producing articles of nearly constant demand, only slightly affected by changes in degrees of prosperity. If they are railroads, they are in old and thickly settled sections, where traffic is not likely, even under the most adverse conditions, to fall below the amount required to pay interest or earn dividends. If they are government bonds, as is often the case, they depend upon the element, less distinctly economic, of the good faith and established credit of the issuer; but even here value depends upon the fundamental requirement that the community shall possess the wealth and economic efficiency necessary to pay taxes and maintain a well-balanced budget. In all these cases, such securities may represent a first lien on earnings whose ultimate limit is more or less speculative; but the "gilt-edged" securities will be secured by earnings below the margin of speculation, while "active" securities will represent earnings beyond this margin which may fluctuate greatly under varying conditions.

On the side of the supply of floating capital, also, the influences are manifold which may raise or depress the prices of securities. To a certain extent these influences

are general in their scope, and affect more or less "gilt-edged" investment securities as well as those of a more speculative character. Fundamentally, the volume of free capital is disclosed by the rates for the use of money. If what is popularly called "money" is scarce, the interest rate is high; if it is plentiful, the interest rate is low. Under the direct operation of this influence, the prices of stocks should be high when money is low, and should be low when money is high. The influences which operate upon the stock market, however, are psychological as well as quantitative. Hence it often happens that the spirit of speculation and optimism which accompanies a rising market persists in the face of high rates for money. On the other hand, stock speculation may be at a stand-still and prices of securities low while money lies idle in the banks and begs for employment at low rates. The operation of this psychological influence is sometimes felt, therefore, in direct opposition to what would be the mathematical influence of the supply of free capital, and this fact indicates how difficult is the problem of the speculator of estimating correctly the future value of securities.

When the demand for money and capital is active, it is because circulating capital is being converted into fixed forms. Men who are saving are investing their savings in the extension of the mechanism for making and transporting goods. Under the modern organization of industry and finance, this does not require that each individual with money to invest shall be the operator of a mill or railway. In order to be part owner, with participation in the profits without direct responsibility for the management, he is able to make his investment by buying shares in new enterprises. In prosperous times the demand for such shares begins to exceed the supply, unless many new enterprises are undertaken.

The fact that new capital is coming into the market seeking investment operates to enhance the price of exist-

ing securities as well as to afford a market for new ones. To the investor with capital to spare, it is indifferent whether he buys stock in an old company which is paying dividends or in a new company which under assurances of equal safety offers the same return upon the amount invested. In the market the whole body of new capital bids for the whole volume of securities. There is no distinction between the old and the new as such, except as the new securities in most cases are "undistributed," and from being untried may appeal to the speculative element rather than to those who seek a tested "gilt-edged" investment.

The increase in prices of securities is due, fundamentally, to an increase of capital bidding for their ownership. A demand, however, usually creates a supply. Hence a large investment demand results in the creation of new securities, which sometimes have little other warrant for existence. There comes a point at which, even if the proposed enterprises are not distinctly fraudulent or unsafe, the supply of capital for carrying them on is entirely absorbed. The psychological element of faith in a rising market is usually prolonged beyond the point at which the supply of capital equals the demand. Capital cannot under any circumstances be applied to new enterprises beyond the amount for which it actually exists; but under our flexible system of credit it may be subscribed for new enterprises by borrowing up to the point where bank reserves are reduced below the point of safety, and by bringing it in from abroad.

When sharp warning is given by impaired bank reserves of the exhaustion of the fund of free capital, the psychological element becomes a controlling factor in the market. The demand for stocks in new enterprises ceases, often very abruptly; these and other stocks fall; the strain put upon the financial resources of new enterprises breaks down the weak, and their collapse arouses fears in regard to others. Hence develop conditions ap-

proaching a panic, and the owners of capital are driven by fear from the stock market. Under such circumstances, not only do stocks fall rapidly in price, but even those considerable accumulations of capital which go on in both good times and bad do not make their appearance in the stock-market bidding for securities. The psychological factor in the problem keeps the new capital in the form of banking credits, and leaves securities to fall to low prices because they are confronted by only a limited demand.

The mechanism through which these conditions are expressed in the money market is complicated but elastic. It is influenced primarily by the rates charged at the banks for the use of capital. It is the relation of the gold supply to credit which reflects the supply of free capital and causes those sudden and sharp changes in the stock market which are considered by superficial observers as independent of general conditions of business. If credit has been overstrained by speculation, there comes a time when gold reserves are depleted and energetic steps have to be taken to replenish them. The classical method for doing this is to reduce loans and raise interest rates. Both these steps tend to discourage speculation by making it less profitable to carry securities on margins. Hence securities are thrown upon the market, already disturbed, radically changing the relations between supply and demand for them. While the stock market, by means of the arbitrage of securities and the ability to substitute securities for gold in paying foreign obligations, acts in the long run as an effective buffer between gold and goods, yet in so acting it displays a sensitiveness which sometimes leads to misconception of its functions.

The sensitiveness of the stock market is due to the fact that it is the market for capital which is free and uninvested. Individuals and institutions having capital which they have not decided to invest in a permanent

manner in new mills, new railways, or some other form of fixed capital, hold it in the form of gold coin or banking credits. It is conceivable, and it often happens, that this fund of floating capital changes radically in its relation to the volume of securities in the market within comparatively short intervals. While the number of available acres of real estate in the country is expansible only by the clearing of new tracts, and the capital invested in cotton-mills or iron-mills at any given moment is capable of increase only by the slow processes of new construction or improvement of old, so that these forms of capital are comparatively fixed over short intervals of time, the supply of floating capital in a given market may change by ten or twenty per cent., or even more, within a very short period. Hence it is that values in the stock market reflect in a most sensitive manner this movement of capital.

A good illustration of sudden changes in the factors of both free capital and confidence is afforded by the history of the markets of the United States during the three years 1902 - 04. During the first year of this period, free capital was constantly coming upon the market, seeking investment. But the supply of investments soon overtook the demand. A surplus of "undigested securities"[1] pressed upon the market in 1903, free capital became scarce, and the public took alarm. They began to hoard their capital in the form of banking credits, instead of bidding with it for securities. In the mean time the scarcity of free capital in the market enabled the banks to exact five and six per cent. upon short-term loans upon notes drawn by those railways which needed the capital to complete necessary improvements. Then came the reaction—the continued piling up

[1] This phrase was given wide publicity by an interview with Mr. J. Pierpont Morgan, printed in the New York *Times*, March 31, 1903, quoted in the New York *Banker's Magazine* (April, 1903), LXVI., p. 528.

of saved capital by owners too timid to invest it—until confidence returned in the summer of 1904, and principal stocks advanced more than twenty points within a few weeks.

Under the modern organization of capital, the elastic element in the problem, and therefore the most sensitive, is furnished by the stock market and the interest rates charged by banks for stock-exchange loans. If stock-exchange loans did not exist, so that banking credits consisted wholly of commercial loans, commercial credit would go through the same tendency to over-expansion as sometimes stimulates credit granted for stock-exchange loans, and would be brought to a sudden halt when it became necessary to replenish reserves and restrict loans. In so far, therefore, as influences which affect stock-exchange prices are ephemeral, the stock market protects the market for commercial credit against excessive and unnecessary fluctuations. In so far, however, as such influences reflect a persistent economic tendency, the market for commercial credit and prices for goods finally follow these influences, but mitigated and attenuated by transmission of the shock through the markets for stock-exchange loans and for securities.

The produce exchanges may be regarded as an imperfectly developed form of stock exchange. The articles traded in on the produce exchanges are certificates, but they represent consumable commodities instead of permanent properties. They also act as a buffer against sudden fluctuations, in the manner described by W. R. Lawson:[1]

"When, for instance, a short crop is anticipated, speculation discounts it beforehand. By buying in advance it puts up the price sooner than it might have risen if left to its own course. When there is promise of a heavy crop, speculation discounts that by selling in advance. Both operations may be quite legitimate

[1] *American Industrial Problems*, p. 212.

and have a beneficial effect. The rise and the fall may be equally moderated by the action of the speculator. They may be spread over longer periods, and in that way their ultimate danger may be lessened."

If the modern organization of industry included only gold and goods, without stock-exchange securities, then overproduction of goods or unnecessary multiplication of mills and railways would be reflected promptly in prices of goods. If gold reserves became reduced unduly, so that it became necessary to obtain foreign gold, it could be obtained only by the method pointed out by the classical theory of the exchanges—by reducing prices of goods. Certain goods most sensitive in price to the foreign demand would have to be exported at a sacrifice, in order to redress the balance of credit to a basis of solvency. This happens under existing conditions if there has been real overproduction of goods of certain classes or undue multiplication of the means for creating them. Exports of these classes of goods are increased by reducing their price. This increases the foreign credit balances of bankers, and permits them to obtain gold to restore their impaired reserves.

Through the insurance afforded by the mechanism of the exchanges the process is more gradual and less destructive to dealers in goods than if they had to bear directly the entire burden of the change in the relations of demand and supply for free capital. Where the rate for money on stock-exchange loans may, under existing conditions, change within a short interval from one per cent. to six per cent., while commercial loans remain substantially unchanged, the merchant would have to face radical changes in the rate for commercial loans and would see the profits upon his products affected in a corresponding ratio.[1] Under present conditions, the sale of

[1] "The future, therefore, presents itself to us in this way. The banks, as has always been their custom, will devote their funds in the first place to the needs of mercantile borrowers,

securities at a sacrifice in a foreign market tends to restore the equilibrium of credit, where in the absence of securities sacrifice of goods would be required to restore this equilibrium. The burden of risk is thus shifted in large degree from the manufacturer and merchant, who cannot devote their entire time to studying the market for securities and foreign exchange, to brokers and speculators, who are willing to make a profession of studying such risks.

How the interplay of these varied forces determines the movement of surplus capital is the key to the theory of the stock market and its reason for being. If investments in a given direction are proving unprofitable, they cease to be attractive. New enterprises of a similar character are not inaugurated, because their stocks and bonds cannot be sold. New enterprises of a more profitable character, on the other hand, find a market for their securities as soon as they have convinced the public that they meet a public need. Through this mechanism of the stock exchange, therefore, is placed in the hands of the public in a large degree the determination of the direction in which new capital shall be applied. Inevitably, this determination is not arbitrary. It follows the lines of the greatest profit upon capital. In so doing it follows the lines of the greatest utility of capital to the community. The enterprises which meet wide public demands, whether these are ethically high or not, are those which attract capital because they pay the highest return. Their securities rise in the stock market. The securities of enterprises which do not meet a public need either find no market from the beginning or decline in price as their lack of earning power becomes apparent.[1]

what remains being put into loans on stock market securities."—*American Wool and Cotton Reporter* (September 21, 1899), XIII., p. 1114.

[1] It is important to note also that the stock market is free to all comers. As pointed out by a financial periodical: "Into this

The speculator who applies intelligence and foresight to the study of market conditions, and is not merely a gambler on chances, aids the community in determining the direction in which capital may be applied with the greatest economy. In a broad sense commercial operations justify the analysis made by Flux: [1]

"It may be acknowledged that every producer for a future market — that is to say, practically every producer—is to some extent a speculator. He anticipates what will be wanted, at what prices, and in what quantities, and sets to work to provide a supply in accordance with those anticipations. If his anticipations turn out to have been sound, he profits; if otherwise, he loses. The adjustment of the different parts of the productive forces of the society to the satisfaction of its various needs, depends in very great degree on the correct formation of these anticipations."

It is thus through the mechanism of the exchanges that the true relations of supply and demand are revealed to producers. On the produce exchanges and stock markets are reflected, by fractional fluctuations in prices, the slightest changes in supply and demand, and the reaction of these causes upon one commodity in producing changes in the demand for and supply of other commodities. As money permits the measurement of one article against another by price, enabling the relative cost of production and utility of any two or more articles to be accurately compared according to a common standard, so the stock market permits the reduction of all these price com-

market any one may enter. The ordinary individual is no longer able to undertake any large enterprise alone. . . . He may not be able to buy and sell iron, or buy and sell the leading manufactured staples, because men of larger capital than he are able to control these markets, but in Wall Street he may freely and easily deal in the securities which represent the corporations dealing in and transporting these products."—*Wall Street Journal*, March 9, 1905.

[1] *Economic Principles*, p. 158.

parisons to a common unit of measurement for the operations of stock companies. In the discriminating words of Frederiksen:[1]

"In the play of securities and prices there is always a tendency towards equilibrium. Thanks to competition, securities approach a level, not only of utility of service, but also of cost of production, which makes it difficult to dispute the equity of this tendency. On the other hand, the vast ocean of securities and prices never reaches stability nor calm, any more than the waves of the sea. Their incessant, infinite variations represent nothing else than progress, the chastisement of error, the recompense of service rendered, the stimulus to new efforts."

The stock market, therefore, affords the most sensitive barometer of the operation of the scientific laws of value. On this market are decided the contests between buyers and sellers, which result in the settlement of the price of any particular security at just the point of its marginal value in relation to other securities. The level of prices established represents, upon the whole, all the known facts regarding the value and earning power of any enterprise represented by securities and the average judgment of competent persons regarding its future value and earning power. As the fall in prices of commodities below cost of production is a warning to their producer to diminish his output, so a similar fall in prices of securities of a given class is a warning to their holders that their capital has been unwisely applied, and is a warning to the investing community that future investments of capital should be made in other directions. The stock market, therefore, affords a daily and sensitive test of the usefulness of enterprises to the industrial community. Under its operation useless production which might otherwise be continued in ignorance is arrested, and

[1] "La Spéculation," in *Le Monde Économique* (December 17, 1904), p. 770.

capital is diverted from paths which afford less utility to those which afford the highest utility.[1] "It has been seen," says Pareto, "that bargaining was an operation by means of which the market resolved in practice the equations of production; speculation is an operation by which it is sought to reach in the promptest possible way the solution of these equations."[2]

[1] Von Weiser points out that it is the law of marginal utility which determines the price, and that "it is with reference to this valuation that the costs permissible are calculated, that all stocks are inventoried, that all undertakings make up their balance-sheets, and that all profit and loss is reckoned." He adds: "If a socialist community were to give up exchange—the payment of buyer to seller—it would not on that account require to give up this measuring scale for the valuation of goods."—*Natural Value*, p. 27.

[2] *Cours d'Économie Politique*, II., p. 241.

III

THE MONEY FUNCTION OF SECURITIES

Importance of securities in international movements of capital—Arbitrage in securities—Influence of the rates of discount and exchange—Function of securities in advancing capital to new countries—Experiences of the United States and Italy—The French war indemnity to Germany—Great volume of securities in Europe and America—Significance of conversions—Movements of "international securities."

STOCK-EXCHANGE securities have become, during the last half-century, an important factor of international exchange and a more sensitive barometer, in some respects, of the movement of capital and the state of the markets than even discount rates for money. They form a means for obtaining money and credit which is much more economical in many cases than the direct borrowing of gold, and which supplements foreign bills of exchange when movements of credit or capital are required which are in excess of the supply of such bills.

A nation rich in foreign securities or in its own securities, when they are negotiable upon foreign markets, has a reserve for emergencies far superior to an idle stock of gold and silver, because they are earning interest during the time for which they are held. When an emergency arises, like a shortage of the food supply at home or a call by the government for war resources, it is only necessary to sell securities in order to obtain credit and capital. An early illustration of this was afforded in the crisis of 1847, when the crops failed in western Europe and an outflow of gold began from

England and France. The emperor of Russia came to the aid of the Bank of France by offering to buy French national securities to the amount of 50,000,000 francs. The bank accepted the offer and the securities went to Russia in payment for grain, in place of the gold which would otherwise have been exported. A representative of the Bank of France was sent to St. Petersburg to accept drafts upon the Bank of Russia (then known as the Bank of Commerce) and negotiate them upon favorable terms with those having bills to sell upon Paris. The operation in its essence involved the payment by the Russian bank of its own gold to Russian grain exporters, the bank receiving the French securities in lieu of gold.[1]

This operation of half a century ago is only the crude type of a system of regulation of international balances through the stock market which has attained a delicacy and perfection of mechanism equal to that of the money market. It is the function of the arbitragist, or broker in international securities, to determine equations of value between different markets. The word *arbitrage* is derived from the French verb *arbitrer*, meaning to judge or estimate. Hence Deutsch defines its use:[2]

"In the general sense of the term, we can, therefore, speak of arbitrage in wholesale commodities, in freight, in bullion, coins, bills of exchange, and stocks and shares. But usually it is only applied to the comparison of prices in the last-named articles, lying in the line of bankers and financiers, and means especially the examination of the relations between the moneys of the different nations."

The comparative value of a given security differs on a given day in different markets, because of special demands

[1] *Vide* the interesting account by M. Vernes, the agent of the Bank of France, of his mission and operations.—*Bulletin Russe de Statistique* (January–March, 1898), V., p. 173.

[2] *Arbitrage*, p. 8.

upon one market or another for money and capital, which may promise a higher or lower return upon the capital invested if it is turned into cash and applied to some new purpose. This is especially the case when the rental of money becomes high, and explains the brisk selling of securities on European bourses when their comparative value in relation to ready money is impaired by rumors of war and other political events. The value of securities in such an emergency falls greatly in relation to money on the bourses of those countries whose credit is most involved and which may be compelled in case of war to make large demands upon the money market. The equations of exchange then send the securities to markets where they have a higher comparative value and bring money to the market where the need for it is indicated by a high discount rate. As value is the expression of utilities, goods, securities, and money alike tend to seek the markets where they possess the highest value, and the proposition of Block is justified, "Speculation succeeds only if it renders a service—when it has foreseen a future need and has satisfied it." [1]

The movement of securities takes place from one market to another, and especially between international markets—since there is usually but one important market in each country—as the result of the fractional differences in prices which are caused by changes in the money market and in the rates for foreign exchange. Where securities are not shipped directly in payment of obligations, they give rise to bills of exchange by affording means for taking up the bills in the market where the securities are sold. It is by this method that balances of trade can be settled without heavy movements of the precious metals. Exchange operations and these movements of securities are constantly carried on by the calculation of minute fractions of profit which may be derived

[1] *Les Progrès de la Science Économique*, II., p. 14.

from a sale in one market and a purchase in another. How securities may be thus used is set forth by Giffen as follows: [1]

"A merchant or banker in London having money to pay in Paris may effect his purpose quite as well by buying in London French *rentes* or some other security negotiable on the Paris Bourse, and then reselling what he has bought in Paris. Instead of sending a bill of exchange to Paris he sends a bond of the French or some other government, or the obligations or shares of a railway company, like the Lombardo-Venetian railway. At times very considerable transactions of this nature do in fact take place. An exchange dealer who wants to send money from one capital to another, when there are no bills to be had, will buy securities in the one and send them to the other. The operation will probably be that he has sold drafts of his own to people who have inquired for them, and he finds the money to meet those drafts by the purchase and transmission of securities."

Many and various are the devices by which securities are employed in the modern money market, to shift capital from the point where declining interest rates indicate that it is for the moment redundant to the point where stiffening rates indicate that it can render service in averting stringency and facilitating the movement of affairs. One of the forms of such operations, which involves the purchase of securities for their interest and dividend return, pending the equalization of discount rates and exchange charges is thus described by a financial journal: [2]

"A feature of the market is the purchase by foreign bankers of railroad and other bonds maturing during the ensuing twelve months. They are paying for these bonds with the proceeds of long bills of exchange, principally drawn on Paris, which are now unusually high. The in-

[1] *Stock Exchange Securities*, p. 92.
[2] *Wall Street Journal*, December 19, 1904.

tention is to renew the bills from time to time until the bonds fall due and are paid, when it is expected that exchange to cover will be cheaper than now. But it is estimated that with exchange at present rates there is a fair margin of profit between the cost of carrying the bills and the interest paid on the bonds."

Negotiable securities have been one of the necessary instruments for extending credit to new countries. The older countries, where capital has been accumulated in sufficient amounts to be lent for the development of the less advanced countries, usually exhibit a great excess of merchandise imports over exports. This excess in Great Britain reached £250,000,000 in the year 1902. The explanation is found in the fact that British capital has been loaned in the undeveloped countries in the form of exported goods. It is the interest upon these securities which is paid by the large balance of imports of merchandise into Great Britain. The stocks and bonds, being negotiable at any time upon the stock exchanges, and their value being ascertained daily by market quotations, possess an attraction to the general investor far superior to the possession of the personal notes and bills of foreign merchants. Credit would undoubtedly have been extended in a considerable degree to the undeveloped countries from the surplus capital of the old countries by means of mercantile credits if negotiable securities had never been devised, but the invention and wide distribution of securities has greatly increased the volume of such loans by increasing the facility for making them and giving them a determinable value and an exchangeable character upon the markets of the world.

While securities thus afford the most convenient means of transferring capital for long terms to undeveloped countries, they also afford a means of transferring credit for shorter terms, by comparatively small fluctuations in price, in amounts which could not be transferred in the form of commodities or the precious metals alone without

economic convulsion. There have been acute panics in connection with the transfer of securities, and such transfers have withdrawn capital from a country whose financial or economic system had become subject to distrust which might not have been withdrawn if it could have been obtained only by the sale of commodities or delivery of the precious metals. There can be no doubt, however, that upon the whole the existence of securities has diminished the fluctuations in the prices of commodities, and has mitigated the severity of the strain which would otherwise have been felt by the country from which capital has been withdrawn.

The operation of the withdrawal of capital by a lending country from a debtor country by means of securities involves the sale of the securities upon the exchanges of the lending country and their purchase upon the exchanges of the borrowing country. This is effected by the slightly higher rates which prevail in the country where the securities are issued and by the willingness of far-sighted observers of the market to take the securities at low prices. The economic effect of the operation is that the country issuing the securities is compelled to export its merchandise and receive back securities in payment, instead of receiving commodities of the creditor country.

The process of buying back securities may take place under widely different conditions. It may, when it is the result of distrust and financial depression, put a severe strain upon the resources of the country taking back its securities. The process may, on the other hand, when it is the result of a great surplus of capital, afford evidence of the increased resources of the buying country and strengthen its future position by diminishing its dependence upon foreign capital.

The United States passed through both these stages in the purchase of their own securities within a few years. In 1890 the fear that the country would go to the silver

standard caused increased sales of American securities in London after the Baring failure. The withdrawal of foreign capital was masked or retarded for a time by failure of the European crops, which afforded a large market at good prices for American food products, and by exportation of gold, which resulted in a net loss of gold to the United States of $68,130,087 in the fiscal year ending June 30, 1891, $495,873 in 1892, and $87,506,463 in 1893. It was in the latter year that the special demand for American food products and the export of gold ceased any longer to cover the sale of American securities abroad. The effect of the withdrawal of foreign capital was felt in the paralysis of production and the arrest of exchange. One of the results of poverty is diminished purchases. This result was shown in the foreign trade of the United States by the decline of imports of merchandise from $866,400,922 for the fiscal year ending June 30, 1893, to $654,994,622 for 1894. The fall of prices as the result of overproduction and the close calculation of profits stimulated exports until the excess of merchandise exports over imports reached $148,789,307 for the calendar year 1894, $23,190,789 for 1895, $324,257,685 for 1896, $357,113,816 for 1897, and $620,536,129 for 1898.

But the motives and character of American purchases of securities abroad changed as the effects of the panic wore off. The purchases came by degrees to be made from the surplus of saved capital in the United States, resulting from improved conditions of production, rather than made from necessity at the expense of crippling the machinery of domestic production and exchange. Business activity was renewed in 1897 and 1898, and prices of securities rose rapidly in 1898 upon the American stock exchanges. Large purchases of such securities were made from the surplus capital of the United States at prices slightly higher than foreign capitalists were willing to pay. The merchandise balance in favor of the United States was compensated partly by the importation of gold, but

largely also by the return of securities. The movements of securities are not the subject of official record and usually escape accurate observation, but it was estimated in the summer of 1899 that the movement for eighteen months brought home American securities to the amount of $375,000,000.[1] The United States thus, by bidding from their savings a trifle higher for their own securities than they were valued on foreign exchanges, wiped out a large part of their indebtedness abroad and fortified their financial independence.

A similar repatriation of national securities, under similar conflicting circumstances during different periods, was the experience of Italy between the years 1892 and 1902. During the first four years of this period the decline of the five per cent. rentes as low as seventy-two accompanied the throwing of large blocks of them upon the bourses of Paris and Berlin. Exchange on Paris mounted in 1894 as high as 116, and the interest paid on Italian loans abroad fell from 192,000,000 lire ($37,000,000) in 1893 to 105,000,000 lire ($20,250,000) in 1897.[2] This forced return of Italian securities to Italy was not, however, without its benefits. After the Treasury deficits had been reduced, exchange fell in 1899 to 106, in 1902 to 102, and in 1903 to par.[3] The quotations of five per cent. rentes rose from a maximum of 95.50 in 1898 to 104.15 in 1902, and in 1903 were continuously above par. The Italian people, while importing gold, were able also to buy back their national securities of their own free will, until the amount in interest paid abroad fell in 1902 to 48,437,515 lire ($9,350,000), or about twelve per cent. of

[1] Leading banking houses estimated the movement from January 1 to February 10, 1899, at about $60,000,000.—New York *Journal of Commerce*, February 11, 1899. Later inquiries put the average of seven estimates of the movement of American securities from abroad back to the United States, from January 1, 1898, to early in June, 1899, at $375,000,000.—New York *Journal of Commerce*, June 13, 1899. [2] Brouet, p. 149.

[3] *Vide* Raffalovich, *Le Marché Financier en 1903–04*, p. 854.

the entire payments, and one-fourth of the amount thus paid ten years earlier.[1]

The most striking historical instance of the influence of securities upon a great transfer of capital was the payment of the indemnity by France to Germany after the Franco-Prussian War. The operation was carried out by the issue of two loans by the French government which realized 2,225,994,045 francs and 3,498,744,639 francs respectively, and by the transfer of the necessary part of the proceeds to the German Treasury. This transfer of funds was made chiefly by bills of exchange, the amount thus paid being 4,248,326,374 francs out of total payments of 5,315,758,853 francs ($1,025,000,000). It was quite evident, however, that the exchange market afforded only the mechanism, and not the means, for this great transfer of capital. The purchases of bills of exchange were somewhat too rapid at first, with the result of raising the price of foreign bills and increasing the cost of the operation to the French Treasury. The reason was well defined by Léon Say, one of the greatest of French ministers of finance:[2]

"Exchange is a matter of speculation, and most of the bankers who furnished it to the treasury sold their own bills, with a view to replacing them by later purchases. The market was not organized immediately upon the scale which was required, and there was at the beginning a sort of pressure which raised quotations. In the second place, the sellers of exchange were obliged to liquidate their operations by exportations when they did not have bills arising from previous exportations, and one of the objects fitted for exportation at all times and under all circumstances is cash."

It required the pressure of exchange quotations upon the market for securities to produce the movement which

[1] Nitti, *Principes de Science des Finances*, p. 657.

[2] *Les Finances de la France sous la Troisième République*, I., p. 406.

permitted the transfer of such a volume of capital from France to Germany without an economic convulsion. The French people came forward with patriotic enthusiasm to subscribe for the national loans, and in doing so diverted large masses of French capital from investment in foreign securities, depressed their prices on the Paris market, and invited purchases of such securities in London, Berlin, Frankfort, and Vienna. Foreign obligations were exported from France in great quantities and the interest coupons of those which remained added to the resources for exchange in transferring credits from Paris to Berlin.

The exact movement of securities cannot be determined from statistical sources, but was indicated in some degree by the decline in their quotations on the Paris market and by the diminished amount of the coupons of certain foreign obligations paid at Paris. Thus, the payments made on coupons of the Italian debt were 85,000,000 francs in 1868 and only 60,000,000 francs in 1873. The difference of 25,000,000 francs in interest apparently represented a surrender by Frenchmen of about 500,000,000 francs ($95,000,000) in principal of their holdings of Italian securities. Similar changes were noted in respect to coupons of the Turkish debt payable at Paris. The foreign markets came to the aid of the Paris Bourse in distributing the obligations of the new French loans. In the case of the loan for three milliards the foreign subscriptions reached 26,050,195,054 francs ($5,000,000,000), while subscriptions in France were only 17,765,901,496 francs. The foreign subscriptions, however, were mostly from the great banking houses, which did not intend to hold the securities as investments, but came to the aid of their Paris correspondents in distributing the pressure of such a large demand for capital over the money markets of the world.[1] M. Say, who conducted

[1] Leroy-Beaulieu, *La Science des Finances*, II., p. 230.

this great transaction, summed up its scope as follows:[1]

"The year 1874 will not pass before it can be said that the five milliards of the loans are invested within the country and without the aid of the foreigner. As to the exchange operations undertaken by the French treasury and the composition of the supply of bills of four milliards and more which the treasury assembled, it may be said that the coupons of foreign securities held in France and the foreign securities exported have supplied a larger part, almost the whole, to the exclusion of the merchandise movement, which was almost evenly balanced, and the movement of the precious metals, which was not so considerable as might have been supposed and which furnished little beyond the direct shipment from the French treasury to Germany.

"The transaction was carried out as if the five milliards had been remitted to Berlin in French securities and Frenchmen had sent their savings to Berlin to buy back these securities, as they sent them before to Italy, the United States, Austria and Turkey to buy Italian, American or Turkish bonds, or the shares and bonds of Austrian railroads."

More difficult was the task imposed upon Japan in 1904 in meeting the drain of war with Russia, precisely because her people had little reserve capital invested in foreign securities. When war broke out the effect was felt in Russia by the withdrawal of some foreign capital lent for short terms, but was counteracted by the foreign credits of the country and the large excess of exports of merchandise. Japan, on the other hand, was obliged to export nearly a quarter of her gold stock in order to pay for war material; the gold reserve of the Bank of Japan fell from 115,700,000 yen ($57,000,000) in January to 64,100,000 yen ($32,000,000) in June; and the ratio of

[1] *Les Finances de la France sous la Troisième République*, I., p. 440.

reserve to notes fell from fifty-four to thirty-three and one-third per cent. Equilibrium was restored only by pledging the customs receipts for two six per cent. loans issued below par. By the irony of fate the Japanese gold exported to San Francisco in payment for war supplies permitted American bankers to surrender gold readily at New York for shipment to Paris against drafts in favor of the French Panama Canal Company, and this facilitated the payments upon a Russian loan floated at about the same time in Paris.[1]

Negotiable securities have come to represent in value many times the capital which is invested in metallic money. The supply of metallic money is about $9,000,000,000. The face value of the negotiable securities which are either regularly listed on the stock exchanges of Europe and the United States, or are dealt in through large banking houses, is in excess of one hundred thousand millions of dollars ($100,000,000,000). A careful investigation made by Neymarck, on behalf of the "International Institute of Statistics" in 1903, put the total securities quoted on European bourses about the year 1900 at 562,700,000,000 francs ($108,000,000,000). After eliminating the securities quoted on more than one market, the actual value of those in existence was reduced to about 342,400,000,000 francs ($66,000,000,000).[2] In the United States there are not less than $25,000,000,000 in negotiable securities, of which the public debt of the federal government constitutes about $900,000,000; state and municipal obligations, $1,500,000,000; railway securities, $13,000,000,000; street railways, $2,300,000,000; bank stocks, $1,500,000,000; and industrial and other securities the remainder.

The interest and dividends upon the vast sum of European and American securities, even at the low rate of three per cent., would represent three thousand millions

[1] *Con.* Helfferich, *Les Finances des Belligérants*, p. 121.
[2] *La Statistique Internationale des Valeurs Mobilières*, p. 60.

of dollars ($3,000,000,000) per year. Annual issues of new securities throughout the world have been on the average of recent years not far below $3,000,000,000, or exactly the amount of the interest at a low rate upon existing savings. While a large part of such savings is in constant process of reinvestment, the new capital is probably derived more largely from new savings than from the investment of dividends.

The creation of negotiable wealth in the form of securities has proceeded in Europe and America at an almost bewildering pace during the last half-century. Issues of securities are not always due to the creation of new wealth, but represent in some cases the conversion of pre-existing wealth into transferable form or the bringing together of scattered capital for new processes of production and exchange. The number of securities quoted on the Paris Bourse in 1789 was only seventeen;[1] and as late as 1815 the shares of only thirty stock companies were listed in London, twenty in Paris, and eleven in Berlin. In 1897 the number of bonds alone quoted on the Berlin market was 456, and the value of all securities was 27,000,000,000 marks ($6,400,000,000).[2] On the Paris Stock Exchange the whole number of securities, domestic and foreign, quoted in 1852, was 152; in 1869, 402; in 1892, 1087, and in 1903, 1131.[3] The face value of these securities at the close of 1902 was 60,132,063,800 francs for the representative French investments, and 70,171,704,000 francs for foreign securities, making a total of 130,303,767,800 francs ($25,350,000,000). On the London Stock Exchange the total value of the securities listed, including many colonial and foreign securities, stood at the close of the year 1900 at £8,207,800,649 ($40,000,000,000). On the New York Stock Exchange

[1] Léon, p. 24. A few others, like the shares of the General Insurance Company, were negotiated outside the bourse.

[2] Raffalovich, *Le Marché Financier en 1903–04*, p. 518.

[3] Neymarck, *Les Valeurs Mobilières en France*, p. 6.

the number of securities quoted, listed and unlisted, is over 1300, with a value of $15,000,000,000.[1] This does not include all railway securities outstanding, nor a large proportion of the obligations issued by industrial and commercial corporations, which would bring up the total volume of negotiable securities in the United States to the estimate already made of over $25,000,000,000.

These issues of negotiable securities represent for the most part, except in the case of government bonds, the creation of stock companies. Some measure of the rapidity of these creations is afforded in the case of Great Britain by the applications for listing new capital on the stock exchange. These have averaged over a series of years about £150,000,000 a year, standing in 1900 as high as £165,499,000 ($800,000,000), but declining during the dull years of 1903 and 1904 as low as £108,462,000 and £123,019,000. In Germany the number of new corporations created reached its maximum in 1898, when the number was 329 and the total capital was 463,600,000 marks, and in 1899, when the number was 364 and the total capital 541,000,000 marks ($129,000,000), but declined during the next few years to a minimum of eighty-seven new incorporations with a capital of 118,429,000 marks in 1902.[2] In Russia the stock companies organized from the beginning of the nineteenth century to the close of 1897 represented a capitalization of 1,768,555,000 rubles ($890,000,000), not including banks and railways, and of these applications about one-third were during the three years ending with 1897. That year witnessed organizations with a total capital of 239,424,000 rubles; 1898, 256,237,000 rubles; and 1899, 423,585,000 rubles.[3]

The issues of new securities throughout the world, as presented annually by the *Moniteur des Interêts Ma-*

[1] Pratt, p. 82. This total is five times the amount listed as recently as 1868.

[2] Raffalovich, *Le Marché Financier en 1903–04*, p. 516.

[3] *The Russian Journal of Financial Statistics* (1901), p. 64.

tériels, excluding the conversion of old securities into new, were, in 1897, 8,911,870,530 francs; in 1898, 8,902,776,660 francs; in 1899, 10,577,406,550 francs; in 1900, 11,863,434,990 francs; in 1901, 9,937,390,060 francs; in 1902, 18,639,839,650 francs; in 1903, 9,567,000,000 francs; in 1904, 10,000,000,000 francs. These figures include partial returns for the United States but are less complete in this respect than for European countries. They show substantially an average in recent years of $2,000,000,000 per year in new issues outside the United States. The listing of new securities on the New York Stock Exchange alone, without reference to other American exchanges, was in 1901, $923,010,100 in bonds and $1,642,013,715 in stocks. A large part of these, amounting to more than two-thirds, were due to the mania for merging old corporations into new, and were substitutes for old securities; but the issues for new capital reached $429,537,450 in stocks and $220,171,700 in bonds.[1] The issues have fallen off somewhat with the decline of financial activity, but will undoubtedly be resumed upon an even larger scale at some future period of expansion.

One of the striking evidences of the growth of capital in recent years, until in some cases it has seemed almost to outrun effective demand, has been afforded by the great number of conversions of public and corporate loans. Conversion is a process more often described in English by the term "refunding." It consists in a reduction of interest by offering to creditors a choice between accepting a lower rate of interest or reimbursement of their holdings at par.[2] It was calculated that the conversions operated in Europe between 1889 and 1896

[1] "The Financial Review," in *Commercial and Financial Chronicle* (1904), p. 27.

[2] Nitti properly points out that an operation which does not leave this free choice to the public is not a conversion, but a forced reduction.—*Principes de Science des Finances*, p. 640.

reduced the interest of public debts by $50,000,000. But in many cases the low rates for capital tempted legislators to increase the national indebtedness by additional loans instead of applying the amounts saved in interest to reducing the burden of taxation.[1]

The use of securities in international transactions, for the settlement of obligations between countries which would otherwise have to be settled in gold or by movements of commodities, is accomplished chiefly by those classes of securities which have an international market. There are many securities of solid value which do not circulate widely on foreign markets, like shares of co-operative banks and bonds of mortgage companies. There are also many securities of the best class which are capable of use in international exchanges which have found so complete a market at home that they have not been employed largely abroad. Whether securities are international or not in their circulation depends to some extent upon accident. The debts of the strongest states are largely held at home, and there are international securities which are far less solid than some which lack this character. Some of the best obligations of strong governments play a part, however, on the international exchanges because their wide reputation and high value assimilate them more closely than the poorer securities to metallic money, and because the large amount outstanding tends to make them obtainable on all markets. There is convenience, as Mr. Giffen says, in "a great mass of stock, like consols or French rentes, for the operations of a great market. *Ceteris paribus*, such stocks will stand higher than very similar stocks which are not in such masses."[2]

Most of the securities issued by semi-civilized and undeveloped countries are found upon international markets, because it is there that they are best able to obtain the capital which is lacking at home. The international

[1] *Vide* Neymarck, *Finances Contemporaines*, p. 343.
[2] *Stock Exchange Securities*, p. 90.

securities thus include the bonds of both strong and weak governments, the stock and bonds of certain railways which have sought their capital outside the country where they are constructed, and a few leading industrial obligations. The countries of Western Europe, through the bourses of London, Paris, Berlin, Frankfort, Brussels, and Vienna, are the chief international markets, because it is there that the surplus capital of the world seeks investment. The New York market has until recently been almost barren of international securities issued abroad, because the great volume of American capital has been absorbed at home. Recent events, however, have accumulated a surplus of loanable capital which is likely to seek investment in securities of the undeveloped countries and in some of the international obligations which are quoted on European bourses.

The variety of international securities is indicated by the increase of the number on the Paris market, where they are perhaps most numerous, from 136 in 1880 to 236 in 1897. There are found great quantities of Spanish and Cuban bonds, obligations of the Austrian and Hungarian railways, the stocks and bonds of many industrial companies of Europe, Asia, Africa, and Latin America, and the Russian government loans whose prompt absorption afforded proof of the sincerity of the outburst of French enthusiasm for a Russian alliance. Many securities are international almost from their nature. Such are the bonds of the French and Belgian railway syndicate guaranteed by the Chinese government upon the general revenues, and known as the Chinese Five Per Cent. Gold Loan of 1898, placed upon the market in the spring of 1899,[1] and many similar loans for the equipment of the undeveloped countries; the Egyptian loans guaranteed by the powers, which are quoted above par; and the bonds issued in 1898 under the guarantee of Great Britain,

[1] *Économiste Européen* (April 14, 1899), XV., p. 461.

France, and Russia for the purpose of restoring solvency to the finances of Greece.[1]

Some of the international securities have practically no domicile except upon European bourses and are employed there as substitutes for money and the counters in speculation arising from the conflicting phases of the political and economic situation. The best class of international securities, including most of the obligations of sovereign states, are payable in gold, and the interest coupons are honored at leading banking houses on the same date in the chief money markets of Europe. Thus, the coupons of the Russian national debt are payable in francs at Paris, in pounds sterling at London, in florins at Amsterdam, in marks at Berlin, and in gold rubles at St. Petersburg. This fact constitutes them an international money of the highest character, and in the language of Théry, "The great credit societies and banking houses having branches or correspondents in these different cities are able to utilize them as true bars of gold, according to the respective position of the exchanges."[2]

[1] *Vide* New York *Bankers' Magazine* (March, 1898), LVI., p. 380.
[2] *Valeurs Mobilières en France*, p. 140.

IV

THE STATE AND THE MONEY MARKETS

Unwisdom of state interference with the free play of economic principles—Efforts of Calonne to support French credit—Bonaparte's criticism of "short sales"—Failure of manipulation to support Confederate bonds—Skilful operation of the Russian finance minister in 1894—The American Sub-Treasury system—Interference with stock exchanges in France and elsewhere—The German Bourse law.

THE ill effects of too much interference by governments with banking operations has already been set forth. It remains to deal more specifically with state interference with the markets for money and negotiable securities. Among the most useless and mischievous of the methods by which governments have sought to intervene in the money market have been their efforts to support public credit by the manipulation of their obligations on the stock exchanges. As Raffalovich acutely remarks: "The economic and political situation is mirrored in the sum of all the quotations on the bourse. It is a tempting proposition to intervene to render this reflection agreeable and to drive away the clouds, but it is a game which is always dangerous." [1]

This form of interference by government with the free play of economic principles has attained importance only within the last two centuries, since the development of large public debts and the organization of stock exchanges. The French government interfered in almost every conceivable way, while under the domination of John Law,

[1] *Le Marché Financier en 1891*, p. 16.

to support his great speculation in Mississippi shares, but the market was not sufficiently organized to make effective the purchase of the shares by the Treasury in order to sustain their prices. The most notable instance of intervention of this sort in the market during the eighteenth century was afforded by the efforts of Louis XVI. and his ministers to rescue the finances from bankruptcy on the eve of the French Revolution. Calonne, the minister of finance, was fertile in expedients for staving off the inevitable day of reckoning, but most of his projects tended to add to the final burden rather than diminish it.

After the king had decided to convoke the Assembly of Notables in 1787, Calonne felt that it was of primary importance to give a favorable aspect to the public credit. A recent loan of 125,000,000 livres was still in the hands of the speculators, and it was desired to secure its distribution among the investing public in order to prevent its decline on the bourse. Calonne had tried in vain to stamp out speculation by rigorous edicts. He now sought to turn the weapons of the market against speculators for the decline—the "bears" of the modern stock exchange. He advanced in three days to the bankers whom he employed a total of 11,000,000 livres ($2,400,000). The money was to be employed not merely in buying the public funds, but in keeping the market generally in a buoyant condition by sustaining the quotations of the shares of the India Company and the water company of Paris, which were the chief speculative stocks. The speculation was a failure. The agents of the Treasury bought in 32,500 of the 40,000 shares of the India Company, but found themselves unable to sustain their prices, sold them again to one of the leading speculators, and the affair came to an end in a crash, which cost the Treasury nearly $3,000,000.[1]

[1] The official estimate of the cost to the Treasury was 14,600,000 livres, but Gomel expresses the opinion that it probably greatly surpassed this amount.—*Les Derniers Controleurs Généraux*, p. 259.

The conception that speculators for the decline are enemies of the state, while those for the rise are its friends, has appeared more than once in financial history. It was adopted by the great Napoleon in 1803 in the second important attempt made by French statesmen to bolster up a falling market. Bonaparte, in one of his talks with Mollien, the eminent financier, inquired:

"I ask if the man who offers to deliver in one month the five per cent. rentes at thirty-eight francs which are selling to-day at forty francs, does not proclaim and prepare for their discredit—if he does not at least announce that, personally, he has no confidence in the government, and if the government ought not to regard as an enemy the man who, by his own declaration, makes himself such?"

Mollien sought to show the restraining and beneficial influence exercised upon the market by the short sellers, but without convincing Bonaparte. When quotations were threatened by the breach of the Peace of Amiens, the government was besieged with requests to come to the aid of the market. Bonaparte insisted, against the protest of Mollien, that the public money should be spent in buying rentes to the amount of 10,000,000 francs per day for at least three days. It was not just, he declared, that the fortunes of so many Frenchmen should be compromised by the caprices of the cabinet of London.[1] The experiment was a total failure. The sum of nearly 37,000,000 francs ($7,250,000) was spent, but the securities went down by ten per cent., and Napoleon abandoned the effort to sustain them.

A like attempt to sustain French public securities at artificial prices for a political purpose was made under the government of the Restoration in 1818. The Congress of Aix-la-Chapelle met at that time to arrange for the withdrawal of foreign troops from French soil. A payment of

[1] Mollien, *Mémoires d'un Ministre du Trésor Public*, I., p. 349.

100,000,000 francs was to be made to the Allies, which it was proposed should be settled in French national securities. The Congress agreed that this balance should be accepted at the market price of the securities for October 5, 1818. Corvetto, the minister of finance, before this date made large advances to the Bank of France for the purpose of advancing the quotations; but France was being drained of gold by the efforts to resume specie payments in England, Russia, and Austria, and the metallic reserves of the Bank of France fell in six weeks from 117,000,000 francs to 37,000,000 francs. Speculation forced up the price of rentes for a short time as high as eighty, but upon the morrow of the Congress of Aix-la-Chapelle the bubble of speculation was pricked and they began to fall. Corvetto then entered the market as a direct purchaser of securities instead of as a lender to the banks. The operation extended over several months, but did not prevent the fall of rentes to sixty-seven and a considerable loss to the Treasury. The Barings, who had agreed to distribute the securities, found them left on their hands, and were compelled to insist on a new arrangement with the French government. The Duke of Wellington and Prince Metternich of Austria, who had been leading figures at the Congress, exchanged some letters regarding the remarkable fluctuations on the Paris Bourse, in one of which Metternich sarcastically observed that "Nothing ought to astonish me which happens on the banks of the Seine."

Another attempt upon a larger scale was made to falsify the indications of the market, in order to sustain the course of French securities, in the issue of the loan of 1881. The minister of finance came to the aid of the market by lending money for carrying the securities, to offset the effect of his call for the fifth and last instalment of 200,000,000 francs upon the loan. The collapse of a leading banking share brought terror in its train, prices declined, and the bankers and speculators were unable for

several months to return to the Treasury what had been advanced. It was not until the end of July, 1882, seven months after the first advances, that the affair was liquidated. The Treasury did not in this case buy securities directly, and succeeded in recovering what it had loaned; but the results were without benefit to the market and would have been disastrous to the Treasury if the Parisian bankers had not proved solvent.

Worse than futile was the attempt of the Confederate government during the Civil War to maintain its credit through manipulation of its securities, even with the aid of the sympathetic delusions of its friends in England. When its cotton bonds, eagerly subscribed at ninety (March, 1863), began to decline in market value, an agreement was made by which the brokers were authorized to sustain their quotations by buying back the bonds with Confederate government funds at ninety or below. The price of the bonds was sustained for a brief period, but at the expense of leaving nearly all of them on the hands of the brokers. So far as the public were concerned, this rigging of the market failed to attract them. In the language of Schwab, "About $6,000,000 of Confederate gold had been squandered in bulling the London market, with no lasting effect on the standing of the bonds." They were disposed of by degrees at varying prices, but afforded only about $6,250,000 in net proceeds to the Confederate government on an issue of about $12,000,000.[1]

One of the few cases in which state interference with the markets produced results beneficial for the government was the action of the imperial government of Russia in 1894. Examination of its policy, however, will show that it was the restoration of sound conditions to Russian finance rather than the attempt to govern the course of prices on the exchanges which made interven-

[1] The amount placed is given by Schwab at £2,491,000, and the estimated net receipts at £1,283,930.—*The Confederate States of America*, p. 42.

tion effectual. M. de Witte became minister of finance in 1892, and succeeded to the wise policy of his predecessors in accumulating a large gold fund for the restoration of specie payments.[1]

The Russian government had overissued paper money, especially for the war with Turkey in 1877, until it had become depreciated far below its face value in specie. The fluctuations in value were given a wider range from the fact that the Russian monetary standard before the suspension of specie payments had been silver, and silver had been steadily declining in the bullion market. While several of the foreign loans of Russia were payable in gold, it was uncertain when the redemption of bank-notes in specie would begin, at what rate redemption would take place, or in what metal it would be made.

The superabundance of the Russian paper ruble and the uncertainty as to its future made it a subject of active speculation on the Berlin Bourse. Purchases of rubles for future delivery at specified dates and sales on speculation were made in the same manner as "long" and "short" sales of interest-bearing securities. Delivery in compliance with such contracts was usually easy because of the quantities of paper rubles drifting across the frontier of Prussia, while demand for the paper at some price could always be found for discharging obligations in Russia. M. de Witte became convinced that these fluctuations were excessive and that the time had come to put a stop to speculation in Russian paper money. He made an announcement in the St. Petersburg *Journal* of October 10, 1892, designed to direct the attention of the financial world to the strength which Russian finance had acquired through the policy of his predecessors in ac-

[1] While M. de Witte has properly received much of the credit for the restoration of solvency to Russian finance, the accumulation of gold began as far back as 1868, under Count Reutern, when about $150,000,000 was acquired. *Vide* Skalkovsky, *Les Ministres des Finance de la Russie*, p. 145.

cumulating gold and curtailing the issues of paper rubles. This announcement, which attracted much attention in Western Europe, was followed in January, 1893, by notice to institutions of credit doing business in Russia that any aid lent by them to speculative operations in the ruble would be considered as incompatible with their charters. An effort was even made (Decree of June 8, 1893) to prohibit all dealings in rubles on margins, and in the mean time a small tax was laid on rubles passing the frontier, with the avowed object of promoting accuracy in statistics.[1]

These measures were only warnings of what M. de Witte contemplated when he felt that his position had acquired sufficient strength. He determined to give the speculators in paper rubles on the Berlin Bourse an experience which should burn their fingers. He accordingly instructed his brokers privately to buy the paper ruble largely from the short sellers. The ruble had remained comparatively stationary from January, 1894, but continued reports of the bad health of the Russian emperor in September and October brought the speculators into the field. They sold freely at the rate of 220 marks per 100 rubles — about $5.225 per ten rubles against a par value in gold of $7.72. The purchases through the representatives of the finance minister were so large that a genuine scarcity of the paper began to reveal itself. When the time approached for delivery, the "short" sellers were in a quandary how to fulfil their contracts. The price advanced from two to three marks a day, the date for settlement was postponed, and the sellers begged for further delay. Brought to their knees by the resolute policy of M. de Witte, they sent a deputation to the banker of the Russian government and entered into communication with St. Petersburg. The finance minister had accomplished his purpose and dem-

[1] Report on the Budget for 1894, quoted by Raffalovich, *Le Marché Financier en 1893-94*, p. 159.

onstrated his power. He generously announced that at the rate of 234 marks per 100 rubles he would place 3,000,000 rubles at the disposition of the market for making settlements.

In closing the matter thus, M. de Witte took occasion to give a warning to the speculators that, if they desired some object of speculation issued by the Russian government and not payable by its terms in gold, the four per cent. "internal" bonds were open to them, of which there existed 1,000,000,000 rubles ($770,000,000 at gold par). He suggested that in future they let the notes of the bank alone as a subject of speculation, and left them to infer that they would not be let off so easily if they attempted to repeat their speculation in the ruble.[1]

This case of government intervention in the money market derived its success from the firm basis upon which M. de Witte rested his financial policy. The speculators would have been able to snap their fingers in his face if the paper ruble had existed in the excessive quantities of a few years earlier and its purchasing power had been a subject of uncertainty in Russia as well as in Germany. M. de Witte admitted in his report for 1894 that the speculation was too deep-rooted to be at once suppressed, but plumed himself on the fact that the government and the bank had a gold fund for engaging in the effort amounting to 609,000,000 rubles ($450,000,000). M. de Witte was soon able to shut the fluctuations of the paper ruble within narrow limits by authorizing the Bank of Russia to purchase gold at a fixed price in rubles. The administration of the finances decided also to narrow the fluctuations in the foreign exchanges by buying any such paper offered at 218 marks for 100 rubles and selling drafts on its foreign gold holdings at 220 marks.[2]

It was these energetic measures, taken by the government to make good its policy, by bringing a genuine

[1] Raffalovich, *Le Marché Financier en 1894-95*, p. 236.
[2] Lorini, *La Réforme Monétaire de la Russie*, p. 82.

demand for paper and a real supply of gold into the market, instead of factors of demand and supply which were merely fictitious, which enabled it to rout the speculators and complete its measures for full resumption of gold payments in 1897.

The intervention of the state in the money market is a necessary incident of Treasury operations where the amount of public receipts and expenditures differs greatly from time to time.[1] This is the case even in European countries, where the business of the government is done chiefly through central banks of issue, and has proved to be pre-eminently the case in the United States, in spite of efforts to separate the operations of the Treasury from those of the banks by "the sub-Treasury system." In the case of the European banks, the proposition of Henry C. Adams is in a general sense correct:[2]

"At the bank, however, the government is on the same footing as other depositors; and, since the money deposited can be loaned out in the ordinary course of business, there is no danger that fluctuations in the receipts and payments of government will occasion a fluctuation in the volume of currency available for trade; for although the money is at the credit of the government, it is available to meet business demands."

While this statement sets forth the fundamental difference between the systems in vogue in Europe and the system of an independent Treasury in the United States, it is subject to some qualification in practice. So far as the volume of funds intrusted to the national bank is under the control of the minister of finance, he usually pursues the wisest course and is subject to the least

[1] Bagehot declares that "The best thing, undeniably, that a government can do with the money market is to let it take care of itself," and that if a government is to do this "it must keep its own money."—Works, V., p. 68. But this happy condition is necessarily conditioned on an evenly balanced budget.

[2] *The Science of Finance*, p. 212.

criticism when he endeavors to keep these funds at a nearly uniform level by transfers and by prudent selection of the time for disbursements and for collection of taxes. In any country having a large public debt, the periods when interest is paid on the debt and when new loans are issued are always of importance to the money market. The government in Great Britain and France stands towards the central bank of issue in much the same position as any private customer, except that the magnitude of its transactions imposes greater care in making drafts upon its deposits. In Great Britain the government sells short-term loans to meet temporary deficiencies of revenue, pending the collection of the taxes. The withdrawal of the proceeds of such sales from the open market into the government account at the Bank of England tends to lessen the amount of the floating loan fund and to give the bank better control over the market through the discount rates.[1]

Prudence and skill on the part of a finance minister in dealing with the market are required under modern conditions in the flotation of a large public loan. An amount in currency and banking credits may then be withdrawn from the loan fund which would have a serious effect on demands for currency for ordinary needs if the entire amount of such a loan were paid at one time. The offer of a large loan in France, England, or Germany is usually accompanied by a fall in the prices of existing securities and their sale in other markets in order to release capital for subscriptions to the new loan. In addition to this preparation, instinctively made by the general market for

[1] Thus, after the Bank of England raised its discount rate on October 2, 1902, from three to four per cent., it was declared that "the supply of money in the market and the lowness of the discount rates [there] have so far stultified its movement. The bank would obtain considerable assistance in carrying out its policy were the government to redeem its floating debt by again borrowing from the market."—London *Statist* (October 18, 1902), L., p. 651.

meeting heavy calls for currency and capital, special precautions are usually taken by both the government and the central bank. One of the most obvious of these on the part of the government is in dividing the subscriptions for the loan into payments extending over a considerable period of time.[1]

Thus, in the issue of the French loans for the war with Germany and the settlement of the indemnities, the minimum number of payments was eight (on the loan of 1870) and the maximum was twenty-one (on the loan of 3,000,000,000 francs). In the latter case, however, as Leroy-Beaulieu points out, it is easy to understand why it was judged wise to grant the country a long respite to permit the savings fund, impaired by the first call, to be recouped.[2] The French loan of 1881 was divided into five payments, and that of 1886 into only three. In the United States the same policy was pursued with the successful popular loans of 1896 and 1898. In respect to the latter it was declared by the secretary of the treasury:[3]

"The receipts of the proceeds of the war loan extended from June, 1898, to April, 1899, although the bulk of the subscriptions was fully paid within the first four months. Of the total of nearly $200,000,000 no less than upward of $125,000,000 was remitted by means of checks on banks in all parts of the country, which were collected through the Washington office."

Constant watch over the money market by the minister of finance is required in the United States by reason of

[1] It is declared by Boucard and Jezé: "Complete payment would ordinarily be useless, the state needing the funds borrowed only by degrees corresponding to the needs of the service. Moreover, it would be onerous, since the state would have to pay interest for the capital for which it would have no use. Finally, it would be imprudent to require it, if the mass of money withdrawn at a single stroke from circulation was too considerable."—*Éléments de la Science des Finances*, I., p. 345.

[2] *La Science des Finances*, II., p. 384.

[3] Finance Report, 1899, p. xxiii.

the sub-Treasury system. No such system is in operation in any country of Western Europe. The Russian government has a Treasury fund separate from that in the Imperial Bank, but keeps much of its money in the bank and uses its branches as depositaries in dealing with local funds. The American system is the outgrowth of the political conflict which arose under the administration of President Jackson over the United States Bank. This bank performed for the national Treasury substantially the same functions as the national banks of England, France, and other European countries.[1] When Jackson, for political reasons, ceased to deposit public funds in the Bank of the United States and drove the bank to the wall, he gave the custody of these funds to the local banks of the several states. These banks suspended specie payments and many of them failed in the panic of 1837.[2] This led President Van Buren, in his annual message of 1837, to recommend that the public funds be kept exclusively by public officers in the vaults of the government. This policy was adopted in the Independent Treasury Act of June 30, 1840, and, while suspended for five years during the ascendency of the Whigs, has been, since 1846, the continuous policy of the United States.

The essential object of the sub-Treasury system in the minds of its supporters was to separate government finance from the ups and downs of local banking. As the situation is described by Kinley:[3]

"The severance of the government from the banks, as

[1] As pointed out by Adams, the charter of the second United States Bank was drawn with the purpose of securing a centralized control over public deposits, "but it was never intended that this institution should have exclusive use of public moneys. Private banks were always used as depositaries, but, at first, under rules prescribed by the directors of the National Bank."—*The Science of Finance*, p. 215.

[2] For a fuller account of these events, *vide* the author's *History of Modern Banks of Issue*, p. 301, et seq.

[3] Kinley, *The Independent Treasury*, p. 29.

banks were then constituted, relying largely as they did on government support for the convertibility of their notes, was the means of removing a large element of uncertainty from the credit of the government, and of insuring to the currency the 'soundness' for which the people had struggled so long in vain."

It was soon recognized, however, that the independent Treasury system might lead to trouble in the money market if a surplus of government receipts over expenditures should withdraw a large volume of currency from use. Secretary Guthrie frankly declared, in his annual report for 1856, that the system "may exercise a fatal control over the currency, the banks, and the trade of the country, and will do so whenever the revenue shall greatly exceed the expenditures." He had already faced this contingency during his term of office, and announced that since March 4, 1853, more than $45,525,000 had been expended in the redemption of the public debt.[1]

This experience was many times repeated during the following sixty years. In the case of government intervention in aid of the market in 1853, much money had accumulated in the Treasury vaults, and the circulation had been reduced by the disappearance of silver coin which resulted from its rise in gold value after the opening of the California mines. One of the steps taken was to advance Treasury funds to the mint, in order that gold bullion deposited for coinage might be paid for at once in coin, instead of awaiting the coinage of new gold. Some $5,000,000 was deposited in the mint to enable it to make these payments. The measure proved insufficient to relieve the pressure in the market, and during the summer offers to purchase bonds were made by the Treasury and availed of to the amount of several millions at premiums running as high as twenty-one per cent.[2] Similar action was taken in the crisis of 1857. Money

[1] Finance Report, 1856, p. 32.

[2] Kinley, *The Independent Treasury*, pp. 175–178.

had been accumulating rapidly in the Treasury vaults, until in the spring of that year the amount on hand was over $21,000,000. This was a large sum for those times, and was employed freely in purchases of bonds.

The extension of government operations in the United States caused by the Civil War and the later growth of the country made the Treasury a potent factor in the money market after 1861. Again and again successive heads of the department came to the rescue of the market in periods of stringency by paying out the accumulations of money in the Treasury which resulted from the operation of the wasteful and unscientific American system of Federal taxation and budget control. Several methods were found for doing this. One, which was much availed of between 1873 and 1893, was the purchase of the unmatured bonds of the government. While these purchases were necessary to release idle money, and had the benefit of commuting a long-term debt, they were made at heavy cost in premiums in order to induce the holders of the bonds to surrender them in advance of maturity.

Just before the panic of 1873, Secretary Boutwell sold gold for currency, with the purpose of strengthening the general credit of the government. His policy had the result of diminishing the supply of currency in use, because the gold sold was at a premium in currency and did not enter into circulation. When stringency began to be severe, in the fall of 1872, the secretary continued his sales of gold, but counteracted their effect by depositing the proceeds in the banks. He also sought to aid the market by buying bonds with currency.

The withdrawal of money from the market by the excess of public receipts over expenditures was especially felt during the several periods of business activity which followed the depression of 1873–78. Differences of political policy between the administration and Congress delayed reduction of the revenue, and within the three years 1886–88 about $300,000,000 in bonds were pur-

chased at high premiums.[1] Upon the purchase of $94,000,000 in the fiscal year 1888, a premium was paid of about $18,000,000. These purchases were rendered necessary, in the opinion of Secretary Fairchild, by the fact that the accumulated surplus of receipts over ordinary expenditures for the year ending June 30, 1888, was $119,612,116, and the estimated surplus for the ensuing year was $104,313,365.[2]

In 1890, in order to check the alarm caused by the Baring failure in London, Secretary Windom came to the aid of the money market more generously than any of his predecessors. Under circulars offering to buy bonds and prepay interest, dating from July 19 to September 13, 1890, he redeemed bonds of the face value of $73,694,850, and made disbursements (including anticipation of interest to the amount of $12,009,915) amounting to $95,917,789.[3] So completely were the Treasury resources exhausted by these heavy disbursements that the official balance was reduced by the end of October to a little over $2,000,000. The New York banks increased their reserves slightly, but most of the money paid out was drawn into the interior, and high rates for money prevailed almost steadily until the autumn crop movement was over and the influence of the Baring panic became less keenly felt.

Purchases of bonds again became necessary to relieve

[1] "Banks which had paid 102 in 1879 for the four per cents., for instance, and had since employed the bonds as a basis of circulation, were now offered a steady market for them at 125 or higher." —Noyes, *Thirty Years of American Finance*, p. 111.

[2] Finance Report, 1888, p. xxv. Noyes declares that "In August, 1888, it was literally true that the Treasury's cash surplus, wholly removed from the use of trade, was one-fourth as large as the entire estimated sum in the country's outside circulation."—*Thirty Years of American Finance*, p. 123.

[3] Finance Report, 1890, p. xxx. The purchases under the earlier circular of April 17, 1888, are here deducted from the total given by Mr Windom.

congestion of money in the Treasury in the autumn of 1899, but it was in the autumn of 1902 that more severe pressure upon the market was felt and that the most extreme measures were taken to relieve it. In spite of reductions of taxation in 1900 and 1902, the period of business activity which began in 1897 culminated in an excess of public revenue over expenditure. Other causes contributed to denude the New York money market of both loanable capital and currency, the reserves of the New York banks fell close to the legal minimum, and for a time in September rates for money on call ranged as high as twenty and twenty-five per cent. Secretary Shaw came to the rescue of the market by the purchase at a high premium of the four-per-cent. bonds maturing in 1925. The face value of the bonds purchased during October was $16,504,300, and the amount of currency released in payment for them was $22,846,529.

On this occasion, as on many previous ones, advantage was taken of another measure which was in form, if not in substance, an abandonment of the principle of the sub-Treasury project. This measure consisted in leaving large sums of public money in the custody of the national banks. The first National Bank Act provided that the secretary of the Treasury might employ any of the national banks "as depositaries of the public moneys, except receipts from customs."[1] This was amplified in the substitute law of 1864 so as to permit the banks to be again brought into relations with the Treasury to the extent thus set forth:[2]

"That all associations under this act, when designated for that purpose by the Secretary of the Treasury, shall be depositaries of public money, except receipts from customs, under such regulations as may be prescribed by the Secretary; and they may also be employed as

[1] Act of February 25, 1863, § 54.

[2] Act of June 3, 1864, § 45. This section was re-enacted, without material change, as § 5153 of the Revised Statutes.

financial agents of the Government; and they shall perform all such reasonable duties, as depositaries of public moneys and financial agents of the Government, as may be required of them. And the Secretary of the Treasury shall require of the associations thus designated satisfactory security, by the deposit of United States bonds and otherwise, for the safe keeping and prompt payment of the public money deposited with them, and for the faithful performance of their duties as financial agents of the Government."

This provision of law was almost broad enough to do away with the sub-Treasury system, but it was not thus carried out. The national banks were employed, however, during the Civil War, in distributing loans and as custodians of the internal revenue taxes. During the three years ending with September, 1866, they received on government account the sum of $1,753,531,636, of which $1,116,151,286 was for subscriptions for public stock, and $599,936,712 was on account of internal revenue.[1] During the issue of the refunding and redemption loans also, from 1873 to 1879, the banks rendered great service in mitigating the evils which would have resulted from enforcement of the sub-Treasury policy in its extreme form. The deposits of public money in the banks rose from $53,205,208 on January 1, 1879, to $166,351,141 on February 1, and $276,442,471 on June 1, 1879.[2]

Notwithstanding this large use of the banks as custodians of public funds, when Secretary Fairchild sought to relieve the congestion of money in the Treasury by per-

[1] These amounts were in depreciated currency, representing a much smaller value in gold.

[2] "Specie Resumption and Refunding of National Debt," House Ex. Doc. 9, 46th Congress, 2d Session, p. 984. Secretary Sherman availed himself of the banks as depositaries of the proceeds of bond sales only after getting a favorable opinion from the attorney-general on the legality of this policy on August 30, 1877.—*John Sherman's Recollections of Forty Years*, p. 602.

mitting the general deposits of public money in national banks to rise to $54,475,055 on August 1, 1888, it was made a subject of criticism by political opponents.[1]

The banks were employed as depositaries to only a limited extent during the ensuing ten years. The Treasury no longer had such a great surplus of receipts, after the revenue legislation of 1890, and the surplus then on hand was expended in the purchase of bonds. Deposits of public money in the banks had fallen at the beginning of 1896 to $14,271,280. The policy of using the banks as depositaries was resumed, however, as soon as the excess of currency drawn into the Treasury as surplus revenue again became a menace to the money market. Deposits of public funds in the banks and other depositaries were $38,743,617 on June 30, 1898; $98,736,806 on June 30, 1900; $100,010,493 on June 30, 1901, and $119,814,694 on June 30, 1902. It was under the influence of the autumn pressure of the latter year that such deposits were carried to the maximum of recent years and stood on November 10, 1902, at $143,635,726. This increase of deposits during the autumn was attained only by a new construction of law by Secretary Shaw, by which state and municipal bonds were received as security for public funds in place of United States government bonds, which had always before been required.

The prudence and honesty of the heads of the Treasury Department have obviated in the United States some of the worst risks of the system of locking up public money in the sub-treasuries. It has been only by this direct intervention, however (sometimes in an awkward and ineffective manner), that the sub-Treasury system has worked without causing serious disasters to the monetary system of the country. At the time when the sub-Treasury

[1] *Vide* address of Mr. Blaine and address by Mr. Fairchild at New York, October 13, 1888. Mr. Fairchild pointed out that he had kept down these bank deposits as much as possible by applying $290,924,518 to reduction of the public debt.

system was established there were reasons for separating the government accounts from the banking system. Many banks were then unsound, and relied upon government deposits to give them a fictitious standing. The decision to collect public dues in specie and to hold them in the vaults of the Treasury gave a greater security and certainty to government finance than was possible after the support of a central bank had been taken away. This safety was insured under the National Banking law by requiring that government bonds be deposited by the banks with the Treasury to the amount of their holdings of public funds. The continuance of the sub-Treasury system, however, tended to keep the secretary of the Treasury always on the alert to prevent the locking up of money in his care from going too far. His appearance as the savior of the money market—to a greater or less degree nearly every autumn—taught the banks a dependence on Treasury relief and a short-sightedness regarding the husbanding of their own resources which would hardly have occurred if all the public money had been kept in the banks and it had lain with them, by prudent anticipation of the future, to maintain the equilibrium of the market.

One of the most pernicious forms of intervention by the government in the money market is the attempt to hamper or suppress operations on the stock and produce exchanges. Legislation to prevent fraud and abuses may, in some cases, be justified, but any measure which tends to restrict the free play of the natural forces of competition tends to falsify the accuracy of the stock and produce exchanges as true registers of value. Notwithstanding this obvious fact, serious interference with the stock market has taken place from time to time in France and Germany, and has been attempted in Belgium, Austria-Hungary, the United States, and Japan.

In France the function of stock-broker was made an official perquisite as early as 1572, and the number of

brokers was from time to time increased without regard to the needs of the market, as there appeared to be a possible profit to the needy governments of those times in selling the privilege.[1] The fury of the Revolution wiped out these privileges and left the market free; but this condition did not last long. The official brokers (*agents de change*) were re-established in 1795, and their functions have subsisted to the present time. Alongside of them grew up a free market, of which the official brokers became jealous whenever it seemed to be attracting a large volume of business. This market, called the *coulisse*), was less rigorous in its rules and less responsible in its management than the body of official stock-brokers, and has been often frowned upon by the law courts and the government.[2] Such restrictions have not tended to attract business to the Paris Bourse. To float the early loans of the Restoration in 1816 it was necessary to resort to the less fettered markets of London and Amsterdam. On those markets were dealt in from an early day the chief securities of leading governments, but it was only in 1823 that foreign funds were first quoted officially in Paris. In 1857 legal prosecutions almost broke the power of the *coulisse* in Paris, but its activity was constantly renewed, until in the three years from 1893 to 1895 the taxes paid on its operations were nearly double those paid at the same rates by the official brokers.[3] It was in 1898, after repeated previous attempts to secure hostile legislation, that the market was reorganized, under the provisions of the Fleury-Ravarin amendment to the budget, and it became impossible to negotiate certain classes of securities legally except through official brokers.[4] On the other

[1] Courtois, *Opérations de Bourse*, p. 235.

[2] *Vide* Guillard, *Les Opérations de Bourse*, p. 315, et seq.

[3] Courtois, *Opérations de Bourse*, p. 280.

[4] The unofficial brokers might take orders, but would be obliged to execute them through the official brokers, paying to the latter the required commissions.

hand, there has been in France some disposition to recognize the legitimacy of dealings in futures and their important part in commerce by abolishing the old legal disability to recover in such dealings. Their legitimacy was distinctly declared by the law of March 28, 1885, and it was set forth that no one could escape an obligation because it was settled by the payment of a simple difference.

In Germany interference with the freedom of exchanges has been more direct and repressive. The German agrarians became possessed of the idea that the sale of products for future delivery, which were not at the time in the possession of the seller, tended to depress the prices of the products. The price of grain had been declining in Germany for several years, and after the proposal of various other measures to raise prices a law was voted in 1896, putting the stock exchanges under government regulations, prohibiting sales of cereals for future delivery, and prohibiting dealing in mining and industrial securities on margins. These provisions were so drastic that if they could have been carried out they would have almost destroyed the market in Germany, especially for wheat; but they failed to raise the price of wheat above that fixed by free competition on the other exchanges of the world.

The produce exchanges were closed for a time, and the stock exchanges were paralyzed. Speculation in stocks was not prevented, however, by the requirement that the buyer should pay for them in full instead of putting up a margin. The result of this requirement was to throw stock dealings into the hands of banks, which, by lending to the speculator the amount required above his own margin to pay for the securities in full, and by holding the securities as a pledge for the loan, accomplished the same purpose as the former trading in margins on the regular exchanges. The operation was changed in form without being changed in substance. Some of the largest Berlin banks took advantage of the law to register under

its provisions and to refuse to deal in "futures" except with other registered banks, thereby increasing the power of the leaders of finance at the expense of the smaller institutions.[1]

So injurious was the law to German commerce, and so futile in accomplishing the benefits expected from it, that even the government practically admitted its failure and promised to seek its modification at a conference of the German banks held at Frankfort in the autumn of 1902. It was there resolved unanimously that the bourse law had not fulfilled the economic ends it was designed to serve, but had facilitated the absorption of the small banking firms by the large institutions of credit, had enfeebled the economic power of the banking interests, and fettered them in competition with foreign institutions. It was declared also that the exceptions made in the enforcement by the courts of bargains for securities were availed of by experienced persons to escape engagements which they had contracted knowingly, to the detriment of general morality.[2]

One of the markets where comparative freedom prevailed was that of Brussels. Operations on the Brussels Bourse increased at a rapid rate; the French and German banks established large branches in Brussels; and the new railway systems planned at the close of the last century for Russia, China, and Africa were financed largely by Belgian stock companies. The socialistic element is strong however, in the Belgian Chambers, and has several times proposed to extend moderate restrictions over the operations on the Brussels Bourse. In Japan, also, the fever for restriction took form, in the spring of 1902, in some sweeping changes in the regulations established by the government.[3]

[1] Raffalovich, *Le Marché Financier en 1896–97*, p. 291.

[2] *Économiste Français*, October 4, 1902, p. 456.

[3] Imperial Ordinance of June 3, 1902.—*Japan Weekly Chronicle*, June 11, 1902, p. 530.

When a state intervenes upon the market for foreign exchange to modify the natural course of values, it is pitted under modern conditions against the floating investment funds of the world. The local market may be affected for a moment by such intervention, but the international market for capital, represented by rival bourses, escapes the direct effect of this local intervention. For this reason the market for foreign exchange is perhaps even less susceptible to the influence of state intervention than the market for securities. The relentless operation of the law of finance, that money and capital will go where they earn the highest return, makes the rates of foreign exchange a touchstone of local solvency which can be swerved from accuracy only by supreme efforts and for the briefest periods. Banking houses or governments with sufficient credit to sell bills of exchange in large amounts upon foreign correspondents may create for a time a supply of bills in excess of those provided by the natural course of trade, but such a movement soon comes to the end of its resources if it battles against a strong tendency, due to the operation of economic causes in that unsentimental field where money alone, and reasonable skill in using it, determine the movement of prices. As Léon Say acutely observes:[1]

"The operations of speculators have only transitory effects, whatever may be their resources, however important may be the capitals of the banking houses, whatever may be the credit of the syndicates, because all those who speculate are always less rich than all the rest of the world. They may, when they measure with sagacity the situation of affairs, anticipate by some days, perhaps for a month or six weeks, the moment when quotations will have attained naturally a certain point; but if they deceive themselves, if they have raised quotations by their own purchases, and if the upward movement

[1] *Les Finances de la France sous la Troisième République*, III., p 159.

foreseen by them does not occur, the rest of the world, having more securities than they have, quotations end by declining. Their influence is much less than is generally believed; and if this is true of great syndicates and of great companies and banks, which are able to act secretly and without rendering any account to any one, and who employ scores and sometimes hundreds of millions, can it not be said with greater reason of governments which, in their interventions, have never employed any very considerable amounts of capital?"

Two of the difficulties of governments in attempting to manipulate the market are thus indicated. The amount of their capital is trifling compared to the amount constantly invested on the bourse, and they act under risk of detection when they wish to be secret and under the obligation of final public accountability. In the natural order of events their intervention must be most nearly fruitless when success is most essential, because it is only when their finances are at their worst that such devices are employed. The rise in the price of national securities is the natural effect of sound administration. The attempt to produce the effect artificially without the cause can at best have an influence only transitory. A government already possessed of large resources need not make a feint of buying its debt or raising the quotations for it, for it has the means to buy the debt openly and cancel it, and thereby cause a rise of prices which is natural and legitimate. This is the secret of the success of the Russian government in 1894. The Treasury had large resources, which perhaps had not been fully appreciated by the speculators of Western Europe, and it had only to bring these resources into play by effective measures and in a conspicuous manner to give an impulse to its credit which was real, instead of an influence which was fictitious and temporary.

Another lesson blazed in burning letters over the history of state intervention in the money market is that

public credit should be kept separate from commercial credit. If each is strong, it will stand alone. If either is weak, it is more likely to drag down the other, if they are tied together, than to sustain it. The fiscal policy of the government should stand towards the banking world in much the same position as that of any private firm or corporation. Its misfortunes need not then affect seriously the banking and commercial system of the country. A deficit should be covered by loans, if it cannot be promptly met from taxation, but they should not be forced loans levied upon the public or the banks. If the government undertakes to issue paper as a substitute for money, or if it seeks, by one remove from this process, to force the banks to do this to meet its needs, then a disturbing factor is introduced into all business calculations. The medium of exchange ceases to be the metallic standard of other commercial peoples and becomes the same object of speculation as interest-bearing securities.

More justifiable is the intervention of the state in moments of crisis to aid the banking community in tiding over the acute moment of panic, especially where such a condition has arisen from laws which are unsound or unduly restrictive. Under the latter head falls the action of the British government in the crises of 1847, 1857, and 1866, in suspending the restrictions imposed by the act of 1844 on the issue of notes by the Bank of England. In such emergencies it is desirable that initiative should be left as much as possible to the banks, but that the supporting power of the state should be disclosed if it will tend to allay alarm. Of this character was the combination for preventing the fall of securities which was formed by the Imperial Bank of Russia and other leading Russian banks in the autumn of 1899. The Imperial Bank was authorized temporarily, until March 1, 1900, to open credits and accord loans on the pledge of securities which were not guaranteed by the government, but which possessed reasonable safety. This included in-

dustrial and other securities which had not before been available at the Imperial Bank for obtaining advances. The principal banks and bankers of St. Petersburg pledged a capital of 5,500,000 rubles ($2,800,000) for the purpose of buying certain securities in order to prevent too sharp a fall, resulting not from the real decline of the enterprises represented, but from throwing upon the market securities even in small lots, at times when they could not find immediate buyers. The money required by the syndicate was advanced by the Imperial Bank, but under a pledge by the members of the syndicate to make good to the bank any losses by the operation. The affairs of the syndicate were directed by a committee of five members under the presidency of the governor of the Imperial Bank.[1]

While public credit and commercial credit remain separate, either may suffer shocks without impairing materially the steadiness of the other. Each may suffer somewhat in sympathy with the other, but not by any means to the same degree or with the same disastrous effects as where they are linked together. If a government like that of Spain a few years ago should cover its deficits by the issue of bonds, even if compelled to sell them much below par, the commercial business of the country would be affected only indirectly, the metallic standard would be unshaken, the money in which contracts were executed would be the same as the money of other commercial states, and foreign capital could be obtained freely for solvent business enterprises. If, on the other hand, commercial credit should be shaken while public credit remained unimpaired, the restoration of sound conditions would be much more prompt; because the power of the state would enforce upon the banks conservative methods and resumption of specie payments as soon as conditions would permit. The experience of the

[1] *Économiste Européen* (December 29, 1899); XVI., p. 828.

United States, where specie payments were quickly resumed by the banks after the panic of 1857, proves the benefit of independent public credit when commercial credit is impaired. The experience of France in the throes of her struggle with Germany and with the Commune proves the priceless value of a firm commercial credit when public credit is dragged in the gutter.[1]

On those rare occasions on which official intervention in the money market is justified the efforts of the state should be directed to sustaining the operations of the laws of trade rather than abruptly opposing them. State intervention should follow the lines of least resistance. It should seek to mitigate the effects of severe shocks to the market rather than intensify them—especially when they may result from its own measures. It is upon this principle that watchfulness is justified by a minister of finance over the effect upon the market of pouring into it or withdrawing from it the large funds controlled by the state. The movement of these funds is not governed by the same influences and general laws which govern the movement of private funds. Hence intervention to counteract the disturbing effects of placing a large loan, or to undo the evil done by a long series of unsound public measures, sometimes becomes a duty of the modern state. But in all such measures the aim should ever be kept in view to reduce government interference in the money market and the stock exchanges to a minimum and to conform to normal economic principles rather than seek to reverse them.

[1] Leroy-Beaulieu declares that faults committed by government banks or those closely linked with the state, and at the instigation and for the benefit of the state, are indefinitely prolonged. "They throw a country into complete confusion for a series of years, or even for decades."—*Traité d'Économie Politique*, III., p. 686.

V

THE ORIGINS OF CRISES

The disturbance of equilibrium between demand and supply of goods—A result of production in anticipation of demand—Periodicity of crises due to excessive discounting of future profits—Influence of crop failures mitigated in modern times by complexity of industry—Socialism does not offer a solution of the problem of correctly anticipating the demand for goods—Disturbances of equilibrium a condition of economic progress.

AN economic crisis is the result of disturbances of the equilibrium between demand and supply.[1] The causes of such disturbances are partly traceable to direct errors in the production and distribution of goods, but they acquire much of their acute character from pathological tendencies. The economic world is never in a static condition, but always in the dynamic condition of constant change in the relations between production and consumption. The demand for commodities is determined by the law of marginal utility which sends the buyer to the market, not only where he can buy cheapest, but where he can buy the objects on the whole most attractive to him for the purchasing power which he has to expend. Changes are constantly taking place in preferences among these objects, in the amounts purchased under the influence of modifications of taste and fashion, and in the cost of production as determined by new processes of

[1] "The word *crisis*, if employed with entire accuracy, describes a brief period of acute disturbance in the business world, the prevailing features of which are the breakdown of credit and prices and the destruction of confidence."—Burton, p. 17

manufacture. Hence come the miscalculations of producers, overproduction of particular articles, and preeminently a disposition to anticipate future profits upon the basis of present hopes. When these hopes prove delusive, and other conditions are ripe, there sweeps over the community a sudden panic of fear for the future, distrust of credit, and arrest of consumption.

Errors of calculation as to demand and supply are occurring daily, under conditions of the greatest general prosperity. The competition between producers is constantly causing waves of excessive offer or excessive demand for particular articles, which result in the oscillation of prices above or below cost of production. These movements counteract each other to a large extent under favorable business conditions, and the occasional loss of one producer is offset by the gain of another, or the loss upon one class of articles is offset for the same producer by the gains upon other articles. But if, as Pareto says, "at a given moment a great number of these oscillations take place in the same direction, their effects being cumulative, added one to the other, they give as a result an oscillation which may attain a wide sweep. It is to this oscillation, when it affects the whole economic system, that the name of crisis is given."[1] This combination of conditions is neither accidental nor unusual. It is a natural outgrowth of the character of the human mind, which causes a feeling of exuberant confidence at one period and of doubt and depression at another. This rhythmic movement is apparently one of the conditions of economic progress—a manifestation of the vitality of the economic organism. The alternatives of repose and excitement seem to be necessary to all living organisms, and it is only in death that such movements cease.

The modern organization of industry tends to cause crises in several ways. The subdivision of labor is re-

[1] *Cours d'Économie Politique*, II., p. 278.

sponsible in the first instance for the possibility of errors in production. This subdivision is not only local, as between groups of individuals, but has become territorial and international. It has given birth to industries which could hardly have been carried on without the modern equipment of means of transportation by land and sea.[1] The primitive producer, providing directly for his own wants by his own efforts, occupied a very different position from the modern producer, who produces a large quantity of a single article and produces wholly for exchange. If it turns out that he cannot exchange his product for as much of other products as he expected, his calculations of profit are defeated. If he relies for his income upon the margin of profit above cost of production and finds that he cannot sell his products for more than the cost of production, or cannot sell them for as much, he receives no return for his own labor and ceases to be a purchaser of products of the labor of others. If he holds his products for what he considers a fair equivalent in money or in other goods, but producers of other goods will not pay this equivalent, he finds on his hands a useless stock of goods. When this condition reaches large numbers of producers, and affects the mechanism of credit by their inability to fulfil their obligations to the banks, a crisis occurs.

This modern organization of industry makes it difficult even for the most astute producers to guard against errors in production. The assumption of the old political economy, that production follows demand, is no longer true under the modern system. Demand for goods of a given kind affords a partial guide for future production of such goods, but only in particular cases—goods "made to

[1] "Nations specialize, like individuals, according to their aptitudes, each assuming the task of satisfying a part of the material and moral needs, whose number and intensity so constantly grow among civilized men."—Campredon, *Rôle Économique et Social des Voies de Communication*, p. 101.

order"—does production actually wait upon the particular demand. In the case of the great wholesale manufactures, production in anticipation of demand is the almost universal rule.[1] Preparation for production has to be made months, and in many cases years, in advance of delivery of the finished product. Thus a manufacturer of cottons has to build his factory, equip it with machinery, and buy his raw materials, and he has to gather his fuel and make his contracts with his employés, before a yard of cotton can be produced. He may contract for machinery when its price is high or buy cotton for future delivery at a price which afterwards falls. If a competitor performs both these transactions on more favorable terms, he may underbid the first producer in the markets and compel him to sell his goods at a loss or see them stacked up idle in the mill.

The intensity of competition in modern industry has so reduced profits that it requires the most careful calculation to guard against loss. A manufacturer who makes errors amounting to ten per cent. of the market price of his goods cannot solace himself with the reflection that he simply makes a less profit than a more prudent and far-seeing rival, who has avoided errors. Ten per cent. is likely to be the whole of the profit of his rival, and, if the profit is greater, the machinery of modern money markets soon brings it down to the level of profits in other industries. If the demand runs a little ahead of the supply, and considerable profits are realized for a brief period, some capitalist, tempted by the profit, puts up another mill and the supply again threatens to become excessive. In the language of Smart:[2]

"Mills and machinery in great part are standing ready to start, or go on full time, whenever a profit can be

[1] "The division of functions is so great that even makers of complementary goods and parts of composite products lose sight of one another."—Jones, *Economic Crises*, p. 43.

[2] *Studies in Economics*, p. 204.

shown. But the moment that a profit emerges every one rushes to snatch it, and it disappears in a wave of oversupply."

Capital once invested in the machinery of production cannot always or easily be withdrawn or converted to other uses. The mobility of capital has greatly increased under the system of banking credits and stock-exchange securities, but arguments based upon this mobility refer to the loan fund of floating capital and are not applicable to capital which has become fixed in mills and machinery. Such capital is subject to all the risks of competitive production during the long process of investment and after the investment has been made. As Smart observes, "It is only in text-books of political economy that capital at once leaves the old channels as their waters sink below the 'average profits,' and cuts out new ones." In the desperate effort to utilize the old equipment of mills and machinery, and to earn a profit, the manufacturer will often seek to reduce the ratio of his fixed charges to his total product by increasing production. This may be attained by adding to the plant or increasing the output of the old plant. While this permits a reduction of profits to a minimum, these profits are further threatened by this increase of production beyond the effective demand, and the whole process continues until the poorer mills and the weaker producers are finally forced to suspend. A certain period of time is needed for finding new outlets for finished goods and for the adjustments which are required by changed conditions. It is truthfully declared by Leroy-Beaulieu that when the production of an article is increased suddenly and greatly, the market, with rare exceptions, fails to enlarge in equal proportion except under the stimulus of a fall in price.

These, then, are among the conditions which make it difficult for the most far-sighted producer to maintain in his own industry equilibrium between supply and demand. He has a sensitive barometer of the conditions of supply

in organized markets, like the cotton and iron markets and the stock exchanges. The warning given by fluctuations of prices in these markets is useful to him in purchasing materials and governing his future production, but the warning sometimes comes after the fact as a result of the excess of production arising from his operations and those of his rivals. These organized markets, especially that for transferable capital, afford a constant menace as well as a barometer to the producer. He knows that if his profits rise above the average profits in other industries, the loan fund of the world is ready to pour into his industry, create new mills, and increase to an excessive amount a production which was probably already sufficient to meet effective demand.[1] He knows, also, that if a new invention appears upon the market, reducing by five per cent. or even a smaller fraction the cost of producing his goods, the loan fund is available for equipping new mills with this invention or enabling his rivals to apply it to their old mills. The same resource may be open to him as to the future, but the fact that cost of production has fallen is likely to react upon existing stocks of finished goods and drive their price below their cost of production.

When to these variable elements affecting cost of production and margin of profit are added the variable elements which influence demand, the situation of the manufacturing producer becomes still more delicate. The law of marginal utility will not only drive the buyer with almost unerring instinct to the seller who sells the best goods at the lowest price, but it will drive him to buy any substitute which promises to perform the same service at a lower price. Thus, if the price of woollens

[1] "The knowledge that enough capital is already invested in an industry to fully supply all current demands at profitable prices has no power to deter the investment of fresh capital, provided the new investors have reason to believe their capital can be made to displace some existing capital."—Hobson, p. 202.

should be abnormally advanced, upon the calculation that the community must consume a fixed quantity of woollens, it would be found that buyers would turn to other textile fabrics—cottons, silks, and linens, and their compounds—in order to provide for their wants. An advance in copper was met in 1889 by a remarkable shrinkage in the demand and by the employment of other metals, like zinc and iron.

In respect to these great staple articles the problem is simpler than in respect to finished articles which are the subject of varying tastes. A demand for one article, moreover, reacts upon the demand for another, as the investment of the earnings of the masses a few years ago in bicycles reduced the amount spent upon pianos and injured the business of livery-stables. Thus, in order to determine exactly the equations of demand and supply, a producer would need to possess complete knowledge in regard to all existing industries and the gift of prophecy in respect to future changes in popular demand for their products.

A serious economic crisis may be invoked by such conditions. The periodicity of crises arises inevitably from the gradual absorption of capital which takes place during a period of business activity. There is then a large demand for capital for investment in new enterprises. The development of these enterprises creates a demand for labor, from the lowest manual grade to the most highly technical engineering and organizing capacity. Wages rise because of this demand. Prices rise, partly because the price of labor has risen which is required in producing goods, and partly because the body of laborers have more money with which to buy goods. The movement of goods required to meet these demands brings a large volume of business to the railways, which compels them to make improvements and to invite contributions of capital from the public by the offer of new stocks and bonds. The absorption of capital in railway construction

has been an important factor in every modern crisis, notably that of 1873 in the United States.

When demands for new capital exceed supply, the turn of the tide comes in the current of business development. All those who receive fixed salaries — like government employés, clerks in shops and offices, and railway and mine workers—have been losing by the advance in prices rather than profiting by it. When this influence becomes very plain, these classes diminish their consumption of goods. Those who are employed in large groups at low wages, like railway hands and miners, are apt to inaugurate strikes in order to participate in the increased money earnings which they see going to the shareholders in the enterprises in which they are employed and in order to regain the original purchasing power of their earnings.

These strikes, coming often simultaneously with an arrest in the upward movement of securities due to the absorption of capital, bring a new cause of derangement into the working of the economic machinery. Mines and railways cease to be attractive objects of investment, investors who have been large buyers of finished goods for consumption diminish their purchases in order to keep within their diminished incomes, and the fall of prices which ensues in nearly every line of production carries the circle of shattered confidence and diminished purchasing power through nearly every rank of the community. The diminished demand for goods and the inevitable decline in what can be got for them accumulates idle stocks, wipes out mercantile profits, and drives their holders to the banks for the extension or increase of their loans.

It is a sound maxim that there cannot be such a thing as universal overproduction, because the increased product of one man's labor will be exchanged against the increased product of the labor of others. But even Mill, who insisted most strongly upon this axiom, admitted

that it was subject to several conditions. The most important of these are that production shall always take the right channels, producing only that for which there is a demand at prices at least equal to cost of production, and that there shall be perfect mobility of capital and labor to meet changes in this demand. These conditions are difficult of realization under the modern system of production in anticipation of demand. It thus comes about, as suggested by Clark, that "it is in the relations of present to future—in speculative and inaccurate estimates of incomes that are about to be—that there lie influences that cause goods to be created for which, in time, there is no effectual demand."[1]

In a practical sense, if not in theory, overproduction in respect to effective demand is not only possible, but has been the actual history of many leading commodities during the last three decades, since the civilized countries of Europe and the United States came to be almost completely supplied with the equipment for producing machine-made goods and the means of transportation.[2] Why does the rule of the exchange of products for each other, no matter how large the production, cease to operate in such a way as to produce a healthy equilibrium? The answer is found largely in the investment of savings in enterprises which do not immediately become productive. These enterprises make large demands for food supplies and clothing for the laborers employed in them, and for iron and steel and other raw materials of production, but they often duplicate unduly the existing machinery of production. This increase in the equipment of civilized

[1] Introduction to Rodbertus, *Overproduction and Crises*, p. 17.

[2] "The use of the term overproduction does not mean that more goods are produced than the community can consume, but more than the community can pay for at prices which cover the expense to the producers. The larger the fixed capital involved in an industry, the greater is the danger of such overproduction."—Hadley, p. 294.

societies, beyond the point adequate for supplying consumptive demands, is to a large extent a destruction of saving instead of a productive use of it.[1] The capital which might have been employed in ministering to new and finer needs has not added to the useful wealth of the community. The excessive creation of mills and railways illustrates in this sense, though not to the same degree, the paradox of value shown by water and air, that an increase of the supply does not add to the sum of exchange values nor even to the benefits of the community. This consecration of capital to the production of useless machinery is worse than its use upon articles of luxury or consumption, because the latter would at least afford an economic satisfaction, if not a moral one, to the consumer. Capital sunk in enterprises which are not productive and do not promise productiveness in the future is practically capital destroyed.

A factor less tangible, but perhaps the most important of all the general causes which invoke a crisis, is the psychic factor—the disposition of men to be swept along on a common current of optimistic overvaluation of the present value of future wealth. When an investment of saving is made, it takes usually the form of fixed capital devoted to new plants and improvements in processes of production. Capital is thus withdrawn from immediate consumption by its owner and applied to processes which require time to become productive. The manager of such projects, according to the well-reasoned theory of Bohm-Bawĕrk, pays an agio in the form of interest for the present use of capital. How this condition acts upon the partition of capital between present use and future use is thus described by the Austrian economist:[2]

[1] "Men have gone on increasing their investments in the machinery of production and distribution, unmindful of the fact that such machinery is valuable only so far as it creates and distributes products for which the market furnishes a remunerative demand." —Crocker, p. 49.

[2] *The Positive Theory of Capital*, p. 335.

"Now the constant presence of the agio on present goods is like a self-acting drag on the tendency to extend the production period; without checking it all at once it makes it more difficult, and more difficult in proportion to the projected length of the process. Extensions which would be harmful as regards social provision are thus made economically impossible. Moderate extensions over the average process, however, are not absolutely prevented, but are limited to those branches where, from peculiar economic or technical circumstances, the productiveness that goes with the extension of the period is so great that they can bear the progressive burden of the agio."

Future goods become salable through the mechanism of credit, usually in the form of the stocks and bonds of the new enterprises. Almost constantly future values and earning power are "discounted" in the present values of securities. We have seen that the stock market is the register of values; but values depend upon the mental estimates put by the mass of men with purchasing power upon different goods. If all are swept along upon a current of miscalculation of the present value of future goods, the quotations of the stock market reflect this universal error. Langworthy Taylor well says that "inflation is exaggerated forecast of productivity." How the process of overvaluation of future goods under the modern credit system is finally checked he thus sets forth:[1]

"It is not necessary in order to cause a crisis that the final products of industry should be so disproportioned that they would not be salable against one another, were the conditions of personal obligation otherwise static. It is the fact that the great productive organizations have promised more than they can carry out in the way of returns to investment which is the great cause of crises.

[1] *The Kinetic Theory of Economic Crises*, pp. 68–70.

This analysis offers the explanation of the abnormal credit, which characterizes crises. . . . The consequence is that the market for future goods is wiped out as with a sponge, and the exaggerated demand for present goods is at last turned specially towards one of them—namely, the real money of liquidation contained in the guaranty fund —gold. . . . The exchange value of future goods is so depressed that no possible technical increase in their output can compensate for the fall. The market being resolved into an exchange of present against future goods, the high value of present goods is discovered to be all in terms of promises."

The fact that oscillations of business depression and activity follow one after the other, from the natural action and reaction of the economic system, discloses the reason for the periodicity of crises. Under the free working of conditions which were undisturbed by cataclysms of nature or serious political events, it might reasonably be assumed that the time intervening between the inception of a period of industrial activity, its culmination, and its final collapse, would be nearly the same in every incident of this character. This has been so nearly the fact that Jevons was able to divide the crises of the nineteenth century by almost exact intervals of ten years —1816, 1825, 1837, 1847, 1857, 1866, 1873, 1882, and 1890.[1] The variations in these dates from the exact period of ten years were due to some extent to disturbing political causes, like the close of the Napoleonic Wars, the Crimean War, the American Civil War, and the Franco-Prussian War. It is obvious that any important event affecting the economic order from without, like the suspension of specie payments or liquidation consequent on a great war, must invoke something like a crisis, independently of the play of economic forces under conditions more nearly normal.

[1] *Investigations in Currency and Finance*, p 207.

The history of these events has shown, however, that their effect upon business conditions differed materially according to the stage of industrial development at which the influence from without was felt. In the case of the Franco-Prussian War, liquidation was comparatively easy in France, because the country had just emerged from the effects of the depression which began in France in 1864, but whose influence was still felt after 1866 as the result of the reflex action of the severe crisis in Great Britain. In Germany, which up to the Franco-Prussian War was almost isolated from the international money market, a new era of economic development dated from payment of the war indemnity by France. Speculative resources were so plentiful in Germany, from the proceeds of the indemnity and the imperial policy upon which the government entered, that all enterprise was dragged in the train of speculation, and the results were severely felt after the crash of 1873. In the United States the crisis which began in London in 1890, with the failure of the Barings, was not felt until 1893, partly because short crops in Europe in 1891 and 1892 resulted in large exports of agricultural products from America and thus prevented the foreign exchanges from becoming adverse.

While crop failures in Europe and large exports of agricultural products operated on this occasion in favor of the United States, as they had done after the resumption of specie payments in 1879, failure of the crops has come to be a less serious factor in recent economic crises than was the case when the mechanism of industry was less complex than at the present day. Recent crises have been world-wide in their influence—at least as wide as the extension of the modern mechanism of industry and credit. This condition is not so much an evil as might at first appear. The spread of the disturbance over a wider area seems to mitigate its severity at any given point. The scarcity of food supplies or money at one point is rectified, at least in part, by the supplies of other parts of

the world, and a surplus of goods on one market may sometimes be relieved by their exportation to another market.

Prices of food products no longer fluctuate wildly as in the early days of the nineteenth century, when adequate means of transport did not exist and there was no sympathy between national markets. In England, as recently as 1840, it was estimated by Tooke that a deficiency of one-sixth in the English harvest resulted in a rise of at least 100 per cent. in the price of grain, and prices for grain varied nearly 100 per cent. at the same moment between England and Prussia, and more than 30 per cent. between England and Belgium. Such differences are not possible under the modern system of transportation, which places the granaries of the world at the command of any country within a few weeks and which determines to a nicety by prices upon the produce exchanges the relative inducements for sending products to one market or another.

While a crop failure, therefore, has ceased to involve the menace to human life and the impairment of the world's resources which was once the case, it is not without effect upon economic conditions. If a given country is led under the law of marginal utility to devote its productive resources largely to paying an enhanced price for its food, it may be compelled to reduce its demand for other articles. The necessity for making heavy payments abroad for food products has influences upon the international money market which are revealed by the outflow of gold, the increase of discount rates, and the fall of the price of negotiable securities to a point which makes their purchase profitable on other markets. Such conditions, however, are not sufficient to invoke a crisis unless every other condition is ripe for the event.[1] The economic

[1] It was declared of the crop failure in England in 1879 that "no such disaster had befallen English agriculture within the memory of living men," and Continental states, which usually

equilibrium may indeed be partially maintained by the increased purchasing power of agriculturists in those countries where there is no serious deficiency of food products and whose products are sold at high prices to the countries where deficiency exists.

This interplay of the supplies of one producing country upon the markets of another illustrates the powerful influence of the modern organization of industry in mitigating the severity of crises, in spite of the extreme delicacy of the mechanism and its liability to derangement. The more complete the knowledge of business men becomes in regard to production and supply throughout the world, the wider the field in which goods may be marketed if they prove to be superfluous at a given point; and the more accurate the judgment which becomes possible under these conditions, the less is the danger that a disturbance of the equilibrium between supply and demand will attain a destructive character. The crises of the last half-century have extended their influence over the civilized world, but they have grown less intense in their impairment of the resources for reconstruction and in the suffering inflicted than those of earlier times. It is not unreasonable to expect that more complete knowledge and sounder judgment will so far mitigate the severity of commercial depressions that they will contribute chiefly to weeding out incompetent producers and wasteful methods and stimulating the healthy growth of the industrial system.

Many of the disturbances in equilibrium between supply and demand which bring about crises result in the long-run in important benefits to society. The crisis weeds out

exported wheat, "had not raised enough to feed their own people."—Noyes, *Thirty Years of American Finance*, p. 55. But no crisis broke out upon European money markets, in spite of some exports of gold, and the chief effect of the heavy exports of wheat from the United States was to enable them to carry through successfully the resumption of specie payments.

the less competent producers and leaves in the field only those who have shown their capacity to obtain the largest sum of results with the greatest economy of capital and labor. It is the rapidity of this evolution which has contributed to the frequency and severity of crises in modern society. Giddings says of increase of crime and vagabondage along with increase of social wealth:[1]

"These things are a part of the cost of progress, forms that the cost of progress takes when the rate of social activity exceeds the rate of constructive reorganization. Quicken the pace of a moving army, and the number of the unfortunates who will fall exhausted by the way will be disproportionately increased. . . . Increase the strain of any kind of competitive work and derange the conditions under which it is done, and the percentage of failures will rise."

This element in the problem would seem to establish the principle that the more rapid the progress of society, the more frequent and acute would be industrial crises. This tendency is fortunately restrained by the increased power of resistance given to the mechanism of production and exchange by the greater wealth of the community, diversity of its industries and resources, and the wider area over which the shock of disturbance is spread. In this respect the complexity of machine production and financial organization in modern society operates with the equalizing effect of the market for securities upon changes in the value of money and capital. The increased sensitiveness of the mechanism makes a slight derangement keenly felt and results in precautions at an early date against more radical derangements.

The effect of new inventions is felt most severely by fixed capital. Capital invested in permanent forms is almost defenceless against the progress of improvements. As the situation is defined by Wells, "Society proffers its

[1] *Democracy and Empire*, p. 90.

highest honors and rewards to its inventors and discoverers; but, as a matter of fact, what each inventor or discoverer is unconsciously trying to do is to destroy property, and his measure of success and reward is always proportioned to the degree to which he effects such destruction."[1] The adoption of labor-saving devices or more efficient machinery in any industry relegates the old equipment to the lumber-room, if the improvement is of an important character. The adjustments of capital and labor to these new conditions are among the important factors in causing a crisis. Only under a static condition of the mechanism of production could crises be averted, even if knowledge were complete regarding all existing conditions of demand and supply. The element of new discoveries, causing changes in cost of production and in the supply of old articles and creating new demands, would break the equilibrium. As Smart describes the situation:[2]

"As things are, each new invention throws labor out of employment for the time, superannuates fixed capital, and interrupts the flow of wages and profits. Again, through miscalculation, new capital does not always seek out those channels which are waiting on improvement and reduced cost, but flows on in the old grooves, till it dams up the channel of progress with capital in the wrong place, and prices are again pressed down to the level that pays the last comer only. Thus progress marks its course as a series of jerks."

In the market for money and capital also, the final result of the changes which bring on a crisis is likely to be beneficial to society. The reduction in rates of discount and interest, which is the result of the large supply of capital seeking investment, permits many enterprises to be undertaken which would not be productive under a higher rate of interest. The lower the rate of interest

[1] *Recent Economic Changes*, p. 369.
[2] *Studies in Economics*, p. 207.

falls and the greater the accumulation of capital in the world, the greater becomes the equipment of efficient producing machinery and the greater the surplus which society can afford to devote to permanent works of education and decoration which are not directly productive. But the process of transition by which capital is deprived of its value and investments cease to earn their old return is a period of losses and suffering for the owners of this fixed capital and these investments. A fall in the rate of interest means a reduction of expenditure and a readjustment of social relations by those living upon interest on securities, by insurance companies, banks, and all others depending upon the rate of return upon investments for their income. It impairs the value of saving and is in this sense equivalent to a reduction of wages for the working-man who wishes to provide for old age or for his family after his death. But circulating capital, like other articles, is subject to the law of diminishing returns, which affords to the entire mass only the rate earned by the last increments. The owner of such capital, much more than the laborer, has felt during the present century the operation of an "iron law,"[1] depressing his earnings more uniformly and powerfully as new capital came into the field to compete with the old. The sifting process of a crisis separates worthless enterprises from sound ones, wipes off the account the capital which has been destroyed by unwise investments, and sets forces in motion which drive capital to new fields where its earning power ceases for a time to go downward.

[1] This phrase is applied to the earnings of capital by Sayous, "La Bourse Moderne et sa Loi d'Airain," in *Revue d'Économie Politique* (April, 1900), XIV., p. 373.

VI

THE MANAGEMENT OF CRISES

Important part played in crises by the market for money and credit—State of market, however, a symptom, and not usually a cause, of general economic disturbance—Fallacies of J. B. Say and Mill—Function of money in a crisis—Recent growth of the world's loan fund—Changes in bank loans and cash at different stages of an economic cycle—Importance of following the expansive theory of banking in a panic—State socialism not a remedy for crises.

THE money market and the organization of credit are closely related to the circumstances of a crisis.[1] They reflect with such delicacy the changes in conditions of credit, in demand for capital, and in prices that the banking system was often treated in the early history of economics as the primary cause of crises. That this was a superficial view of the situation is recognized by most modern students. The existence of credit and the great accumulation of loanable capital in modern society contribute to the capacity for overproduction and speculative enterprises. Indeed, the economic crisis in its modern form is essentially a phenomenon of the organization of industry and credit; but this is a necessary incident of the employment of so delicate and efficient an instrument.

The theory which attributes crises to conditions of credit and banking inverts cause and effect. It puts the cart before the horse. Conditions of credit and the

[1] "The crisis reaches every industry through the interdependence of industries, but chiefly through the relation of all industries to monetary and credit institutions."—Jones, p. 7.

foreign exchanges are the symptoms of the relations between the supply of goods and the demand for them, but they are symptoms, not causes. The money market, however, is a vital factor in restoring equilibrium, because money is the measure of the relative value of goods. The celebrated theory of markets laid down by J. B. Say is defective in ignoring this controlling element in exchanges. He says:[1]

"It ought not to be said that sales are not made because money is rare, but because other products are rare. There is always enough money to serve for the circulation and reciprocal exchange of other values when those values really exist. . . .When an article which is superabundant does not find purchasers, it is so little the deficiency of money which checks the sale that the sellers of this merchandise would consider themselves fortunate to receive the value in those goods which would meet their needs for consumption, valued at the quotations of the day; they would not seek money and would have no need of it, since they would wish to transform it into products for their own consumption."

Plausible as this statement seems, the exclusion of money from the theory of exchanges is the exclusion of the one factor which makes possible the organization of industry for production in anticipation of demand. This is the fatal flaw in the elaborate theory of Mill on "the equation of international demand." In seeking to assimilate the relations of international trade to barter, in which the co-exchangers would, by the necessities of the case, make exchanges which were equal, he ignores the consideration that money, by the very fact of its introduction into the equation, obviates the necessity that exporters and importers shall deal with each other, and therefore excludes the operation of general laws based upon such a necessity. Equation of international de-

[1] *Traité d'Économie Politique*, p. 140.

mand must be reached by direct barter, in which the co-exchangers meet; or it must be determined by the mechanism of money and credit. There is no room for an intermediate theory, in which one group of persons, perhaps consumers of champagne, are influenced by the intensity of demand of a group in a foreign country, perhaps consumers of wool from the champagne-importing country. If equation of demand is established, it must be by the mechanism of price as defined by Nogaro:[1]

"Money has upon the determination of exchange value the influence which is ordinarily attributed to the market; but while the market brings together only producers and consumers of certain given categories of merchandise, money, representing all products, places all consumers in the presence of every producer. It creates a universal market, which embraces and confounds the operations of internal commerce and international commerce."

Equally applicable is this principle to the theory of exchange of products within a country. The very language of Say begs the essential question by the introduction of the element "valued at the quotations of the day" (*évalués au cours du jour*). It is precisely the question whether he can dispose of his products at "the quotations of the day," when he calculates the profit upon their production, with which the producer concerns himself. If all goods and services fell in a fixed ratio as the result of the rarity of money, it might be true theoretically that the producer would not be concerned as to their value expressed in money; but this is not the course of events in a crisis. Certain goods fall sharply in money value because their production has outrun effective demand. It is in money that society measures the margin of difference between the fall in such goods and in

[1] *Le Rôle de la Monnaie dans le Commerce Internationale*, p. 59.

other goods; and it is in money that the producer is forced to measure it, whether he will or not.

If the product of a given industry has been produced far beyond effective demand, its price will fall relatively more than the price of a product which is still in demand. It is precisely because money is the one commodity which has been chosen by the common consent of civilized peoples to reflect these relations in the value of other things that it becomes of importance in a crisis and cannot be disregarded in any intelligent theory of distribution. It remains true, however, as set forth by Vialles:[1]

"It is to take effect for cause to seek the origin of crises in the banking question and the movement of discounts. It is exactly as if one pretended to discover the cause of a fire by the measurement of the flames which spring from the building in conflagration. The height of the flames reveals the gravity of the fire as the advance in the discount rate discloses the gravity of the crisis, but neither the one nor the other are causes of the phenomenon."

The organization of the banking and credit system has already reached a point in the older civilized countries which averts the worst consequences of the earlier crises. The methods and mechanism of commercial banking, as developed in Great Britain, in France, and in the leading cities of the United States, have attained a perfection which makes impossible a general collapse of banking credit except under conditions so destructive to the economic system as to be hardly within the range of possibility. Commercial banks in these countries confine their business chiefly to discounting commercial paper offered by individuals and companies in good standing and to advances upon first-class negotiable securities. There is little danger under modern conditions of credit

[1] *La Consommation et les Crises Économiques*, p. 140.

of the failure through bad loans of a commercial bank which is conducted upon sound principles. Excessive loans to a single individual or corporation, or upon security which would be rejected by conservative bankers, has often resulted in the failure of single banks, particularly in the United States, where banking responsibility is divided among many institutions, but never within the past half-century have such failures destroyed confidence in the entire banking system and led to the general withdrawal of deposits.

One of the most serious of the disturbing causes which prevent the working of the mechanism of industry under the secure conditions of a static state is the growth of the loan fund. This fund is pouring into the money market every year a great amount of saved capital seeking investment. There was a time when every dollar of capital saved was urgently needed for productive enterprises in Europe and the United States. This was conspicuously the case in the beginning of railway construction, when it was necessary for the Bank of France to go to the aid of the French railways in order to raise in the course of three years a sum of about $200,000,000.[1] But the increase of railway equipment and the employment of labor-saving machinery in farming and manufacturing has promoted saving almost in a geometrical ratio. The saving of one year has been capitalized into increased producing plant, which has greatly increased the saving of another year, until the amount of capital offered annually for investment in new enterprises has reached several thousands of millions of dollars each year.

It is the natural tendency of capital, under the law of marginal utility, to gravitate to the point where it will earn the highest returns. Artificial barriers of law and custom will sometimes check this movement and force the owner to accept a low return in comparison with what

[1] Noel, *Banques d'Émission en Europe*, I., p. 118.

might be earned elsewhere. One of these barriers which was potent until recent times was the barrier of national boundaries. After this barrier was crossed, capital still remained shut to a large extent within the limits of the advanced civilized countries of Europe and North America. Experiments beyond these boundaries, such as those of British capitalists in Latin America in the third decade of the nineteenth century and in the Argentine Republic in the ninth decade, were often followed by disastrous results, because of the absence of European commercial standards, respect for the sanctity of contracts in the countries where the capital was invested, and extravagant expectations for the future. When the crash came, it affected not only the country where the investments had been made and those who had made them, but the whole trade of the lending countries.[1]

Within the last few years has begun a new movement of this character of greater magnitude than any which has gone before. The less developed countries of Europe —Germany and Russia—were first supplied with the machinery of production and exchange from the reservoir of savings in the more developed countries, and since then the vast extent of Africa and Asia has been opened to modern civilization. The result has been that the congestion of capital in the older countries, which threatened to paralyze enterprise and result in a long period of depression, has found an outlet in the undeveloped coun-

[1] "The money form of the loans disguises the fact that much of what is lent to the Argentine Republic, Uruguay, Brazil, Australia, etc., does not reach the borrowers in the shape of cash at all. The loan takes the form of works or manufactures of some sort, such as rails, bridges, pontoons, articles of luxury, linen, cloth, etc., which means profit for the manufacturers and employment for the workers of England. But the trade of this kind fostered by loans from the country whose goods are ordered must, in the very nature of the case, be precarious."—Hyndman, *Commercial Crises of the Nineteenth Century*, p. 154.

tries, and this outlet has contributed to the increased sale of manufactured goods, larger earnings for invested capital, and the revival of industry which began all over the world about 1897.

The tendency to overproduction resulting from unrestricted competition has been corrected to some extent during the past generation by the consolidation of industry and the restriction of production. The volume of production and the processes of distribution have thus been brought under a higher degree of organization than before. Production has been curtailed in many lines to conform to ascertained or probable demand. In the United States great combinations of capital have been formed in order to limit competition, and the skill and capacity of the captains of industry have been developed to an exceptional degree. This organization, in spite of many evils, undoubtedly has great advantages. It is subject to dangers of its own, however, growing out of the magnitude of the powers and interests intrusted to individuals as the custodians of large capital and many thousands of workers.[1]

It is when the loan fund and the supply of saved capital seeking investment have been largely absorbed that the check thereby imposed upon further ventures brings on a crisis. Many miscalculations are made during the period of development and business activity as to the time when new enterprises will become productive, even where the enterprises are not unsound. It is found that investments which were expected to yield their fruits at once in large wealth and further savings are likely to require years for their fruition. The promoters of new enterprises find that the public have reached the limit of their surplus savings seeking investment and will take no more

[1] "The active and energetic and self-reliant, who naturally become the leaders in industrial society, are of the intellectual type most prone to optimistic exaggeration." — Jones, p. 191.

of the new types of securities.[1] The promoters become overloaded with securities and appeal for ready funds to the banks, but the banks—noting the declining prices of the securities on the stock exchanges—become distrustful, like the public, and curtail their advances instead of increasing them.

The banks feel the pressure of increased demands for money and capital in several ways. They encounter not merely the demands of speculators and promoters, but the appeals of their mercantile customers growing out of enlarged business operations and the tendency in prosperous times for individuals to carry more currency for retail transactions than in periods of depression. The latter demand, due in part to the high prices caused by business activity, is a demand for actual money, unless the banks have an unhampered power of note issue. In the latter case, the demands upon the banks are felt by decline in the ratio of reserves to liabilities. It is when this ratio is reduced to the danger-point and the banks begin to take steps for their own protection by curtailing loans, advancing the rate of discount, and acquiring gold that the signal is given for a general arrest of the upward movement.

The operation upon the accounts of a bank of the movement of ascending business activity and speculation which leads to a crisis follows so uniform a rule that the history of crises may easily be traced by the fluctuations in bank returns. Capital is idle and redundant during the

[1] An interesting case of this character was the flotation of tramway companies in France in 1899. The stock was taken first by large capitalists, but the latter "are not in the habit of keeping long securities which are unproductive, and the appearance of some of them on the Paris Bourse proved that, in spite of the confidence which the enterprises inspired in their promoters, a certain number of the latter tried to realize at a premium a part of their locked-up capital." The investing public failed to respond and prices declined.—*Économiste Européen* (June 22, 1900), XVII., p. 776.

period of liquidation following a crisis, because those who have it to lend are afraid to make investments and those who usually employ it by entering the market as borrowers are cautious about embarking upon new enterprises. As these fears by degrees subside on both sides, a moderate movement sets in. The large supplies of capital and the low rates for it begin to tempt borrowers at the same time that the opportunity for new enterprises and for the resumption of production becomes favorable as the result of the exhaustion of old stocks of goods. The growing demand for capital gradually increases the charge for it, while the renewed demand for commodities, falling somewhat suddenly upon a denuded market, increases their price and offers tempting profits for increased production. The reviving condition of the markets makes new investments attractive and increases speculation, and every new step in expansion increases the demand for capital at the same time that it diminishes the supply.

The period of speculation and ascending prices is marked by a steadily widening separation between the amount of the cash reserves of banks and their loans and discounts. The cash falls while the loans rise. The fall in the cash is partly due to the steadily growing domestic demand for currency and credit, to meet which the cash is put in circulation; but the fall is sharply accentuated, after speculation reaches the danger-point, by the demand for cash for settling foreign balances which have ceased to be settled in merchandise. Discovery that the danger-point has been reached—that the stock of cash and the volume of loans are too far apart—usually comes somewhat suddenly to the mass of the business community. Unusual withdrawals of gold from the bank reserves for export abroad are one of the visible signs that business is upon the eve of a crisis.

The underlying cause of the gold movement is found in the state of trade. Goods can no longer be sold as

rapidly as they are produced—partly because domestic purchasers cease to purchase so largely at enhanced prices, and partly because foreign purchasers can buy similar goods elsewhere at less prices. Manufacturers and merchants, being unable to sell their goods, are no longer able to meet their obligations at the banks at maturity. There ensue conditions thus described by Schmoller:[1]

"The causes which promoted development have entirely disappeared. But manufacturers and merchants, especially those newly established within a few years, are interested in maintaining prices. They have to contend with the difficulties of getting a start, they have often built dear and even extravagantly, and cannot live without high prices for their goods. All those interested in the rise of prices seek by every means to maintain the direction of their movement in order to realize their profits. . . . It is at such a moment that, in place of true bills of exchange, accommodation bills spring up everywhere and afford a little credit to audacious speculators."

Then follows the panic, which becomes more or less acute according to circumstances and the extent to which credit has been overstrained. The demand upon the banks for loans and advances increases, while the decline of the cash reserve becomes so rapid as to compel prudent bankers to raise the rate of discount. The effect of the increase in the discount rate is to diminish the demand for credit from those who can do without it, while it attracts capital from abroad, or, what is substantially the same thing, induces foreign creditors to suspend the withdrawal of their credits by the attraction of their greater earning power where the high discount rates prevail. The aid extended by the banks to solvent

[1] "Les Phases Typiques des Crises," in *Revue Économique Internationale* (March, 1904), I., p. 136.

traders enables them to weather the storm. The insolvent, who have made extreme miscalculations in production and in estimates of probable profits, are compelled to suspend, and a long period of business depression sets in.

The moment the acute danger is over, a radical change comes over the accounts of the banks as the result of the arrest in the activity of affairs. The demand for credit declines to a minimum, resulting in the reduction of loans and discounts, while the diminished demand for currency sends it back to the solvent banks and results in the rapid piling-up of specie in their reserves.[1] The movement of deposits varies somewhat, according to the degree of disturbance caused by the crisis and the banking rules by which deposits are regulated. The general tendency of the real deposits, those which are not merely transfers of credit by the bank to its customers on account of loans, is to follow the cash reserve. They diminish when the demand for currency is most acute and begin to accumulate again when the crisis is over. Their recovery is usually less rapid than that of the cash reserves, and is comparatively slow where losses of capital have been heavy and the wealth has disappeared out of which deposits were made.

An illustration of the movement of bank accounts under modern conditions of credit is afforded by the consolidated accounts of the national banks of the United States from the crisis of 1893 to the restoration of business activity in 1900. The state of the leading items at selected dates, showing the volume of business and specie reserves, appears in the table on the opposite page.

[1] The elevation of the discount rate, as pointed out by L. L. Price, operates in several ways to diminish the demand for currency. He declares that it will tend "to check the extension of business and diminish the demand for petty cash for the payment of wages and for the purchase of retail goods."—*Money and its Relation to Prices*, p. 156.

MOVEMENT OF NATIONAL BANK ACCOUNTS AFTER CRISIS OF 1893

DATE	*Loans and Discounts*	*Specie Reserve*	*Individual Deposits*
May 4, 1893.....	$2,161,401,858	$207,222,141	$1,749,930,817
October 3, 1893. ..	1,843,634,167	224,703,860	1,451,124,330
May 4, 1894.....	1,926,686,824	259,941,923	1,670,958,769
October 2, 1894 ...	2,007,122,191	237,250,654	1,728,418,819
May 7, 1895.....	1,989,411,201	218,646,599	1,690,961,299
September 28, 1895	2,059,408,402	196,237,311	1,701,653,521
May 7, 1896.....	1,982,886,364	202,373,446	1,687,629,515
October 6, 1896 ...	1,893,268,839	200,808,632	1,597,891,058
May 14, 1897	1,934,151,876	236,076,383	1,728,083,971
October 5, 1897 ...	2,066,776,113	239,387,702	1,853,349,128
May 5, 1898.....	2,109,773,386	317,182,772	1,999,308,438
September 20, 1898	2,172,519,610	293,874,158	2,031,454,540
April 5, 1899.....	2,403,410,895	364,162,552	2,437,223,420
September 7, 1899.	2,496,721,251	338,571,383	2,450,725,595
April 26, 1900.....	2,566,034,990	358,051,069	2,449,212,656
September 5, 1900.	2,686,759,642	373,328,410	2,508,248,557

These figures show a large volume of loans in May, 1893, when the inflation preceding the panic was at its maximum. The panic became acute in June, but did not seriously affect mercantile business until some time after its force had broken over the stock exchanges and the money market. Gradually, however, the curtailment of business by merchants and of credits by the banks carried loans down more than $300,000,000 within five months, while the heavy drafts made by merchants and bankers upon their deposits reduced the deposit accounts by nearly an equal amount. These were the minimum points of the panic in respect both of loans and deposits. The specie reserves of the banks were already stronger in October than in July, because of the strenuous efforts of bankers to curtail loans and husband cash. It was not until the next year that the reflex movement of idle money swelled reserves nearly forty per cent. above the amount in the summer of 1893, and accumulated a specie fund which was not again equalled until 1898.

The course of events was somewhat irregular from 1894 to 1897, because of the political panics which swept

the stock exchanges and hampered business, as the result of the pressure upon the gold reserve, the threat of war with Great Britain over the Venezuelan boundary, and the political campaign of 1896 regarding the metallic standard. It was not until the summer of 1898 that loans and discounts returned to the maximum of 1893. The volume of loans at this time did not represent the degree of inflation of 1893, because of the intervening growth in the population and consuming power of the country. The increase in the volume of money swelled the specie reserves fifty per cent. above the amount in 1893 and deposits $550,000,000 above the minimum of the panic year. It remained for the year 1899 to witness a further expansion in loans and deposits, which, although balanced by a large increase in specie reserves, already pointed the way to another period of expanded credit and of the absorption of the loan fund.

A severe strain is imposed upon commercial banks at the acute stage of a crisis. Unusual demands are made for new loans and the extension of previous loans, which arise in part from the ordinary functions of the banker, but are intensified by sudden distrust of other sources of credit. Those who have been content with small quantities of cash, and have been both giving and receiving commercial credits in the conduct of their business, suddenly realize that unusual calls will be made upon them for cash and begin to distrust the ability to pay of those who owe it to them. Appeals for cash or its equivalents are then made to the banks, which are usually in inverse ratio to the general belief in the ability to obtain it. Any form of banking credit will be accepted on such occasions which has the virtue of unquestioned exchangeability. Such credits may be issued by banks to solvent traders without risk to any required limit, with great benefits in arresting panic and preventing its worst consequences, on the conditions that the banking system is known to be sound and that its issues are not fettered by law. If

currency is hoarded under a solvent banking system, it is because the amount is believed to be limited and those who hoard it fear that they may not be able to obtain the share which they need at the moment when it may be demanded. An elastic limit of note issue is a powerful weapon for restoring financial confidence on such occasions.

The expansive theory of dealing with monetary pressure, as it is called by MacLeod, has been too often tested during the past half-century against the restrictive theory to leave any doubt as to the wisdom of the former. The expansive theory involves loans in times of panic, upon good security, up to the utmost limit which the resources of the bank permit, in order to meet the emergency of the moment. A solvent bank need have no fear, if it has the power to issue notes and extend credit freely, that its specie reserves will not be fully restored after the acute stage of the crisis is over.

The restrictive theory assumes the necessity of bringing everything at once to a metallic basis. It is supposed to have the effect upon the congested financial body of a healthy purging. This theory is directed against the continuance of loans to sustain the inflated credit which has brought on the panic. It would be a sound theory if it were applied at the right time; but the demands for accommodation after a panic has broken out are very different in character from those before the panic. The new demands are not usually made for the purpose of continuing inflation, but for the purpose of offsetting the sudden drying-up of the usual sources of credit—the temporary paralysis, through terror, of the entire machinery of exchange. The moment the terror is mitigated, the old machinery will resume its normal functions, with a movement modulated to the new conditions of things. It is one of the highest functions of modern banking to put an end to the period of unreasoning fear and complete paralysis which marks the acute stage of a panic by em-

ploying all the resources due to inherited strength and legal powers in restoring the orderly functions of the machinery of exchange.[1]

It has been pointed out that the stock market affords the first and most natural reflection of changes in value under the modern organization of credit. It does not follow that the existence of the stock market adds to the intensity of crises. To a certain extent its very sensitiveness to changes in value anticipates the discovery of economic errors and hastens their correction. The stock market is an offshoot of the modern mechanism of credit, and the mechanism of credit is a necessary result of the saving of capital for investment and production in anticipation of demand which have followed the subdivision of labor. While the mechanism of credit, therefore, makes miscalculations possible in regard to demand and supply for goods and credit, it is the existence of saved capital and production in anticipation of demand which lie at the source of economic errors. Such errors can be minimized by the application of wide information and sobriety of judgment to economic production, but they cannot be entirely obviated in a progressive society.

Grave miscalculations as to the present value of future goods were frequent before the stock market attained its modern development. A conspicuous case was the wild speculation in public lands in the United States before the crisis of 1837. At a later date the pressure of changes in value and the contraction of credit fell upon commercial operations. In the crisis of 1857, it was declared by a contemporary author that "the regular discount of bills by the banks had mostly been suspended, and the street rates for money, even on unquestionable

[1] Bagehot says: "What is wanted, and what is necessary to stop a panic, is to diffuse the impression that though money may be dear, still money is to be had; if people could be really convinced that they could have money if they wait a day or two, and that utter ruin is not coming, most likely they would cease to run in such a mad way for money."—*Lombard Street*, Works, V., p. 45.

securities, rose to three, four, and five per cent. a month."[1] The fact that pressure under more recent conditions falls more severely upon the stock market is simply an indication that the market has been interposed as a buffer between ordinary commercial operations and economic changes. Normal commercial credit has become more stable, because the frontier of speculation has been advanced further than was formerly the case beyond the field of industrial production.[2]

One of the essential defects of state socialism, or collectivism, is that it affords no such test of the equation of demand and supply as is afforded under the competitive system by the returns upon capital in different industries which are reflected in the stock market. It is the declared purpose of socialism to produce, in view of social needs in the order of their urgency, with the greatest possible economy in the forces of production.[3] But in production for future demand the competitive system affords the only test of relative utility of different products through their prices. The necessity of a test of the demand for future goods would be done away with if production in anticipation of demand were to cease; but this would mean the abandonment of the economies achieved by the use of machinery and a return to the household industry and hand labor of the Middle Ages. Such a solution of the problem would justify the declaration of Vialles, that in suppressing the disease one would be compelled to suppress the patient, and that to kill is not to cure.[4]

A remedy for existing evils in production cannot be

[1] Gibbons, *The Banks of New York and the Panic of 1857*, p. 345.

[2] "There exist two kinds of credit, one which lengthens with the roundaboutness of the process, and one which shortens with the rapid delivery of goods. The latter is the more spatial and the more employed in set-off; the former the more temporal and the more presented for liquidation."—Langworthy Taylor, p. 72.

[3] Vialles, p. 126.

[4] *La Consommation et les Crises Économiques*, p. 137.

found in state socialism or co-operation unless the representatives of the state or the co-operative body are endowed with absolute knowledge of all elements affecting demand and supply, not only in the present, but in demand and in methods of production in the future. The state may aid in diminishing the errors resulting from miscalculation by placing at the disposal of the community its great resources for gathering and distributing information, but the past history of state regulation, even in simple matters, does not justify the belief that it can arrogate to itself or to its representatives wider knowledge and more accurate judgment of future contingencies than belong to those who stake their fortunes under the competitive system upon the accuracy of their anticipations and whose errors of individual judgment are submitted to the test of the average judgment of all other producers and investors by the sensitive mechanism of the stock and produce exchanges.

VII

IS AN IDEAL MONEY ATTAINABLE?

Some of the questions involved—Gold a measure of the changes in the relations of other things—Impossible to dispense with it and retain a measure of value—Methods proposed for attaining an ideal standard—Those which propose to eliminate gold—Those which propose to vary the amount of gold paid inversely to its purchasing power—The proposed "multiple standard"—Difficulty of doing justice under either method.

CAN a better form of standard money be devised than silver and gold? Is a more equitable means attainable of conducting exchanges than by the use of coined money?

These are questions which have often been asked by philosophers and economic students, and which have sometimes been given an affirmative answer. The essential objection to silver and gold is that they do not have a constant value. To the minds of the mass of men a pound sterling of gold, a silver five-franc piece, or a paper dollar represents always a definite and fixed amount. It has not escaped attention, however, that a given amount of money buys much less at one time than another. Translated into terms of purchasing power, the value of money fluctuates. The dollar may or may not represent an ideal fixity of value; but in relation to other things its value is obviously not constant. That this fact constitutes an objection to the use of metallic money as a standard has been rarely disputed. It is generally admitted that it would be much better—it would do more exact justice to the man who works for wages

or the man who sells goods—if the dollar which he receives on one day had the same value as the dollars which he receives on other days.

The differences of opinion which have arisen on the subject of correcting fluctuations in the value of money have been due largely to failure to separate from each other the various factors of the problem. The real object to be sought is the correction of variations in the exchange value of money which arise from influences directly affecting the money metals. It would, perhaps, be desirable so to equalize the quantity of production of gold and the cost of its production that the increment added each year to the world's stock of money would bear something like a uniform proportion to the average added increment of transactions. But even if this end could be attained it would be very far from preventing variations in the prices of different articles or in the average prices of all articles. These prices would be influenced by causes arising in the production and distribution of the commodities individually and, in the aggregate, independently of those variations which arose from changes in the quantity or distribution of money. Inevitably the distribution of money would be influenced by its marginal utility as reflected by price in each community, which would draw it from a community where its rental price and purchasing power were low to one where they were high. Changes in the purchasing power of money are, therefore, necessary incidents of the present organization of industry under the competitive system, and afford the test of the wise distribution of labor, capital, and products. They cannot be eliminated by devices for an ideal money, or for averaging the purchasing power of money over long periods, unless such devices go to the reconstruction of the entire social fabric. Some ameliorations in the fluctuations of the money metals may be conceivable, but not, under the present social system, such an amelioration as would put an end to changes in prices.

In examining the various projects which have been advanced from time to time for steadying the purchasing power of money, it becomes clear that there is much conflict of opinion over even the definitions which describe the character of the changes. It is often declared that gold has appreciated in value when a given amount of gold will purchase a larger amount of commodities than before. In a restricted sense this definition of the "appreciation of gold" is correct. When gold will exchange for more commodities than on some previous occasion, it has undoubtedly appreciated with reference to those commodities. But an appreciation of gold with reference to those commodities may be due to causes having no direct relation to gold, but related to the production or stock of commodities. If a given commodity has been produced beyond the limits of effective demand, so that there is a surplus stock on the market, its price falls in gold, and it may be said in a sense that gold has appreciated with reference to this particular commodity; but the real cause of the change is obviously not found in the production of gold, or anything directly affecting that metal, but in influences affecting the commodity which is measured in gold.

The value of gold in relation to other articles is reflected by prices. Price is a relationship between the exchangeable value of an object at any given time and the exchangeable value at the same time of the metal of which money is composed. The relation between gold and other commodities is constantly changing, as are the relations of these other commodities to each other. There is almost constantly a slight misdirection of production, which, from day to day, creates a little more of one commodity, or a little less of another, than is demanded at current prices. The influence of this overproduction or scant supply corrects itself through changes in prices, but the changes occur before the remedy is effectively applied. These prices are the test of the

demand for products. If prices fall below the cost of production, it is evident that there has been excessive production of these articles, and to that extent a misdirection of productive energy.

When this misdirection of production extends to many industries, and results in absorbing a large part of the savings of the community in projects which fail to pay a profit, the value of gold rises in a marked degree. The state of credit then becomes a factor in determining the value of gold in reference to other things, because the impairment of credit causes an unusual demand for gold, and overproduction of other things causes less demand for them. It is doubtful if these causes of fluctuation in prices could be eliminated by the creation of an ideal money. If this result is sought, the proposition cuts deeper than might at first appear into the foundations of the existing economic system. If gold failed to appreciate in reference to cotton goods when the production of cotton goods exceeded effective demand, there would be no check put upon their continued production, and the misdirection of industrial economy would continue without restriction. It may reasonably be asked, therefore, whether the elimination of these fluctuations would not destroy the balance-wheel which is afforded by metallic money in keeping production within proper limits and directing it in the channels where it has the highest utility to the community.

It would probably be contended by those who seek for an ideal money that their aim is not to eliminate fluctuations in price which arise from changes in commodities, but to eliminate the fluctuations which grow out of the character of gold as merchandise and out of the irregularity of its production. It is very difficult to separate, in either theory or practice, the one class of fluctuations from the other. It would be difficult in any given case to declare that a particular change of price was the result of causes operating upon the article whose price

was expressed in gold. Undoubtedly there has been a gradual change in the relation of gold to commodities as a whole, extending over long periods of time. The precious metals several centuries ago had a much higher purchasing power than they have to-day. When the supply of gold was fed by the opening of mines in California and Australia, it was believed by many that the purchasing power of gold had permanently fallen. When the demand for gold expanded with the expansion of commerce in the last quarter of the nineteenth century, it was declared in many quarters that gold had ceased to depreciate and had again begun to appreciate in a marked degree because of its scarcity in relation to the mass of commodities forming the object of national and international exchanges.

The correction of such fluctuations is the avowed purpose of providing an ideal money. The classes of proposals which have been made for attaining such a money may be divided into two: those which propose to abolish the precious metals altogether as the material of money, and those which propose to retain the metals, but so to adjust the amount of them paid in execution of money contracts that exact justice shall be done between debtor and creditor.

The first class of proposals generally involves the creation of an abstract standard, representing no specific tangible commodity, but a determination of value by some other process. One of the most elaborate of these proposals is that of a school of Belgian socialists who propose to substitute certificates of property for metallic money. A plan of this kind, designated as *comptabilisme*, was carefully worked out by M. Ernest Solvay and presented to the Belgian chambers in the spring of 1899. Solvay based his system upon the proposition that money is purchasing power. Following up the growth of economies in the use of money, he declared that his project would "generalize the clearing system under its most

refined form and render useless every other method of payment."[1]

The proposal was that a national bank or some other public institution should be authorized to accept monetary guarantees or other evidence of the ownership of property, and issue books of checks to those presenting such evidence. These checks were then to be transferred from the one to whom they were first issued to others in payment for goods or service. The purchasing power of the first holder would be diminished in just the proportion in which that of the second holder would be increased. Solvay argued that the adoption of this method of entering commodities against each other would economize the capital employed in money, would reduce the rate of interest for the use of capital, and would eliminate financial panics, because it would permit the saving of the entire amount of the metals now employed as money and their restoration to productive industry.

The defect of this project, and others of a similar character, is that they ignore the most vital requisites of money. In the plan of Solvay there appears to be a double employment of the same property—the retention of property by the owner while he is allowed to spend it in the form of checks. Even if this double employment of the same property were eliminated, so that the man who delivered a check should actually deliver a corresponding amount of property, the fatal defect of most such projects would still inhere in the system. This defect is the lack of exchangeability of the property transferred. The man who mortgaged his land to obtain checks, redeemable only in the land which he had mortgaged, would soon find that the checks would not pass for their face value in other commodities which were more exchangeable and more generally desired than title to his land. The declaration that the adoption of such a system would put

[1] *Notes sur le Productivisme et le Comptabilisme*, p. 89.

an end to crises by abolishing the scramble for legal-tender money at such times reveals the weakness of the proposal. It is precisely because legal-tender money is the most exchangeable of commodities that it is desired when other commodities cease to be readily exchangeable. While the possession of the legal-tender quality is an important factor, the stamp of this quality upon coins is only a recognition by government of the more fundamental fact that only some article of universal desire and exchangeability is useful as money. Legal-tender laws, under a sound currency system, are only the regularization by the state of a condition which is the result of natural evolution.

The substitution for metallic money of checks entitling the holder to various assorted lots of property—land, woollen goods, meat, or wheelbarrows—would not serve the purposes of an effective medium of exchange. Such orders for property would depreciate in exchange value in just the relation which the supply of these articles bore to the excess of the demand for them. The man who brought woollen cloth to the national bank to be exchanged at current prices for checks would find that the checks would be acceptable for other articles in about the ratio which the supply of woollen cloth bore to the demand for it and with little regard to the figures of money value impressed on the checks. The community, in other words, would get back to the system of direct barter and would through barter apply to the production of commodities the law of marginal utility which is now so effectively expressed by the nicely graduated scale of money prices.

The advocates of projects like these seem to ignore entirely the essential character of money as a merchandise of peculiar acceptability to all. Thus Kitson, the author of one of these systems, declares that the money function represents general purchasing power over merchandise, even when to attain redemption in merchandise it passes through the narrow and gilded door of metallic money.

Hence he lays down the maxim that to constitute a sure monetary system it is only necessary that the possessor of money should be able by its use to acquire the merchandise which he desires. All merchandise, therefore, he argues, is capable of being monetized, and there is no equitable reason why this privilege of purchasing power should belong exclusively to owners of gold and silver rather than to the owners of copper, iron, coal, grain, or any other merchandise.[1]

An argument of this character almost answers itself. Copper, iron, coal, and other articles are to-day capable of being used as money so far as they are generally desirable and exchangeable. It is because, in the nature of the case, they are less generally desired than gold and silver that the highest monetary function has fallen upon the latter and only a subordinate monetary function upon articles less exchangeable. It would be the same with certificates redeemable in these articles. They would retain a fixed relation to gold and silver only so long as the articles on which they were based were in equal demand. There is no proposition more fundamentally true than that of Aupetit:[2]

"The function of money can be performed only by money itself or by some other commodity presenting a utility generally recognized. All secondary means of payment, which derive their value from a legal and obligatory par with real money, cannot constitute of themselves a common measure of price."

Herbert Spencer laid down the maxim that among a people perfectly honest paper alone would form the circulating medium, because no one would promise to pay more than his assets would cover. In order to be workable, this maxim should be amended so that not only should perfect honesty be a necessary condition for the

[1] Denis, in *Annales de l'Institut des Sciences Sociales* (December, 1901), VI., p. 352.

[2] *Essai sur la Théorie Générale de la Monnaie*, p. 153.

successful employment of such a currency, but also perfect knowledge of the conditions of production, so that no one by miscalculating the demand for his products could by any possibility make a promise which might be nullified by a change in the relation of other commodities to those which he produced.

Another and more plausible class of projects for giving fixity to the value of money proposes to continue the use of gold, but to vary from time to time the amounts of gold to be paid according to the changes in its purchasing power. This is the plan which Jevons works out under the title "a tabular standard of value." He proposes that "a considerable number of commodities, say one hundred, should be chosen with special regard to the independence of their fluctuations one from another, and then the geometrical average of the ratios in which their gold prices have changed would be calculated logarithmically."[1] This system involves the proposition that these average prices should constitute the standard for settling contracts expressed in money—that is, if a note was signed in 1895 pledging the payment of $1000 in gold in 1900, and it appeared in 1900 that $1000 would then buy upon the average of all commodities one-fourth more than it would have bought in 1895, the creditor should be compelled to accept $800 in gold in full satisfaction of the debt. Thus, according to the reasoning of those who advocate these devices, the creditor would receive back in purchasing power the full equivalent of that which he had loaned, instead of receiving back, as the result of the enhancement of the value of money, a quarter more than he had loaned. Conversely, if money had declined one-quarter in purchasing power, by the rise of prices, the lender would receive back $1333 in order to give him the same command over commodities as when he made the loan.

[1] *Money and the Mechanism of Exchange*, p. 332.

It is declared by Jevons that "the difficulties in the way of such a scheme are not considerable," and that the work of a commission appointed for the purpose by Parliament, when once established, "would be little more than that of accountants acting according to fixed rules." He deduces the following benefits from the operation of the system:

"Such a standard would add a wholly new degree of stability to social relations, securing the fixed incomes of individuals and public institutions from the depreciation which they have often suffered. Speculation, too, based upon the frequent oscillations of prices, which take place in the present state of commerce, would be to a certain extent discouraged."

While a project of this sort comes nearer to a scientific basis than those which propose to do without a metallic standard, it would present greater practical difficulties and realize fewer benefits than Jevons seems to suppose. It is by no means clear that the tabular standard, even if workable, would do justice in all individual cases or in the average of cases. If the purchasing power of gold rose, as evidenced by a fall in prices, it might be due to improved machinery which increased the efficiency of labor. It is not clear that the man who had $1000 in 1895 should be deprived of the benefits of this increase in the purchasing power of his money over commodities, which he would certainly have retained if he had kept the money in his own custody or employed it for short loans or for the processes of production instead of lending it for an extended period. By the increased purchasing power of money, the whole community, especially those members receiving fixed salaries and wages, would profit through the increased productive power of human effort. It is not clear that the lender of money, if he is entitled to equality of treatment with other members of the community, should be singled out to be deprived of this benefit and be treated as though his capital entitled him

only to a stationary quantity in commodities while other owners of capital were acquiring an increased quantity. Nor is it clear, in case of a general rise in prices, that the community would be benefited or more equal justice be done to creditors than under the gold-credit system if creditors were allowed to collect more money than they had originally loaned. If the rise of prices was due to a decline in the productive power of the community, there is no obvious reason why the lender of capital should be protected by a complicated monetary system against bearing his share of the losses falling upon the community as a whole.

It will be truly said that many changes in prices, especially in those cases under the modern organization of industry where prices have risen and the purchasing power of money has declined, are not due to changes in producing power. They are, however, largely due to changes in the conditions of credit and in the demand and supply of particular articles. A crude sort of average might be obtained by adjusting money payments to the comparative purchasing power of money at different dates; but justice upon the average would be very different from justice in each individual case. Just so far as some suffered loss and others made gains in relation to the average, the percentage of cases where justice was done would be materially affected. Hence it might easily happen that an average which seemed to work justice was only the sum of many cases of injustice working in opposite directions. Such a crude way of "averaging" justice would be like distributing shoes of an "average" size among many men with large feet and small, no one of whom might find a pair to fit him.

A change in the average purchasing power of money over commodities is far from being a uniform relative change in purchasing power over each commodity. The man who lent $1000 in 1895, intending to apply the proceeds to buying a home in 1900, would not feel rec-

ompensed by receiving $800 in 1900, because the average price of commodities had fallen one-quarter, if he found that the price of real estate expressed in money was among the things which had not fallen. This is only an illustration of many similar difficulties which would arise in seeking to do justice between individuals by the system of reducing to an average the operation of economic causes.[1] It is no doubt demonstrable that the existing gold-credit system of exchange works injustice in many money contracts; but it would be necessary to show, in order to secure the acceptance of any proposed substitute, that it would clearly and materially reduce such cases of injustice. The injurious effects upon the wage-earner of this sort of averaging prices is thus pointed out by Lord Farrer:[2]

"Suppose, for instance, that the price of labor remains the same, but that the price of all articles consumed by workmen falls in consequence of improvements in production, the effect of lowering the measure of value in accordance with the average of prices would be to diminish money wages, and at the same time, in addition, by raising prices, to diminish real wages."

Gold is essentially a standard of relative values rather than absolute values. As such it forms as perfect a measure as is practically attainable, because it is not subject to large and sudden variations on the side of supply. The variations on the side of demand are the reflection of changes in the production and consumption of other commodities and are in their essence one of the regulating forces of production. When this character of gold as a standard of relative value rather than absolute

[1] Loria declares that an equalization of this sort is inadmissible, because "it results in assigning to the possessors of money, in exchange for it, an amount of merchandise which is constant in quantity, but which is the produce of a sum of labor greater or less than that which was expended in producing the money or procuring it." — *Revue d'Économie Politique* (February, 1902), XVI., p. 111.

[2] *Studies in Currency*, 1898, p. 65.

value is frankly recognized, it ceases to be necessary to attribute fluctuations in the value of commodities to changes inherent in gold itself. These changes then become attributable to changes of relationship between one article and other articles.

If the man who has borrowed on a mortgage finds that its burden has become heavy because the gold received for the things he produces has fallen in amount, he is much more likely to find the true reason in influences which have depressed the labor-cost of producing his goods or have overstimulated the volume of their production by competitors, and so forced down the price, than to find it in changes in the quantity of gold or in the normal demand for it. These principles, however, are applicable to the working of a sound monetary system, in which the free coinage of gold prevails and its movement is influenced only by the discount rate and changes in the prices of securities and of certain articles exported and imported. The serious causes of complaint which have arisen regarding the increased burden of mortgages and other time obligations will be found, in many cases, to be due to interference by governments with the natural laws of money by the issue of irredeemable paper. Such issues introduce into the determination of prices arbitrary and injurious disturbances of value, whose influence is often prolonged far beyond the restoration of sound monetary conditions. It is doubtful if changes in the exchange value of gold due to changes in the production of the metal have of themselves ever done serious injustice, except perhaps in the case of contracts extending over more than a lifetime, such as have been made by certain ancient universities and are still made by great railway and manufacturing corporations.

It is doubtful, however, if human ingenuity is capable of devising a standard which will insure equity over such long periods of time. Even if a multiple standard were

admitted to be workable in determining changes in the value of money over short periods, it would still be almost impossible to do justice over long periods. The list of commodities chosen as the basis of the standard would become antiquated, some articles would go altogether out of use, and others would sink to a subordinate place beside substitutes and new articles which would work a revolution in society as complete as that which has been worked during the past hundred years by the railway, the telegraph, and the telephone. Even if it be assumed that the list of commodities remained constant or was brought into harmony with modern conditions by addition to the list and subtraction from it, it would still remain true in the case of many of the articles retained that the ratio of their labor-cost and importance among themselves would be fundamentally altered by new inventions and by machine production.

It would be the same if the effort were made to fix a day's labor as the measure of value. Such labor, if it became twice as productive after a century as at the beginning of the experiment, would practically repay to the lender of money that enhanced command over products which is one of the sources of objection to the alleged enhancement in the purchasing power of gold. If a group of laborers who formerly turned out a yard of cotton apiece on the average of a day's labor were capable with modern machinery of turning out one hundred yards apiece, even with due allowance for the labor represented by the investment of capital in machinery, the debtor would be rare who would cheerfully pay over to-day the greatly enhanced product of one man's labor in execution of a contract in the terms of day's labor made a century ago.[1]

[1] How inequitably such a standard would work out may be inferred from this estimate of Davenport's: "Estimating roughly, gold will buy now twice the merchandise which an equal amount of gold would buy forty years ago; it will buy only half the day's

The labor standard of deferred payments—the relative constancy of the value of money to the day's labor—has received the endorsement of many economists. They have not as a rule, however, sought to work out constructive systems for putting such a standard in operation. Ricardo declared:[1]

"If only one commodity could be found, which now and at all times required precisely the same quantity of labor to produce it, that commodity would be of an unvarying value, and would be eminently useful as a standard by which the variations of other things might be measured. Of such a commodity we have no knowledge, and consequently are unable to fix on any standard of value."

It is frankly acknowledged by Newcomb that "a source of error in drawing conclusions" from average changes in prices, determined by index numbers, is introduced by the fact that "the improvements constantly being made in manufactures lead to their being really cheaper when measured in terms of human labor." The labor standard, therefore, does not represent a finality in fixing upon the standard of value. The ideal labor standard is found by John B. Clark in "a labor day of enlarged power to produce and of diminished power to inflict sacrifice." The discussion of questions so largely metaphysical as the increment of sacrifice involved in labor is beyond the scope of this work, except so far as such a discussion throws light on proposed plans for a tangible monetary standard and upon the merits of such plans over the existing gold-credit system, including under the item of credit the power of indefinite expansion in the issue of metallic

labor. To demand payment in sufficient gold to purchase labor equal in quantity and quality would be to demand double the original amount of gold. The gold having per dollar double the merchandise-purchasing power, this manner of payment would amount to payment in quadrupled satisfactions."—*Outlines of Economic Theory*, p. 225.

[1] *Principles of Political Economy and Taxation*, chap. i., § 1.

tokens. How well, on the whole, the existing system has conformed to the requirements of an ideal currency is thus suggested by Clark:[1]

"Views will vary as to the extent to which the gold dollar has lost in its power to purchase hours of labor. If we think that ideally it ought to lose in its power to buy hours of labor as much as it gains in its power to buy commodities, we shall unite in thinking that its actual behavior has varied comparatively little from the ideal requirements. In any case it has gained where it should have gained—in its power to buy commodities measured in kind; and it has lost where it should have lost—in its power to buy average labor, measured by the hour."

The ideal set forth with greater precision of definition by Walsh is:[2]

"The aim should be, neither to make money cheaper in commodities, that is, to make prices rise, nor to make commodities cheaper in money, that is, to make prices fall, but to keep money stable in exchange-value in commodities and commodities as a whole stable in money, that is, to make the general level of prices constant, so that, while the esteem-values of all commodities are happily falling with the fall in their cost-values, the esteem-value of money shall fall neither more rapidly nor more sluggishly than the esteem-value of all commodities on the average."

Imperfect as a gold currency may be in theory, subject to the accidental fluctuations in the production of the metal and changes in the relations between the quantity of money and the volume of transactions, it is probable that it secures more perfect justice in its actual operation than would any substitute system subject to arbitrary changes upon incomplete data. Walsh, while declaring that "it is believed to be within the power of government,

[1] "The Gold Standard of Currency in the Light of Recent Theory," *Political Science Quarterly* (September, 1895), X., p. 401.

[2] *The Measurement of General Exchange Value*, p. 489.

by assuming the issuance of money, to control the exchange value of money in all things," makes no attempt to apply such a maxim in practice. On the contrary, he frankly admits that attempts to measure variations in the general exchange value of money "are still embryonic, and no attempt to apply them will probably be made for centuries to come."[1]

Commerce finds its own crude but effective means of guarding against such variations. Changes in the purchasing power of gold which can be anticipated play their part in determining the value of money in the wide markets of the world. Their effect is "discounted," just as circumstances which affect the value of securities are "discounted" in the stock market. It lies with the prudent man of business to calculate for himself the future cost of the present debt which he incurs. Throughout the world hundreds of thousands of men, acting under the powerful stimulus of self-interest, are making these calculations. In the market for general commodities, for money, and for securities the net balance of their judgments is revealed in the prices which these articles bring.

That the metallic unit of the coinage will vary in purchasing power from time to time, and that it will vary most widely in the case of goods which become scarce or which are produced in excess, is a fact of which the more far-sighted take cognizance. It is difficult to see how this foresight could be replaced to advantage by the intervention of the state to change the terms of contract for the delivery of gold, even if, as Simon Newcomb says, "the value of the dollar ought to be determined from month to month by some central authority and made known to the public."[2] If it should be the function of

[1] *The Measurement of General Exchange Value*, p. 495. For the great variety of possible results upon commodities from different changes in their relation to money, *vide* the interesting discussion by Walsh, p. 482, et seq.

[2] *Principles of Political Economy*, p. 213.

the state to readjust contracts for gold, to protect individuals against miscalculations or unforeseen events, it is not apparent why such intervention should not be justified on much stronger grounds in the execution of contracts for the delivery of wheat or coal when a short crop or a strike give a much higher exchange value to the amount called for by the contract than it was expected to have when the contract was made.

It is because money is the most exchangeable of commodities, and (because it is exchangeable for all other things) is the subject of a desire which is insatiable, that its value changes in relation to commodities. Degree of exchangeability is a vital factor in the value of commodities. Prices expressed in money register this degree of exchangeability. When building is active, iron is readily exchangeable into money and fetches a high price in money; when building slackens, iron is not readily exchangeable for money or for other things and its price in money falls. Money, therefore, as the measure of the ratio of exchangeability between other things, cannot be tied by artificial processes to a fixed relation to these other things without losing its usefulness as a scale of measurement of their values with reference to each other.

In discussing his project for a tabular standard, Jevons frankly admits that the project would "introduce a certain complexity into the relations of debtors and creditors and disputes might sometimes arise as to the date of the deed whence the calculation must be made." Not only would a "certain complexity" be introduced into the relation of debtors and creditors, but it is probable that this complexity would be so disturbing to the owners of capital that they would refuse to lend for any extended period of time without adding a large premium to protect themselves against the uncertainties of "the tabular standard." To the average man the possibility that a loan of $1000 might be discharged by the payment of $800 or by the payment of $1333 would appear a greater

speculation than the certainty that it would be repaid in the original amount of gold. This would be the case, even if the standard operated with automatic precision in doing equity between individuals. The disposition of the human mind to regard the standard as fixed in value would not be overcome by the action of the law-making power in declaring that debts might be settled in more or less gold than the contract called for because the value of gold in reference to other commodities had changed.

It might be true in a sense that speculation would be discouraged, because it would become infinitely more uncertain; but this very fact would put manacles upon enterprise, because the far-sighted speculator, the man embarking upon an enterprise in the belief of its ultimate success, would feel little inducement to exercise his foresight and enterprise if his profits were to be levelled down by an *ex post facto* application of his foresight for the benefit of other members of the community. Higher rates for the use of capital would undoubtedly result from the inherent disposition to accept gold as representing ultimate value and the uncertainty whether a given contract was to be fulfilled in more gold or less than was originally stipulated.

It is because gold has been found, in the evolution of events, to be the best medium of deferred payments that contracts are made in gold rather than in other articles. Contracts for other commodities have usually been legal and have sometimes been made; but in the overwhelming majority of cases gold has been preferred, because it has remained the most exchangeable of commodities and its fluctuations in purchasing power have been to some extent calculable. How ingrained is the predisposition in favor of the metal which has come, through the evolution of twenty-five centuries, to represent the standard is well recognized by Nicholson:[1]

[1] *Principles of Political Economy*, II., pp. 97, 98.

"In contracts in terms of money, however, what is present to the minds of the parties, it must be insisted on, is in the first place the money itself. In determining how much money to offer or accept, no doubt the parties respectively consider how the money is to be obtained and what is to be done with it (and similarly of the thing that is bought and sold), but it is doubtful if, except in very special cases, they ever think of the general purchasing power of money even in the vaguest way. . . . Accordingly the just conclusion appears to be that in contracts in terms of money the real reference is to money and not to things, and that both parties know perfectly well that the money will not always have in every respect and for every purpose the same purchasing power."

The essential defect in projects for a commodity or labor standard of payments is the attempt to eliminate from exchanges that element of uncertainty which inevitably results from the uncertainties of demand and supply, of which metallic money is the automatic balance-wheel. It is proper that the prices of commodities should fall when they are produced in excess, whether this excess in production is true of one or of many. It is proper that prices of certain commodities should rise when the supply is deficient. Only by the fall in price when the supply is in excess can production be checked, foreign purchasers attracted, and the excess thereby reduced. Only by a rise in prices when there is a deficiency of a given product can similar goods be attracted from abroad, enterprise and capital be stimulated to enter upon increased production, and capital thereby drawn into the channels of its greatest efficiency. While it might be desirable from a theoretical point of view to secure an ideal fixity of value for the metallic standard, none of the methods yet suggested for producing this result are effective or desirable. If gold could be given a fixed intrinsic value, as it is conceived of already by the mass of men who are not economic students, undoubtedly the evils which flow from its fluctuations

would diminish. But fixity in the value of gold in this abstract sense would not prevent fluctuations in its constant value in relation to other things. The interplay of the demand and supply for tens of thousands of other classes of articles and for variations of particular articles in each class, caused by changes in taste, in seasons, in degree of culture and numbers of the population, would make it impossible that at any single moment the prices of all things in the world expressed in gold should be the same as the prices thus expressed at the next moment.

Whether or not an article exchanges for a sufficient amount of gold to pay the cost of producing it is in a broad sense the factor which determines whether the production of that article shall cease or continue, whether substitutes for it shall be invented or produced, or whether capital shall be attracted for the creation of the machinery of such production. Even if the value of gold in an abstract sense remained fixed from one year to another, and the aggregate mass of commodities did not materially vary in volume, or in the amount of labor required to produce them, the widest variations in the exchange value of these commodities in gold would occur from differences in the state of credit. The pursuit of an ideal money is not an ideal, therefore, which it is desirable should be attained, because it would destroy the barometer which money affords of the relation of things in their usefulness to men. It is not desirable, even, that the project should be realized that a given amount of labor will command the same amount of gold on one day as on another, for if that labor is applied to the production of things which are not useful to the community, it is only by the fall in the amount of gold earned by such labor that the warning can be given that it should be applied in directions which are more useful.

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THE list of books, periodicals, and official reports given below includes those to which specific reference is made in this work. These works are cited in the text by the name of the author only where a single work of his has been used, but with the name of the book in addition where two or more works of the same author have been used.

Under the second subdivision—Special Works on Money, Banking, and the Stock Market—about a score of books are marked with an asterisk which treat either generally of the science of money, or of certain special phases of money and banking. These books are thus designated because, taken together, they would form a satisfactory beginning towards a library for a student of the subject.

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