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CHAPTER X

MONEY AND CREDIT AND THEIR EFFECT ON BUSINESS

By O. M. W. Sprague and W. Randolph Burgess

It is the purpose of this chapter to examine the monetary changes of the past six years, with a view to discovering the direction, not the extent, of their influence on business.

The examination of the monetary conditions of the period takes two forms: first, a fact-finding study attempting to measure the availability of credit and capital for business use as compared with previous periods in the past; and second, a description of particular influences which have operated upon monetary conditions, such, for example, as Treasury financing, changes in banking organization, and the influence of the Federal Reserve System.

I. THE MEASUREMENT OF INTEREST RATES

The general characteristics of the period are illustrated by Charts 1 and 2, giving the movement of interest rates. Rates for short-time money show, in general, a slightly declining tendency through 1927, followed by a sharp upturn in 1928. Rates for long-time money show an almost continuous downward trend.

The significance of these tendencies will appear more clearly from a comparison with the interest rates of preceding periods, both as to the average level of rates and their direction of movement.

The Average Level of Rates.—The first rough measure of the cheapness or dearness of money during the period may be found in a comparison of the average level of money rates for 1922–1928, with the average level for the preceding 24 years. Such a comparison is made in Table 1.[1]

Table 1.—Average Level of Money Rates

Item	1890–1913	1922–1928
	Per cent	*Per cent*
Corporation bond yields	4.47	4.72
Common industrial stock yields	[a]5.43	5.97
Commercial paper	4.72	4.35
Time money	4.04	4.58
Call money	3.58	4.43

[a] 1900–1913.

[1] The selection of somewhat different prewar periods of similar length would not affect the comparison materially.

CHART 1.—MOVEMENT OF INTEREST RATES IN THE UNITED STATES, 1922–1928

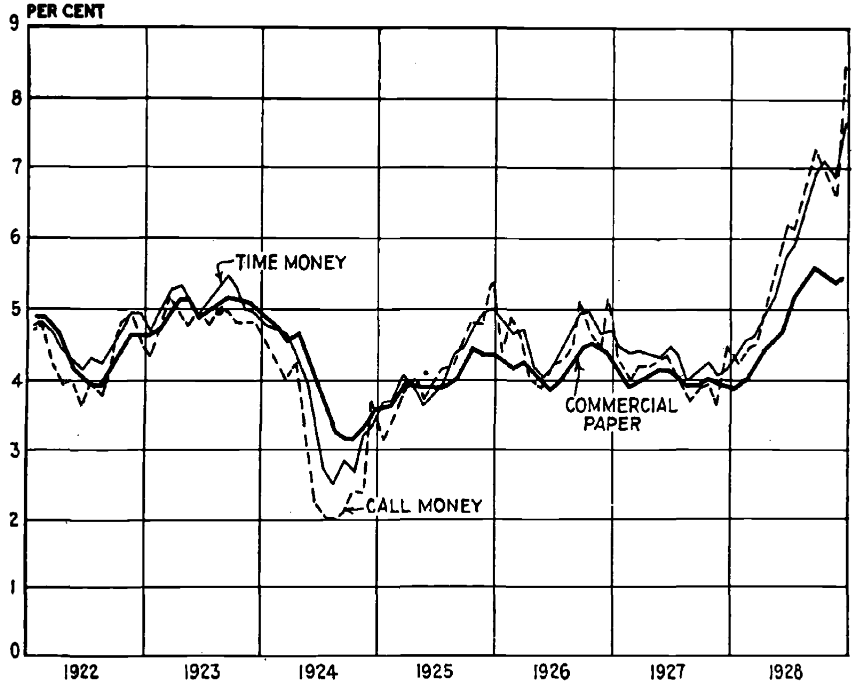
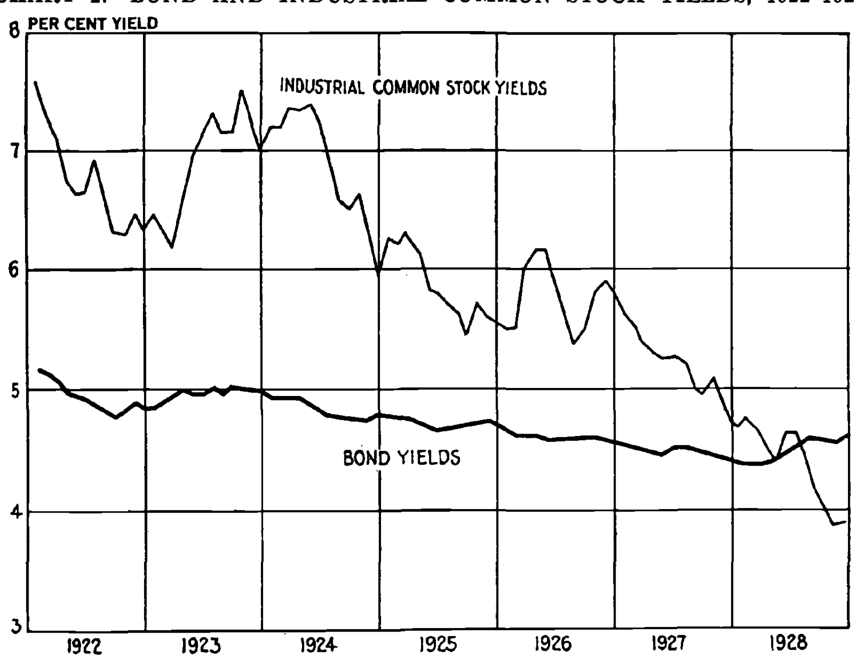


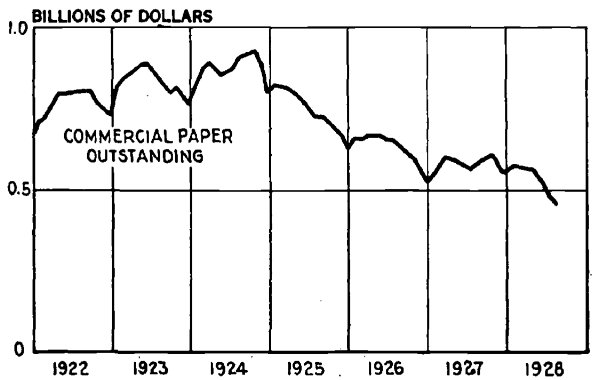
CHART 2.—BOND AND INDUSTRIAL COMMON STOCK YIELDS, 1922–1928



For the period as a whole, commercial paper rates were somewhat lower than in the preceding 24 years, but rates for time and call loans against stock exchange collateral (used primarily in speculation) and yields on both bonds and common stocks were higher than the average for preceding years. Rates for bankers' acceptances cannot be quoted, because the drawing of such bills was not permissible under the law before the passage of the Federal Reserve Act. Also it is not possible, because of inadequacy of data, to include completely reliable figures for the rates at which banks loaned money directly to their customers. From the scattered data which are available, it seems probable that rates charged bank customers are represented more nearly by open market commercial paper rates than the other rates quoted in Table 1, and such rates have been somewhat lower than the average for preceding years.

The lower level of rates for business money compared with higher rates for what might be called speculative money—call and time loans—is

CHART 3.—VOLUME OF COMMERCIAL PAPER, 1922–1928



perhaps worthy of comment. Two possible explanations are offered. The first is that under the terms of the Federal Reserve Act commercial paper is eligible for rediscount at Federal Reserve banks, whereas loans on stock exchange collateral are not eligible, and under these conditions it is natural that member banks should discriminate in favor of commercial paper. The second explanation is found in the relative demand for these two types of loans in recent years. By reason of considerable acquisitions of funds through the issuance of securities, business concerns have reduced relatively their requirements for short-term credit. For this and other reasons, the amount of funds borrowed through the open market for commercial paper has been much reduced. This is indicated in Chart 3, which shows the amount of commercial paper outstanding through principal dealers reporting to the Federal Reserve Bank of New York.

In contrast with a less active demand for commercial loans, the demand for time and call money has been very great, accompanying active security markets, rising security prices, and a large volume of new financing.

Direction of Rate Movement.—Of more significance than the average rates shown in the preceding table is the direction of movement of rates. This is particularly true of yields on bonds and common stocks, which

CHART 4.—AVERAGE CALL LOAN DATES, 1890–1914 AND 1922–1928

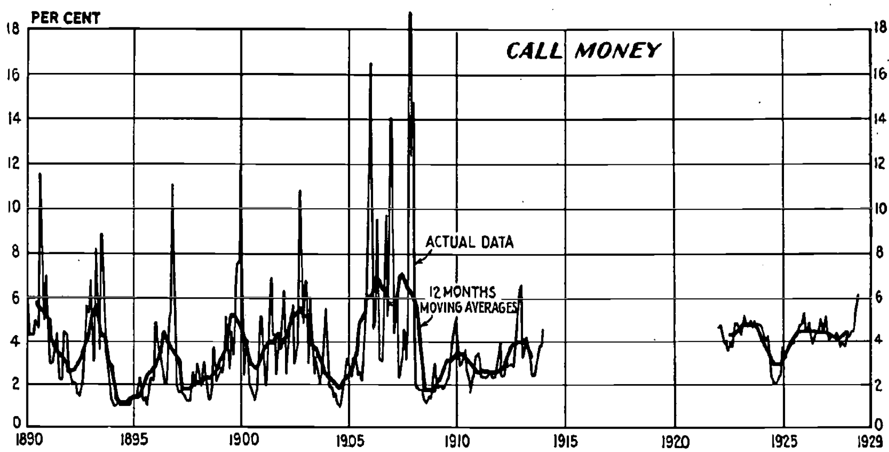
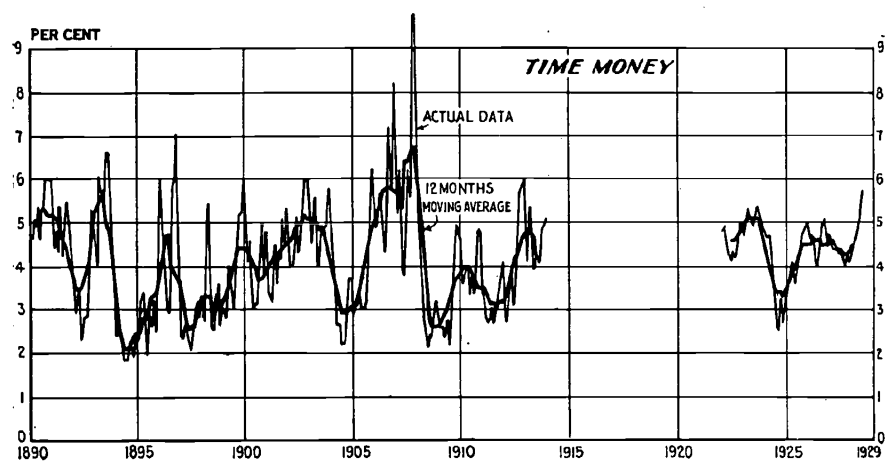


CHART 5.—AVERAGE TIME LOAN RATES, 1890–1914 AND 1922–1928



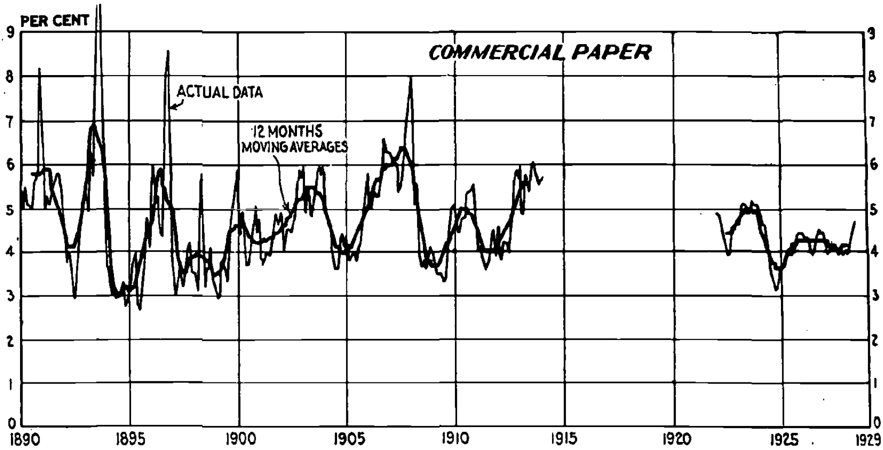
have moved sharply downward, so that the average is not fairly representative of the period.

Charts 4 to 8 show the monthly movement of rates since 1890 of call money, time money, commercial paper, and bond yields, and since 1900 of stock yields.[2]

[2] The figures on stock yields were computed by Col. Leonard P. Ayres.

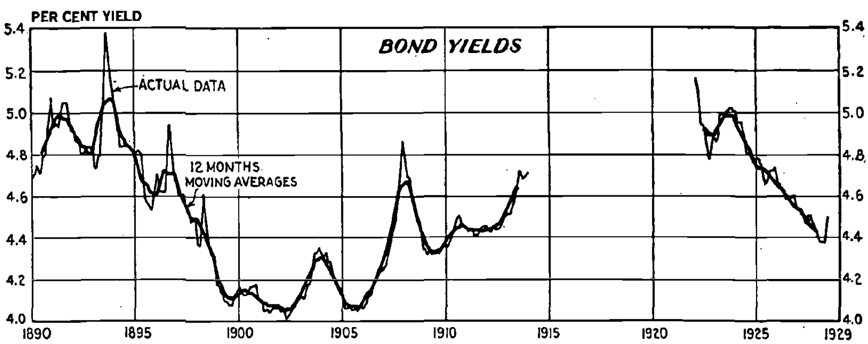
In each of the charts the actual averages for each month are shown by light lines, and a heavier line shows the 12-month moving averages centered on the sixth month. These averages indicate the tendencies of the movements, and smooth out many of the seasonal and irregular

CHART 6.—AVERAGE COMMERCIAL PAPER RATES, 1890–1914 AND 1922–1928



fluctuations. Call money, time money, and commercial paper rates show something of a downward movement during the period, although this movement was terminated in 1928, when rates rose to the highest figures of the period. The relative increase in call and time money during 1928 was much larger than that in commercial paper. Bond

CHART 7.—AVERAGE BOND YIELDS, 1890–1914 AND 1922–1928

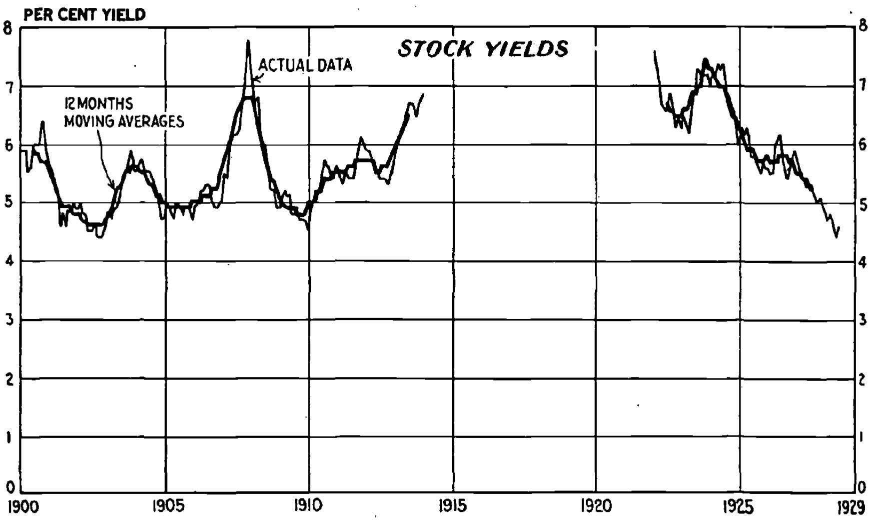


yields and stock yields (representing long-time rates) show a much clearer and sharper downward tendency. In the case of bonds, the figures for the end of 1927 are slightly below the average of the years from 1890 to 1913, and in the case of stocks the yields in 1928 are well below, not only the average, but also the lowest yields for any of the months from 1900 to

1913. These downward movements of bond and stock yields and the corresponding increases in prices which they represent, continuing for so long a period, have been accompanied by the purchase of securities on a large scale. Under these conditions, it has been possible to sell new issues of stocks and bonds at low rates, and in this way industry has been in a position to secure funds in the capital markets at rates, in many instances, lower than the rates at which these same concerns could borrow money at their banks.

From the foregoing charts, it is possible by inspection to compare recent rate movements with those of somewhat similar periods in the past. While comparisons of this sort should not be forced to carry too

CHART 8.—AVERAGE STOCK YIELDS, 1900–1914 AND 1922–1928



heavy a load of analogy, they at least indicate that the recent rate movement has not been unique.

Variation in Interest Rates.—The foregoing charts illustrate also the month-to-month fluctuations in rates. From an inspection of the charts, the general conclusion may be drawn that rates in this recent period have been considerably more stable than was the case in the years from 1890 to 1913. The comparative variability of rates in the two periods may be measured somewhat more precisely by computing average per cent deviations of the actual monthly data from the 12-month moving averages. This gives a measure of the month-to-month fluctuations in rates, as compared with the general tendency. The figures in Table 2 are the result of such a computation.

The figures in Table 2 indicate that the fluctuation of bond and stock yields has been considerably reduced, that the fluctuation of commercial

TABLE 2.—AVERAGE DEVIATIONS FROM 12-MONTH MOVING AVERAGES

Item	1890–1913	1922–1928
	Per cent	*Per cent*
Corporation bond yields	0.77	0.62
Common industrial stock yields	[a]3.00	2.60
Commercial paper	10.82	4.33
Time money	16.91	6.12
Call money	33.10	8.39

[a] 1900–1913.

paper and time money rates has been reduced to less than half, and that the fluctuation in call money rates has been only a fourth as much as in the earlier years. The reduction in rate fluctuations is in part a result of improvements in the credit mechanism, and particularly the influence of the Federal Reserve System, but it is also partly due to the absence in the recent period of any considerable credit disturbance.

The above measure of variability thus gives us a record of month-to-month fluctuations, but it does not attempt to measure the relative extent of the longer fluctuations, which in the past have been a feature of the business cycle. The period under review is so brief that it seems doubtful whether any valid conclusions can be drawn as to cyclical fluctuations. It is, in fact, possible to select a number of other periods in the past in which the cyclical fluctuations of interest rates were no larger than during the years from 1922 to 1928, but, so far as the monthly fluctuations are concerned, the evidence is clear that recent interest rates have been more stable, and, as a result, the business man or other user of credit has been more certain as to the price he was likely to pay for funds in succeeding months.

This discussion of the measurement of interest rates may be summarized by saying that the average level of rates from 1922 to 1928 has been lower for commercial funds and higher for speculative funds than in the years from 1890 to 1913, that the direction of movement of rates has in general been somewhat downward, but that the most marked change is in variability. The fluctuation of rates has been much reduced; rates have been more stable.[3]

II. THE SUPPLY OF BANK FUNDS

The preceding section has pointed out, among other things, that interest rates in general have shown a downward tendency during the period. The question may now be asked: What have been the causes of this decline, and what has been the effect upon business? There are two principal media through which credit is extended, known roughly as

[3] See also Chap. IX, Price Movements, p. 643.

capital funds (funds derived from saving), and bank funds (funds made available through the commercial banks). It is the purpose of this section to summarize the evidence as to the supply of funds made available through the last mentioned medium, the commercial banks.

There are several kinds of evidence which may be introduced. The data as to interest rates have already been given and they indicate that the supply of bank credit was well able to take care of the demand. From the side of practical experience, the testimony of competent observers is that the period, for the most part, was one of extremely vigorous competition between banks to lend funds. It was a "borrowers' market." This condition, as well as declining interest rates, may, however, have been due to a reduced demand for bank funds rather than to an unusually ample supply of bank credit. Data, which will be introduced later, indicate that business in this period has been financed less by borrowing from banks and more by borrowing in the capital market through issues of securities. In this way, individual lenders of funds have loaned unusually large sums directly to industry and commerce without the funds going through the form of bank deposits. Industrial requirements for bank loans have also been lessened by the prevailing custom of reducing inventories to the lowest possible levels.[4]

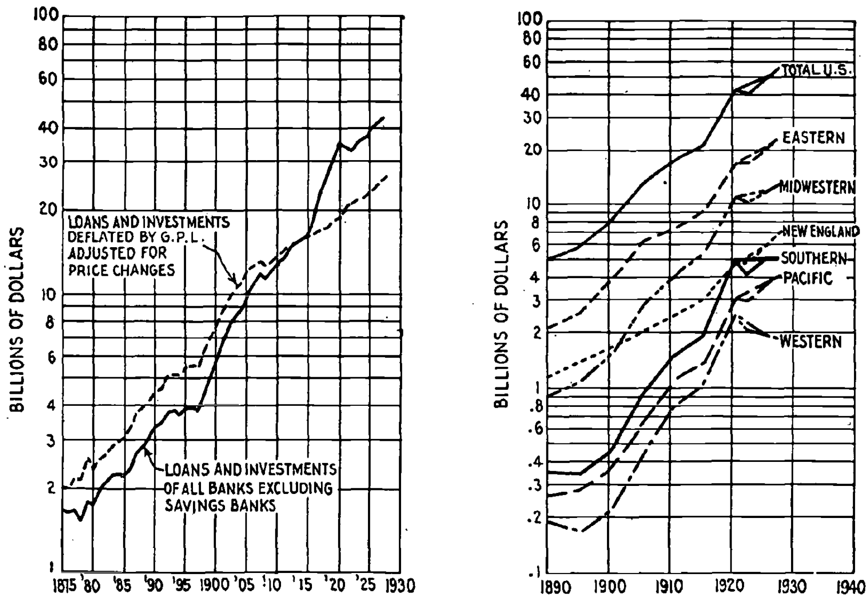
For further light as to whether the comparatively easy bank credit of the period may be ascribed to reduced demand for bank funds or to an ample supply, it will be profitable to examine the data for the actual growth of bank credit during the 1922–1928 period, as compared with other periods, and also the data as to the supply of bank reserves, which are the basis for all bank credit.

Growth of Bank Funds.—Chart 9 shows the growth of bank funds in the United States since 1875. The figures plotted are those for the loans and investments of all banks, excluding savings banks, on or about June 30 of each year, as reported by the Comptroller of the Currency. An inspection of this line shows that some distorting factors have influenced the actual figures, for there is little consistency of movement. This is particularly noticeable from 1915 to 1922, when a period of unprecedented increase was followed by a substantial decline. When it is remembered that this was also a period of violent price movements, it will be seen that these movements have been the distorting factors. Before conclusions can be drawn as to the volume of credit available for business, some consideration must be given to the effect of changes in prices; and as bank credit is extended for trade in other lines than commodities, study must be made of the changes in prices not only for goods, but for services, rents, and securities as well. For this reason, an additional line has been added to Chart 9, to show the volume of credit

[4] See Size of Inventory, Chap. II, Industry, Part 1; Chap. III, Construction, p. 242; Chap. IV, Transportation, Part 1, p. 302; Chap. IX, Price Movements, p. 637.

adjusted to eliminate the influence of price changes. The adjusted figures were derived by dividing the bank loan and investment data by the index of the general price level,[5] which includes prices of commodities both at wholesale and retail, rents, wages, securities, and other prices affecting the value at which exchanges of goods or services are made.

CHARTS 9–10.—LOANS AND INVESTMENTS OF ALL BANKS IN THE UNITED STATES AND BY GEOGRAPHICAL DIVISIONS, 1875–1928



The adjusted line shows the recent period to be one of rapid growth in bank credit, though not more rapid than a number of other periods in the past fifty years. The recent growth was notably less rapid than in the years from 1897 to 1907, when there was an unusually high rate of

TABLE 3.—ANNUAL RATES OF INCREASE IN BANK CREDIT, BY PERIODS

Fiscal years ended June 30 or nearest call date	Unadjusted figures	Adjusted for price changes
	Per cent	*Per cent*
1875–1880	0.75	2.79
1880–1892	6.65	6.89
1892–1897	0.56	1.39
1897–1907	11.53	9.04
1907–1914	4.57	2.85
1914–1920	14.56	2.67
1922–1928	6.25	4.36

[5] Prepared by the Federal Reserve Bank of New York.

increase, accompanied by rising prices, and culminating in the panic of 1907.

Increase by Geographical Areas.—One feature of the growth in bank credit since 1922 has been its uneven distribution geographically. This is shown in Chart 10. The most rapid increases in credit have been in the Eastern, New England, and Pacific districts, whereas in the Middle Western and Southern districts there has been only a moderate growth, and in the Western district a decline.[6] These results are perhaps to be expected in view of unfavorable economic conditions in a number of the agricultural states, which have been accompanied by bank failures and in some cases by public loss of confidence in certain of the country banks.

The retarded growth of bank credit in the three predominantly agricultural districts followed an extended period of rapid growth from 1900 to 1920, much more rapid than that which characterized the Eastern or New England districts. A close examination of Chart 10 will raise the question in many minds whether the rural financial disturbances of 1921 and following years may not have been partly the result of overexpansion from 1900 to 1920, a period during which too many banks were organized and during which there may have been a considerable overexpansion of bank credit.[7] Unfortunately, overexpansion of credit is very difficult to diagnose, not only at the time of its occurrence, but even after the event.

Timing of the Increase.—Chart 9 is not on a large enough scale to allow a close analysis by short periods of the changes in bank credit since 1922. For that purpose there has been added Chart 11, which shows by months the total loans and investments and total deposits of the reporting member banks of the Federal Reserve System. These banks at present include more than 600 of the large banks in principal cities, and have in the aggregate nearly 40 per cent of the total banking resources of the country. They are the only banks for which monthly figures for loans and investments are available, but changes in their condition are sufficiently typical of changes for the country as a whole to make their figures a useful index of the month-to-month fluctuations of bank credit.

[6] The states included in each of the several regions mentioned above are as follows:

New England.—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut.

Eastern.—New York, New Jersey, Pennsylvania, Delaware, Maryland, and District of Columbia.

Southern.—Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, Arkansas, Kentucky, and Tennessee.

Middle Western.—Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, and Missouri.

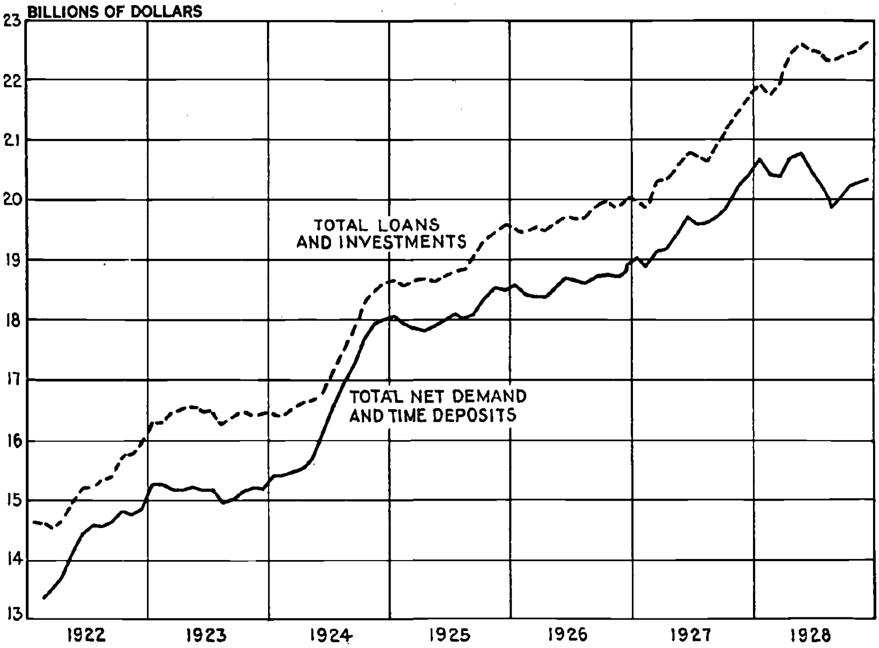
Western.—North Dakota, South Dakota, Nebraska, Kansas, Montana, Wyoming, Colorado, New Mexico, and Oklahoma (including Indian Territory in earlier years).

Pacific.—Washington, Oregon, California, Idaho, Utah, Nevada, and Arizona.

[7] See Chap. VIII, Agriculture, p. 582.

This chart shows that the increase of bank credit since 1922 has been far from steady and continuous. It was particularly rapid in 1922, 1924, and 1927, with little or no gain in 1923 and 1926. The increase in 1922 was at a time of business recovery from depression, and the increases in 1924 and 1927–28 were at times of business uncertainty. In general, the most rapid increases of credit during the period were at times when business was most in need of the stimulus of easily available credit, and, contrariwise, the periods of slowest growth were when business was in large volume and perhaps in some danger from overstimulation. The

CHART 11.—LOANS AND INVESTMENTS, AND DEPOSITS OF REPORTING MEMBER BANKS, 1922–1928



influence of the Federal Reserve System on the timing of changes in the volume of credit will be discussed later.

Movement of Reserve Funds.—The rate of growth of bank credit is primarily determined by the supply of what may be called reserve funds —that is, funds which are available for use as bank reserves. In the last analysis, gold is the reserve upon which the bank credit of any gold standard country is based, and changes in a country's gold stock are usually the most important influences upon the volume of bank credit. This has been true in the United States since 1922; in this period the flow of gold has been extraordinary. The effect of gold movements has, however, been modified by other important influences. These modifying influences include changes in the amount of currency in use, changes in practices as to bank reserves, and changes in the position of the Federal Reserve System.

Between the beginning of the year 1922 and the middle of 1927, there were gold imports into the United States of $885,000,000, and, when domestic production and changes in the amount of gold under earmark are taken account of, there was an increase of about $902,000,000 in the total gold stock of the country. The increase in the gold supply in this five and a half year period was greater than in the fourteen years from 1900 to 1914, and it followed substantial net gains from 1915 to 1921, which had already greatly enlarged the gold basis of our bank credit. These gold accessions were added directly to the reserves of banks. Table 4, showing the changes from 1922 to 1927 in the factors affecting reserve funds, indicates how the banks of the country made use of the gold they acquired.

TABLE 4.—FACTORS IN SUPPLY AND DEMAND FOR RESERVE FUNDS, JANUARY, 1922 TO JULY, 1927

(In millions of dollars)

Item	January, 1922	July, 1927	Net change
Increase in supply through:			
Monetary gold stock	3,673	4,575	902
Monetary silver stock	630	834	204
Miscellaneous items	.....	.....	50
Total	.....	.....	1,156
Increase in demand through:			
Member bank reserve balances	1,707	2,289	582
Money in circulation	4,566	4,851	285
Total	.....	.....	867
Estimated net decrease in demand for reserve bank credit	.....	.....	289
Actual decrease in reserve bank credit	1,304	1,026	278
Difference, due to errors and omissions	.....	.....	11

The banks used a part of the additions to their reserves, resulting from gold imports, to obtain currency from the Reserve banks to put into circulation, as indicated by an increase of $285,000,000 in money in circulation; they used part of it to repay borrowing at the Federal Reserve banks, as shown by a decrease of $278,000,000 in Federal Reserve credit in use; but the major part, $582,000,000, went to increase the reserve deposits of the member banks at the Reserve banks. Since each dollar of these reserves supports on the average well over $10 of commercial bank deposits (including both time and demand), this increase in reserves, resulting largely from gold imports, was the basis for the increase of deposits in the member banks over the period.

The effect of gold imports was accentuated by an important change in practice as to bank reserves. Before the Reserve System was established, the law required the same bank reserves against time as against demand deposits, but under the Federal Reserve Act the requirement was reduced to 5 per cent in 1914, and to 3 per cent, by amendment, in 1917. Under this encouragement, there has been a rapid growth in time deposits, including probably some transference of deposits from the demand to time classification. There was also a reduction in the reserve required against demand deposits. These changes have allowed a given amount of reserves to support an increased amount of bank credit; consequently the imported gold has gone further in supporting credit expansion than would otherwise have been possible.

These changes may be summarized by saying that the principal influence from 1922 to 1927 toward rapid growth of bank credit and easy credit conditions was gold imports, an abnormal influence which cannot be expected to continue in the future, for the causes which brought us so much gold are no longer operative. The gold came to this country primarily because this was the only large country which was operating on the gold standard with a free gold market. Most paper currencies elsewhere were subject to wide and unpredictable fluctuations, and in the endeavor to gain greater security, the citizens of many countries created and maintained large balances in New York. But now the monetary affairs of the world are again stabilized, and other countries are again takers of gold, and may be expected not only to retain their present gold stocks but to seek to increase them.

TABLE 5.—FACTORS IN SUPPLY AND DEMAND FOR RESERVE FUNDS, JULY, 1927 TO JULY, 1928

(In millions of dollars)

	July, 1927	July, 1928	Net change
Increase in supply through:			
Money in circulation	4,851	4,746	105
Monetary silver stock	834	839	5
Total	.....	.....	110
Increase in demand through:			
Monetary gold stock	4,575	4,113	462
Member bank reserve balances	2,289	2,324	35
Miscellaneous items	.....	.....	72
Total	.....	.....	569
Estimated net increase in demand for reserve bank credit	.....	.....	459
Actual increase in reserve bank credit	1,026	1,488	462
Difference, due to errors and omissions	.....	.....	3

This change in affairs has been illustrated since the middle of 1927. France and other countries have withdrawn in gold a part of the huge balances accumulated here. In the 12 months ended July, 1928, this country lost more than half as much gold as was imported in the preceding five and one-half years, making it necessary to call into use about $462,000,000 of additional Federal Reserve credit.

This reversal in the gold movement has changed materially the outlook for the supply of bank funds. In the first place it has greatly reduced the country's supply of what may be called "free gold"—that is, gold in excess of legal requirements as banking reserves and as collateral for note issues. In 1927, the country's holdings of free gold amounted to approximately $900,000,000. A calculation of excess gold above legal requirements of Federal Reserve banks, June 29, 1927, in thousands of dollars, is shown in the following statement:

Total cash reserves (gold and lawful money)		3,183,809
Federal reserve notes issued to Federal Reserve banks	2,076,382	
Eligible paper held as collateral	647,180	
Gold collateral required against notes	1,429,202	
Gold redemption fund (equaling 5 per cent of those notes secured by eligible paper)	32,359	
Total gold required against notes	1,461,561	
Gold and lawful money required against deposits (equaling 35 per cent of total deposits of 2,398,952)	839,633	
Total gold and lawful money required against notes and deposits		2,301,194
Excess of gold over requirements ("free gold")		882,615

In addition to the gold in the Reserve banks, there has been about one billion dollars of gold in circulation in the form of gold certificates, which are often thought of as a potential future gold reserve. These certificates could be replaced in circulation by Federal Reserve notes, and the gold be added to the reserves of the Reserve System, thus raising the reserve ratio. This operation, however, would not release any free gold. The reason is that the Federal Reserve notes, issued in place of the gold certificates, would have to be collateral dollar for dollar with gold. The amount of collateral, other than gold, back of Federal Reserve notes has not been large enough to cover the total of Federal Reserve notes outstanding, and many of the notes are in effect gold notes—secured dollar for dollar by gold. Any additional reserve note circulation would perforce be so secured, unless there were a large increase in the amount of borrowing by the member banks at the Reserve banks, or an increase in holdings of bankers' acceptances, furnishing additional collateral. But any such borrowing would put a strain on the credit situation and tighten money rates. For the experience of the Federal

Reserve System shows a direct correlation between the amount of member bank borrowings and interest rates. The member banks properly regard borrowing as a measure for emergencies and for busy seasons, and not for continuous use. Hence, when a large number of banks are forced to remain continuously in debt for considerable periods, bankers tend to restrict their lending, and money rates rise. Gold released only at the price of increased rediscounts cannot properly be termed "free" gold.

Of the $900,000,000 of free gold in June, 1927, about one-half has been lost, leaving at present (September, 1928) about $500,000,000 of free gold, assuming a normal amount of member bank borrowing of about $500,000,000. The present amount of borrowing is larger and makes possible the release of more gold, but at the price of somewhat strained credit conditions.

As we look forward to what may be considered normal credit conditions, we cannot safely figure much more than about $500,000,000 of free gold, under present laws and with moderately easy credit conditions.

In considering the problem of the future supply of bank reserves in this country, the following are among the factors of importance:

1. Although no withdrawal is in sight as large as the recent French movement, other countries still hold in this country large liquid balances, which are subject to withdrawal.

2. With other countries eager takers of gold, it is uncertain how much, if any, of each year's new output of gold will flow here.

3. The normal growth of credit and currency in the country, to care for the increasing needs of trade, calls for additions to our reserves of about $50,000,000 to $100,000,000 a year, although this is very difficult to forecast.

4. If the $650,000,000 of National Bank notes now in circulation were retired and replaced by Federal Reserve notes, with gold collateral, this operation would lock up over $600,000,000 of gold.

5. If the unsecured issue of legal tender notes were retired and replaced by Federal Reserve notes, with gold collateral, an additional $150,000,000 would be required.

It seems probable that this country must adjust itself to a smaller annual increase in bank reserves than has been available recently. The method of adjustment cannot be predicted in advance but may well be given careful study. It may be that continued economy of currency circulation will help to solve the problem; perhaps a revision of the law is desirable to liberalize the provisions of the Reserve Act concerning collateral for Federal Reserve notes. If these notes were secured by the general assets of the Reserve banks, rather than specific types of assets, considerable amounts of gold would be released. It may be that a less rapid increase in bank credit than in the past five years would be eventually more wholesome; for it is yet to be seen whether the recent increase has sowed seeds of trouble which have not yet fully grown.

III. THE SUPPLY OF FUNDS DERIVED FROM SAVINGS

Preceding sections of this chapter have discussed various aspects of the question of how far business has been aided by ease in obtaining funds. The first and perhaps the most convincing evidence introduced was the data for interest rates, which showed that rates for commercial money have been reasonable and declining during most of the period. The next section examined the supply of bank funds, and found that the available evidence would indicate a larger surplus than in most preceding periods, though in recent months the supply has been somewhat restricted. It is the purpose of this section to summarize the evidence as to the supply of capital funds, that is, of funds derived from savings.

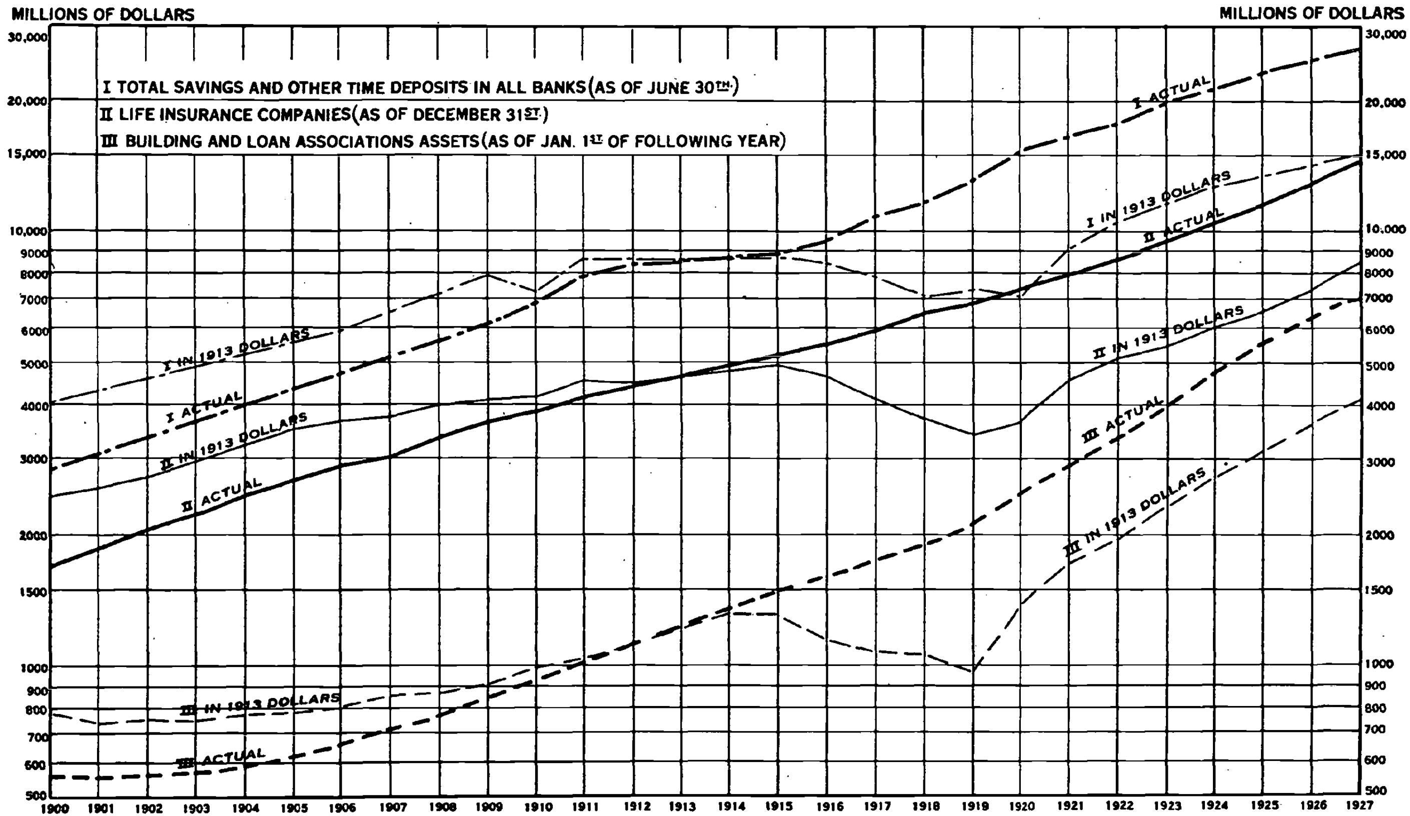
Savings by individuals are made with a variety of motives; they tend to increase with the growth of real income, and are facilitated by the diffusion of agencies and recognized opportunities for investment. Profits retained in both individual and corporate enterprises are also a large factor in capital formation, and are properly included in the aggregate of savings. During recent years, it is certain that conditions have been highly favorable to the rapid increase of capital through saving, both by individuals and by corporations. Real income as well as money income of the community, taken as a whole, has increased. Saving motives and habits have become more general. Business profits in many instances have been large, and investment opportunities and agencies have been readily at hand.

In the absence of any comprehensive measure of capital accumulation, it is necessary to rely upon a number of individual series of figures, some of which extend over a considerable period of time and may be thought of as a sampling of the trend. Even though they are an imperfect measure, they will help us somewhat in attempting to answer the question as to whether the rate of capital accumulation has been more than ordinarily helpful to business in the recent period. A number of these series are shown in Chart 12.

The assets of life insurance companies and of building and loan associations, and the time and savings deposits of banks, represent a considerable part of the savings of individuals, though no one can say accurately just how large a part.

The actual dollar figures show a rather steady rate of growth until 1915, after which the growth becomes steeper. It is at once evident that some allowance must be made for price changes, as, for example, a dollar savings deposit in 1920 represents considerably less purchasing power than a dollar in 1913. In making allowance for changes in purchasing power, an index of the cost of living has been used; this index

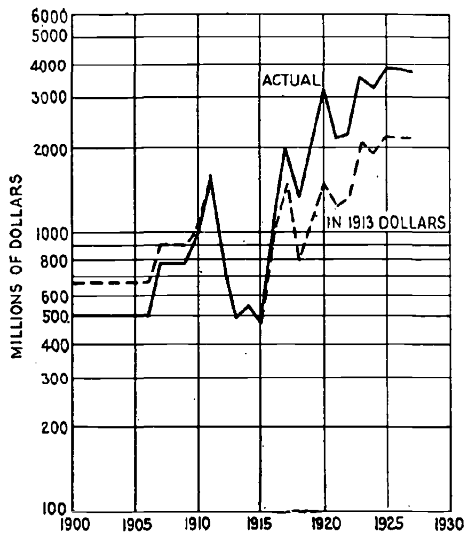
CHART 12.—SAVINGS AND TIME DEPOSITS, LIFE INSURANCE, AND BUILDING AND LOAN ASSOCIATION ASSETS, ACTUAL AND ADJUSTED TO PRICE CHANGES, 1900–1927



was chosen rather than the general price level, previously described because it more nearly represents changes in the prices of the varied uses to which the savings might have been put by the individual savers. The figures, adjusted to eliminate the influence of price changes, show, in general, an increase at a diminishing rate from 1900 through 1915, with a decline until 1920. From 1920 to date, there follows a sharper rate of increase than characterized any of the preceding periods.

In the form as given, the figures may be a little misleading, for they show what amounts to a cumulation of savings of all previous years. For example, the 1927 figure represents not the total savings for that particular year but the net accumulation of savings for that and all

CHART 13.—ANNUAL INCREASE OF SAVINGS AND TIME DEPOSITS, LIFE INSURANCE, BUILDING AND LOAN FUNDS, ADJUSTED TO COST OF LIVING, 1900–1927



preceding years as well. While it is correct from the point of view of its purchasing power, at any one time, to use the total divided by a price index, a misleading picture of each year's accumulation may result.

In order to show the annual net amounts of savings through these institutions, the year to year addition to the total figures was computed, and the latter figures divided by the cost of living. The result is shown in Chart 13.

It appears that annual savings, in terms of dollars with a constant purchasing power, from 1900 through 1913, averaged considerably less than one billion dollars a year, while, from 1922 to 1927, savings averaged nearly two billions, and for the three years ended with 1927 held steady at a level somewhat above two billions. Of course, these figures are not inclusive of all types of saving, but at least they give a fair sample. This, together with evidence that the public has been a heavy investor in the security markets during recent years, leaves little doubt that savings have been in unusually large volume.

Other convincing evidence of abundant savings is to be found in the field of bank credit itself. The volume of bank credit, or of aggregate deposits, with a possible exception to be noted presently, is, indeed, not directly related to savings. It expands and contracts with changes in reserves. But the use which depositors make of bank balances is profoundly influenced by the volume of savings relative to demand for capital, by the course of interest rates, and by the choice which is made of investment methods or arrangements. When fears of credit inflation are expressed, it is not solely the rapid increase in bank deposits that is in question. There is at least an implication that the increase in deposits will be accompanied by a corresponding increase in the volume of checks drawn, and the further implication that this increase in the purchasing medium will be more considerable than the growth in the physical volume of trade, and so tend to induce an unhealthy advance in the level of commodity prices, speculation in inventories, rapid labor turnover, and extravagant consumption. These are familiar incidents of rapid credit expansion, but they did not appear during the period under survey.

Although there was a notable increase in the aggregate amount of bank deposits, there was no corresponding rise in the level of wholesale commodity prices. In June, 1920, when the wholesale price index of the Bureau of Labor Statistics registered 167 (on the basis of 1926 prices as 100), individual deposits of all banks in the United States amounted to 37 billions of dollars. A decline to 35 billions in June, 1921, accompanied the severe depression of the intervening months, but this decline was followed by a continued upward movement that brought the aggregate of individual deposits in June, 1928 to more than 53 billions. In spite of this 50 per cent increase in deposits, wholesale prices were not only far below the 1920 maximum, but were less than 5 per cent above the level to which they had fallen in 1921.

It is evident that if the larger volume of deposits of 1928 had been used in the same fashion and to the same extent as those of 1920, there would have been a condition of inflation of bank credit which would have been patent in its effects. But deposits were certainly not being employed similarly in the two years, and the nature of the difference can be readily indicated.

When banks make additional loans or investments, checks are ordinarily soon drawn against the balances thus created. But after the initial use, such deposits become merged with the general mass of deposits, the use of which is determined by the multitude of influences that shape the employment of its free funds by the community. One of these influences is the abundance of savings relative to the demand for capital. Many individuals, saving from current money income, rather than make investments on their own account, prefer to maintain larger balances than formerly with banks, either as savings or time deposits, or in the form of larger checking balances, *i.e.*, demand deposits. Corporations do the same thing with some part of current profits, or perhaps the funds released by a reduction in inventories.

This tendency is further accentuated if, as has happened during the period under survey, interest rates have declined. Influenced by the ease with which issues of securities have been marketed, and by the possibility that rates may turn upward, many enterprises are financed in excess of current requirements, maintaining for longer or shorter periods exceptionally large bank balances, either on demand or as time deposits. Again, when interest rates decline, all readily saleable securities, yielding a fairly certain return, appreciate in value, and not a few owners convert their holdings into inactive bank balances in the expectation of lower quotations at some future time.

Funds in excess of adequate checking balances, which depositors elect either temporarily or permanently to entrust to banks, appear mainly in the item of savings or time deposits in bank statements. These statements indicate that the growth of this class of deposits accounts for a large part of the increase in total deposits.

When savings or the proceeds of security issues are used to maintain larger checking balances, the lending power of the banks is unaffected. But when demand deposits are transferred into time or savings deposits, the lending and investment power of the banks is enlarged, together with some coincident reduction of ability to support demand deposits. For banks that are members of the Reserve System, reserves of 7, 10, or 13 per cent (according to the location of the bank) are required against demand deposits, and a uniform 3 per cent reserve against time or savings deposits. A transfer, say, of a million dollars, from demand to time deposits reduces the reserve requirement from an average of $100,000 to $30,000, leaving $70,000 available to support additional credit. Under the conditions assumed, the total deposits might be materially increased, but demand deposits would be reduced from $1,000,000 to $700,000. A further complication should not be overlooked. Increasingly, general recognition of the facility with which deposits may be transferred from one category to the other must tend in some measure to reduce demand deposits to a minimum and increase the activity of such balances.

Summing up the influence of widespread saving upon the banking position, it may be said that it has tended to increase the aggregate loans and investments and total deposits of the banks, at the same time reducing somewhat the amount of demand deposits. Thanks, at least in part, to saving, active business and large additional supplies of bank credit have not brought about a rapid advance in commodity prices; and the community has not experienced intense competition for labor and materials in the production of consumers' and capital goods, analogous to that between civilian and military demand during the World War, which in times of peace has appeared in periods of prosperity.*

If now we ask ourselves in what respects the financial situation would have been otherwise during this period if banks had acquired smaller reserves, no precise and complete answer can be given. Total bank loans and investments would have been smaller, and total deposits as well. But it does not follow that the total amount of funds seeking employment would have been reduced by the difference between actual bank loans and investments and the smaller aggregate that would have obtained with lower reserves. In the earlier years of the period, on the assumption of a smaller supply of bank funds, the decline in interest rates would have been less precipitate, particularly on those classes of loans and investments favored by banks for the employment of surplus funds. With somewhat less of pronounced ease in the money market, security issues would have been more exactly related to current requirements, and a less spectacular advance in bond and share quotations would have reduced the volume of sales by holders seeking to realize profits. In

* I should question the fact that increased savings have been the primary reason for the failure of prices to rise. Increased savings involve fundamentally a shift of purchasing power from consumption goods to buildings, new machinery, etc. They do not involve a decrease in total purchasing power. It is quite possible that the large increase in thrift accounts during recent years has been due, in considerable part, to the prosperity of workers who are as yet not fully accustomed to making direct investments in mortgages or otherwise on their own account. This has perhaps to an increasing extent made the commercial banks investing agents for such depositors, but it is difficult for me to see how this trend or the shift from demand to time deposits has any material effect on the price level.

It is perhaps necessary to distinguish between true savings and that accumulation of excess deposits that is characteristic of the later stages of a business depression. This latter phenomenon is, however, merely an evidence of the fact that prices and business activity are on low levels—it is not the cause of such low levels. Similarly, even without a business depression, an excess of money beyond current needs (free gold) will almost of necessity reveal itself as excess deposits, which may appear to be, but in reality are not, true savings. These again are the effect rather than the cause of the price level being below that which the credit machinery could accommodate.

A further comment, with respect to the relation of the volume of savings to the general price level and to credit conditions, is that it is almost impossible to measure the volume of savings over short periods. Actual money movements may be quite deceptive in this respect, and the only safe index of the volume of savings is the accumulation of capital goods, buildings, etc., measured over periods long enough to eliminate the major elements of error in the computations.—Note by M. C. Rorty.

consequence, there would have been a smaller increase in the amount of funds derived from these sources placed with banks as inactive balances. A similar result may be presumed in the case of savings from individual money incomes. If quotations had advanced less abruptly, the attractiveness of a purchase of securities relative to that of a time deposit would have been enhanced for the cautious type of investor. Although it is not possible to measure the effect of such influences upon the financial situation, they are not less real on that account. An abundance of bank credit, in conjunction with ample savings, creates conditions which tend to modify the character of bank deposits, rendering them less active, and so, at least in some measure, neutralizing the potential effect of an enlargement of funds furnished by banks upon the acquisition of larger reserves. This tendency is greatly accentuated by the inelasticity of the rates of interest which banks pay on deposits. These rates are not adjusted quickly to changes in the yield on current purchases of securities. In any period marked by declining interest rates, therefore, it becomes relatively more and more advantageous to leave funds with banks rather than to purchase securities.

While large and widespread saving has been an influence in counteracting the upward price tendency of an abundant supply of bank credit, a number of supporting influences of diverse character have also been present during the period of the survey. Vivid memories of losses incurred in 1920 have certainly exerted a persistent restraining influence against the accumulation of inventories in order to reap profits or to escape losses from advancing prices. Efficient transportation service has removed fears of delays in shipment. For many products, style has become a factor of increasing importance, and there has been growing recognition of the economy and elimination of risks that may be secured in merchandising through a rapid rate of turnover.[8]

These moderating price influences have not been absent in the field of manufacturing, in which still other influences tending to produce the same result are also to be observed. In not a few industries, existing facilities have been available for the production of larger supplies of goods than could be sold at profitable prices. For industries in this situation, even a sudden and considerable increase in demand has not been followed by a decided and maintained price advance. In perhaps a wider range of industries, increased output, resulting from greater efficiency of management and labor and improved equipment, has made necessary additional sales effort to stimulate or even create a demand among wider circles of consumers. The practice of adjusting production to changes in demand, actual or anticipated, has spread from certain basic industries, such as iron and steel where it has long been practiced, into other fields of production.

[8] See Chap. V, Marketing.

A further price-restraining factor has been the unbalanced economic situation of the country, evident when account is taken of all of its various activities. The process of agricultural adjustment has been slow and painful, and is not yet completed, while producers of such important products as coal and many of the textiles have experienced upon the whole a highly unsatisfactory demand.

Finally, the restraining influence of the situation in other countries on prices in this country must not be overlooked. The advance of gold prices in any single country is inevitably impeded and finally checked if prices do not advance elsewhere. Throughout the entire period of this survey, no sustained general advance of gold prices in the more important trading countries has been possible. Sufficient supplies of bank credit were not available to provide large additions to the purchasing medium, and in any event the dislocation of industry and markets would have proved an insuperable obstacle.

These influences, in conjunction with large savings, furnish an explanation of the failure of commodity prices to respond with a decided upward swing to the impact of an abundant supply of bank credit available at declining rates during recent years of generally active business. Evidently, there is no automatic or close mechanical relationship between the volume of bank credit and the course of commodity prices. Herein is perhaps to be found the chief significance, both theoretical and practical, of our financial experience during this period.

IV. GOVERNMENT DEBT REDUCTION AND THE SUPPLY OF CAPITAL

In addition to the supply of funds derived from saving and the extension of bank credit during the period of this survey, a further supply of indeterminate amount may be properly attributed to the rapid reduction of debt by the Federal Government. The amount to be credited to this policy is by no means to be taken as the full amount of debt reduction. Had taxes rather than debt been reduced, it is certain that taxpayers would have saved some part of the larger incomes which would have been at their disposal. And it may safely be assumed that the amount thus saved would have been a large part of the total, in view of the high percentage of Federal revenue that is derived from those in enjoyment of large incomes—from that group in the community which regularly contributes largely to the supply of capital. The relationship between debt retirement and the supply of investment funds is set forth in the following statement from the *Bulletin* of the Federal Reserve Board of July, 1928:

> Under existing conditions, the effect of Treasury disbursements in reduction of debt on the volume of investment funds is relatively limited, except to the extent that purchases or cancellations of securities are made by the Government with funds obtained under foreign debt settlements. Under a system of taxation where a

large number of taxpayers turn over to the Government a part of their income, which otherwise would have been expended in the purchase of goods, and the Government uses funds thus obtained in the retirement of securities held mainly by large investors, the retirement of public debt would result in the conversion of a considerable volume of current income into investment funds. But since under the system of taxation in the United States a large part of the contributions to the Government comes from persons with large incomes, which would normally be available in part for investment purposes, a relatively small amount of new investment funds is created by debt retirement. No precise data are available covering the incidence of the various taxes with reference to the distribution of Government securities. Customs and miscellaneous internal revenue and corporation taxes are widely diffused in their incidence, but returns of the individual income tax, from which about one-fifth of the Government revenue is derived, indicate that more than one-half of the taxes on individual incomes are paid on incomes in excess of $100,000 and less than 5 per cent on incomes of $10,000 or less. In these circumstances funds collected through taxation would be available in large part for investment, whether they previously passed through the hands of the Government or were used in the first instance by the investing public.

V. FOREIGN INVESTMENTS[9]

Foreign investments are a manifestation of an abundant supply of investment funds in a country, and of possibilities or expectations of securing a higher return elsewhere. They widen the area and opportunities for the employment of capital, and by so doing tend to equalize and render more stable interest rates throughout the world. There are certain financial risks incident to foreign investments, in addition to those to which investments of all sorts are subject, but there is no fundamental economic difference between foreign investments and those that are made within the investor's own country. When the savings of citizens of the New England states are invested in municipal bonds, or the securities of corporations, or farm mortgages of communities in the western states, the economic effects are essentially the same as when foreign government or private securities are purchased. In both instances, the purchasing power of the regions in which the funds are invested is immediately increased, supporting, in one case exports, and in the other domestic trade. In both instances there are similar possibilities of unwise and excessive investment with similar unfortunate consequences. Foreign investments are indeed subject to certain special risks, in particular those arising from war, revolution, and disordered currencies and dislocated exchange, and on account of these risks, as well as from unfamiliarity with foreign conditions, the investor may demand a higher return than upon similar domestic investments. But qualifications of this character obviously do not involve an essential economic differentiation between the two classes of investments.

[9] See Chap. XI, pp. 725–736.

In the absence of the foreign demand of recent years, interest rates in the United States probably would have declined more sharply, the problem of placing all funds seeking employment would have been more difficult, but in some way or other it is certain that uses would have been found. The employment of a larger part of these funds at home might have entailed greater industrial readjustments and so have affected business unfavorably, but the same might be said if some important domestic demand for funds had not materialized, as, for example, that for the construction of urban dwellings.

And finally, we may say of recent foreign as of domestic investments that only the future can determine whether or not they have been shrewdly made, with advantage to borrowers and with but negligible losses to those who have supplied the funds.

VI. THE EMPLOYMENT OF INVESTMENT FUNDS

The abundant supply of funds, seeking investment at declining rates, seems to have exerted an influence favorable to the strengthening of the financial structure of business during the course of the period covered by the survey. A larger proportion of the assets of business enterprises has come to be financed by means of the resources of owners and long-term obligations; a smaller proportion through current obligations to banks and merchandise creditors. At the same time, there has been a wide diffusion of ownership through the sale of securities in many enterprises that were formerly closely held by a few individuals, in addition to those that had long been available for purchase by the public. In some instances, the capital structure in the course of time will doubtless prove defective. Initial issues of shares have been so large as to cast doubt upon the ability of some corporations to secure additional capital in the future through the sale of stock, and, though less frequently, there has been a seemingly disproportionate reliance upon bonds. There is also the possibility that unfortunate results, in the long run, may follow the separation of management and control from ownership which, whether by design or not, is apt to be found when a business is owned by wide circles of investors. But, with all the diversity in policies exhibited in recent changes in corporate financial structure, there is to be noted general agreement in a desire and purpose to reduce the volume of current obligations.

Direct evidence of such a change in corporation financing is obtained from a study of the statements of a number of large corporations, which was made by the credit department of the Federal Reserve Bank of New York. Some of the results are indicated in the following tabulation:

Companies	Bank debt (thousands of dollars)	
	1922	1927
Six wholesale grocers	9,755	9,235
Seven cotton goods manufacturers	17,725	6,560
Eight shoe manufacturers	4,458	5,674
Five dry goods, wholesale	14,890	12,296
Seven lumber	3,168	5,021
Six drug manufacturers	1,618	902
Total 39 companies	51,614	39,688

Companies	Ratio, capital funds to current debt		Ratio, total debt to current debt		Ratio, net worth to total debt	
	1922	1927	1922	1927	1922	1927
Six wholesale grocers	2.24	2.40	1.01	1.05	2.18	2.22
Seven cotton goods manufacturers	2.58	5.26	1.09	1.18	2.26	4.27
Eight shoe manufacturers	4.33	3.42	1.42	1.32	2.73	2.34
Five dry goods, wholesale	1.23	2.17	1.02	1.10	1.19	1.88
Seven lumber	2.42	4.65	1.09	1.35	2.12	3.18
Six drug manufacturers	5.30	12.82	1.46	2.35	3.31	4.86

These figures, while not offering conclusive evidence, at least indicate the general tendency of corporate financing. The first part of the table shows that, notwithstanding a variation in the different lines, total bank loans of these companies were reduced about 25 per cent. The second part indicates that, in a majority of the six lines of business, the tendency has been away from the employment of bank funds and toward capital funds.

This preference for permanent methods of financing business is also reflected in the relatively small increase in the commercial loans of the banks in recent years, as contrasted with the increase in security holdings and collateral loans. Between June 30, 1922 and June 30, 1927, in the case of the national banks, for which alone data regarding the various classes of loans are available, investments increased from $4,563,000,000 to $7,147,000,000, and collateral loans from $2,907,000,000 to $5,114,000,000, a combined increase of $4,791,000,000, or 64.1 per cent. During the same years, unsecured loans and those secured by merchandise and warehouse receipts—loans that are mainly commercial in character—increased only from $7,859,000,000 to $8,575,000,000, or 9.1 per cent.

From the standpoint of those securing capital for actual use, it makes little difference whether funds are forthcoming through the purchase of securities with cash resources by banks and others, or through purchases consummated by means of collateral loans. A given investor may either purchase securities outright or leave funds with a bank, thus enabling it to purchase the securities or grant loans to would-be buyers. In all three instances the obligation incurred by the corporation or government securing the funds is the same. Indirectly, collateral loans facilitate the acquisition of bank credit for business purposes on a stock basis, a type of direct investment by banks that is subject to legal and traditional restrictions. Thus, it may be said that some portion, of constantly varying amount, of the capital of the United States Steel Corporation throughout its entire history has been supplied by the banks, to the extent that steel stock has been accepted as security for collateral loans. Since, by and large, a business becomes stronger as the proportion of its assets financed by shareholders increases relative to its indebtedness, collateral loans in contributing to this result are performing a most useful service to the community.

The increase in collateral loans and security holdings relative to commercial loans may reflect a permanent tendency in the employment of bank credit. Improvements in methods of production, in general, involve the employment of increasing amounts of capital in fixed forms; seasonal peaks in industry are being reduced, and business organizations of large size are occupying a widening area in the field of production and merchandising. These developments favor the financing of the resources of business in permanent ways, through the issue of stocks and bonds, and the wide distribution of such securities among investors. This is a merchandising activity which requires large funds that are mainly secured from banks by means of collateral loans. When secured for this purpose, the collateral loan is strictly analogous to a commercial loan. It is serving to finance an operation of the borrower which, in the ordinary course of his business, will shortly be completed, and followed by a succession of similar operations in the future.

But the collateral loan performs another, less obvious though quite as indispensable, function in the security field. It makes possible the development of a continuing market for outstanding securities, in the absence of which the attractiveness of securities as investments would be seriously reduced. As the volume of securities in the hands of the public increases, organized markets and a coincident increase in collateral loans are needed, if holders are to find a ready sale for such securities as they may wish from time to time to convert into cash.

From the point of view of the banker, collateral loans possess conspicuous attractions. When made against a variety of securities, less trouble and care are requisite than are involved in making unsecured loans to borrowers engaged in different lines of business. And further, collateral loans are not, as is often assumed, less liquid than commercial loans. For a given bank, a loan is liquid if it can be readily shifted to another lender, and, aside from discounting from Reserve banks, this possibility is present for a larger proportion of collateral than of commercial loans. On the other hand, sudden contraction on a large scale is possible with no class of loans, and under a well-organized banking system is never necessary.

With the accumulation of wealth and the acquisition of funds from a widening circle of investors by governments and business enterprises, banks and banking houses of the larger cities become the agencies through which an increasing proportion of the savings of the community reach those who use them. It does not necessarily follow on this account that bankers are exercising an increasing measure of control over industry and trade. Doubtless, greater responsibility rests upon bankers for the placement of capital in capable hands, and for its balanced distribution among various uses. But the positive control over the conduct of industry that bankers may exercise is determined more by the abundance or scarcity of capital relative to demand than by the actual amount of funds that are made available. A business that is in a weak position, whether from poor earnings or faulty financial structure, may be obliged to follow implicitly the suggestions of bankers. When investment funds are in ample supply, a strong business enterprise occupies a position of satisfactory independence.

It is, of course, entirely possible that much of the ample supply of capital may have been placed in feeble hands, and that certain industries may prove to have been overdeveloped. But when capital is secured on the basis of more or less permanent financial arrangements, the consequences of errors of judgment disclose themselves slowly with the lapse of time. For this reason, the years from 1922 to 1928 cannot be considered a complete or even well-defined period of experience. It would doubtless have been otherwise, if bank credit had been employed in active speculation in the commodity markets with a rapidly rising price level. For the full round of changes in a business cycle in which trading activities are the major factor, six years may be ample time. A longer period may be required when the investing of additional capital takes the leading rôle in the activities of the business world.

VII. STOCK EXCHANGE OPERATIONS

Securities held by the general public are commonly listed on one or more of the stock exchanges of the country, and this practice has led, in recent years, to a noteworthy increase in the number and variety of issues readily available for active trading purposes. Although the business handled on other exchanges has increased, the overshadowing importance of the New York Stock Exchange has suffered no diminution. The obvious advantages of nation-wide connections and publicity inevitably exert a potent influence toward centralization, and, measured either by the value of securities listed or by the volume of trading, the New York Stock Exchange greatly exceeds all the other stock exchanges in the United States, including its active neighbor, the New York Curb Market.

The scope of operations on the New York Stock Exchange is evident from the following table which gives, for the years 1919 to 1928, the number of issues of bonds and shares listed and the annual volume of trading measured by the value of bonds and number of shares sold.

SEPARATE ISSUES LISTED, 1919 TO 1928

(At the beginning of each year)

Year	Bonds	Stocks	Totals
1919	1,131	612	1,743
1920	1,114	691	1,805
1921	1,115	756	1,871
1922	1,156	792	1,948
1923	1,234	778	2,012
1924	1,262	889	2,151
1925	1,332	927	2,259
1926	1,367	1,043	2,410
1927	1,420	1,081	2,501
1928	1,491	1,097	2,588
[a]1928	1,513	1,131	2,644

[a] As of October 1.

VOLUME OF TRADING

(000,000 omitted)

Year	Stocks (Number of shares)	Bonds (Face value)
1919	312	$3,771
1920	223	3,955
1921	171	3,504
1922	260	4,098
1923	237	2,753
1924	282	3,828
1925	452	3,398
1926	449	3,029
1927	576	3,321
1928	920	2,939

It may first be noted that dealings in bonds play a minor rôle on the Exchange and that, in spite of a considerable increase in listings, they have manifested little or no tendency to increase. Purchases and sales of outstanding and new issues of bonds, as well as of inactive stocks, continue to be arranged in large measure directly between investors and dealers in securities. It is only securities that, for whatever reason, exhibit decided changes in value that are the objects of Stock Exchange transactions.

During the first six years covered by the table, the volume of dealings in shares was comparatively steady. A shrinkage in 1921, a year of depression, illustrates the proposition that prolonged activity in security dealing is always associated with rising quotations. After an initial stage of more or less enforced liquidation, a declining market becomes stagnant until an upward movement is inaugurated. It was not until 1925 that the annual volume of dealings in shares exceeded the total for 1919. A record was then made which was practically maintained in the following year, was greatly exceeded in 1927, and more than doubled in 1928.

Unquestionably, Stock Exchange transactions have been the most conspicuous financial development of the later years of the period under review, and the causes of the unexampled expansion in trading and its economic, as well as financial, significance and effects deserve careful examination.

On the basis of the movement of industrial security quotations, the years since 1921 divide into two periods; one, of moderate change until the summer of 1924, and a subsequent period of persistent advances continuing to the end of 1928. A similar division appears in the case of brokers' loans, no decided increase in the first period, very great expansion in the second. The course of call loan rates does not, however, follow this division. A sharp decline in 1922 was followed by fairly stable rates until the beginning of 1928. Thereafter, rates advanced sharply, with, it is to be noted, no accompanying decline but rather a further increase in the volume of brokers' loans.

Many influences of varying degrees of importance contributed to bring about the marked upward movement of security prices and to induce an exceptional volume of trading. Leaving out of account an initial advance incident to the recovery of business following the depression in 1921, the abundance of funds seeking investment and the decline in interest rates provided the basis for a general advance in security quotations. Other factors have been the more general recognition of the possibilities of appreciation of common stocks in a growing country, the organization of many investment trusts, a large increase in the number of branch offices of Stock Exchange houses, the listing of shares of many additional enterprises and, above all, the impressively large profits of a considerable number of companies, giving rise to anticipations of a further increase in earnings of these and other undertakings. Discounting the future in the security market may be carried to excess with resulting unhappy consequences, and it is an important limitation upon the significance of this survey that it covers a period that witnessed only the economic, social, and financial effects of a rising market for securities.

The effects of rising security prices during the period of advance may here be generally indicated. A rising stock market has a psychological influence favorable to business activity. It also serves to facilitate the marketing of securities among investors, and lessens the cost of additional capital secured through the issue of new stock by many enterprises. In such markets, large and sudden gains are realized, and some part of these gains doubtless serves to increase the demand for many commodities, particularly articles of luxury. Finally, a rising security market tends to transfer ownership of some part of the accumulated wealth of the country from the cautious to the farsighted and venturesome.

An active stock market always involves an increasing volume of loans to brokers. The rate of increase in these loans since 1923 has been rapidly accelerated. The funds that are borrowed to finance Stock Exchange transactions, it should perhaps be noted, are not withdrawn from use and held in the market. Brokers' loans are simply one of the various channels through which funds enter into general use throughout the community. The broker incurs an obligation to make payment, but the funds he borrows are at once turned over to those from whom securities are purchased and are thereafter employed for every kind of purpose, as are the funds borrowed to finance real estate, the production and marketing of goods or other transactions. Here and there, it may indeed happen that a particular borrower has been unable to secure accommodation because those lenders to whom he had access had employed all their available resources in brokers' loans, but such cases must have been exceptional, since the funds thus employed have come almost exclusively from urban sources,—city banks, and other large lenders. Valid criticism of brokers' loans must rather be concerned with the more direct effects of this use of financial resources.

In view of the moderate rates on all classes of loans that obtained between 1922 and the close of 1927, it would appear that the growth in brokers' loans in these years served to provide a reasonably safe and liquid avenue for the employment of surplus funds. It was not until 1928 that the stock market demand for additional funds became so intense as to exert an influence tending to bring about an advance in rates on all other classes of loans. That security prices should have further advanced in 1928, with an accompanying increase in brokers' loans and in spite of a sharp advance in rates, may perhaps be regarded as symptomatic of unrestrained speculation. But even though an overextended situation in the security market should not develop and be followed by a disastrous reaction, it may be said that the recent experience in the functioning of the money market, as it is affected by the Stock Exchange demand for credit, raises new and perplexing problems. In the past, the bulk of brokers' loans has been furnished by banks and bankers. Under the influence of rates for call loans ruling generally above rates on all other classes of loans, the funds of investors and surplus funds of business enterprises have been attracted into the market in such volume that they now provide very nearly one-half of the total supply. The outcome of this practice remains for the future to disclose.

The recent development of a stock market demand for loans that seems almost without limit and is impervious to moderate advances in rates, and the possibility of the recurrence of a similar situation from time to time in the future, cannot fail to affect unfavorably the development and functioning of the New York money market as a great and reasonably stable national and world financial center. The issue and marketing of bonds, the granting of acceptance credits and the functioning of the bill market, have been unfavorably affected by the instability of rates, occasioned by the absorption of credit in connection with Stock Exchange operations. The volume of transactions on the Stock Exchange is immensely greater than that on the exchange in any other country. Custômers are far more numerous and, above all, daily settlements are a unique feature of trading. The adoption of term settlements has been suggested, but the proposition has met with but little favor in Stock Exchange circles. The only other means of securing a reasonable measure of stability in the functioning of the New York money market would seem to be through the exercise of a restraining influence by the Federal Reserve System.

During 1928, efforts to restrain the absorption of credit in the security markets were indeed made by the Reserve banks, and the conclusion should not be drawn from the lack of success that attended the measures taken that restraint could not be made effective through the Reserve System. Early in 1928, the Reserve banks initiated a policy of restraint through the exercise of very gradual pressure upon the market. Government securities were sold and discount rates were increased by three successive advances of ½ of 1 per cent, at intervals separated by from two to three months. The possibilities of effectually restraining intense speculative activity through sharp and even drastic action have not been tested.

VIII. INVESTMENT TRUSTS

The investment trust is a development of recent years in American finance. While this type of financial organization is, in large measure, a copy of British investment trusts, its rapid growth in this country appears to be due in part to a new recognition of the value of common stocks as investments. Statistical studies during the past few years, showing the relative advantages of investments in stocks as compared with bonds, together with the recent rise in stock prices, and the unfortunate experience during the war with the purchasing power of fixed interest securities, have led to widespread buying of common stocks, not simply by speculators but by conservative investors as well.

Since the junior securities of a corporation, in general, carry greater risks along with the possibility of a larger return, diversification becomes of increasing importance, and thus for the small investor considerable advantage is offered by some type of organization which gathers funds from many sources and invests them over a widely distributed list of securities. Moreover, an organization of this sort can command information not available to the individual.

The investment trust is not dissimilar in principle from the savings bank, in that it gathers funds from many sources and employs them in a diversified list of securities selected by a management group. The principal differences are (1) that the investment trust is not limited in its choice of securities by the legal restrictions which surround savings banks, (2) that the investment trust is not under such close governmental supervision, and (3) that the investment trust, unlike the savings bank, usually makes no promise of a fixed rate of return, and indeed has no set limit of return.

Since the investment trust management exercises a much wider discretion than the savings bank, and since it deals in securities of much more speculative character, the important question with regard to its safety and efficiency relates to the character of management. It offers an opportunity for small investors to enjoy some of the same advantages of investment which have heretofore been mainly restricted to investors with large resources, but it faces the dangers of concentrated control in the hands of a few men, without, at the present time, any very close supervision.

The creation of investment trusts has been so rapid in recent months that it is difficult to estimate the total amount of paid-in capital funds of these companies, but they are probably in excess of one billion dollars.

The effects of the growth of investment trusts are similarly difficult to estimate. It has probably furthered the movement toward the purchase of common stock, though, to a considerable extent, purchases by investment trusts have simply meant buying in a block securities which investors might otherwise buy as individuals.

If the investment trust under competent management purchases stocks when they are cheap and sells them when they are dear, a stabilizing influence upon the security market would result, though the question on this point is whether the investment trust would conduct its operations more or less wisely than individual investors.

Another effect would appear to be the placing of large amounts of funds in the stock exchange money market. The small individual investor with funds awaiting investment ordinarily carries these funds on deposit with his bank, whereas the investment trust is more apt to carry such funds in the form of loans in the stock exchange money market. Since such loans tend to support a security market at times when security prices are high, this activity of investment trusts frequently may have an inflationary rather than a stabilizing influence upon stock prices.

The investment trust movement, however, is too new to justify comprehensive conclusions, and the total size of the trusts has not been large enough to warrant belief that they have exercised any very large influence upon American finance.

IX. BANKING ORGANIZATION AND PRACTICE

While there have been no changes of great moment in banking organization and practice during the period of this survey, a number of tendencies are to be observed that may prove to be the initial stages of significant modification and development. Particular interest attaches to the decline in the number of commercial banks throughout the country, the growth of branch banking and chains of banks, and the widening range of functions and activities undertaken by a steadily increasing number of banks.

During the first two decades of the century, to go no further back, there had been a continuous and accelerating increase in the number of banks in the United States, the amazing total of more than 30,000 being in operation in 1921. A conspicuous reversal of this tendency has now continued for more than seven years, and, taking the country as a whole, there has been a decided reduction—4,000—in the number of banks. But with over 26,000 banks still in operation, this reduction still leaves the banking system of the country unchanged in this its most characteristic and fundamental feature. It remains a system constituted by a multiplicity of local banks, exhibiting extreme diversity in size, in character and experience of management, and in the surrounding economic conditions of the communties to be served.

Whether there will be a further material decline in the number of banks cannot be positively predicted, though it seems by no means improbable. In any event, it may be confidently anticipated that the decline will be at a far less rapid rate, since the major cause of the disappearance of banks in recent years—numerous bank failures—reflects conditions abnormally unfavorable to banking solvency in many localities, conditions unlikely to reappear with any like severity in the near future. But other less potent influences tending to bring about a reduction in the number of banks have also been present, and these influences may be expected to persist and perhaps assume greater significance. As the analysis of these influences will throw some light upon the bank failure problem, they will be given prior consideration.

Branch and Chain Banking.—Under a system of independent unit banks, the accommodation that is available to the great mass of borrowers is limited to the amount of funds at the disposal of the local banks. But as any particular business undertaking grows in size, the geographical range of its borrowing possibilities widens. It is able to resort to the nearest urban center, and, with further growth, to banks in the larger cities throughout the country, including New York. The services of dealers in commercial paper may also be utilized to secure funds from a large and changing number of scattered banks. Under a unit banking system, in contrast with a highly developed branch banking system, the borrower seeks distant supplies of funds, as supplies of funds are not sent to his neighborhood for employment.

Resort to the money centers by large borrowers is by no means a recent practice, but it is certain that the practice is being more and more generally employed and by a widening range of individuals and corporations. When a number of small producing or merchandising units are combined into a single organization, dependence on local supplies of bank credit is eliminated. Finance companies, utilizing credit lines established with many city banks, relieve local dealers from some portion of the obligations which they could only finance through local banks. Co-operative marketing associations of farmers secure acceptance credits from distant metropolitan banks whose assistance could not possibly be enlisted by any considerable number of the individual members. Legislation that fosters this particular development is to be noted in the system of intermediate credit banks, the resources of which are especially designed to assist co-operative marketing.[10] In the farm mortgage field, also, the same situation is to be observed. The Federal Land Bank System provides a standardized security resting upon hundreds of thousands of first mortgages, which enables farmers to tap distant sources of funds, but necessarily at the same time removes from the portfolio of the local banker a security of the best obtainable character.

Taking all these tendencies into account, it is evident that the character of the business that many local banks retain must have undergone not a little deterioration. And these are not the only difficulties with which in many instances they are beset. The bank in the small village or rural hamlet, like the neighboring storekeeper, is unfavorably affected by improvements in transportation, which have greatly widened the area that is conveniently adjacent to the larger cities and towns.[11] Banks in the larger centers have been gaining deposits, and seem likely to continue to gain, at the expense of the small rural bank in surrounding territory. Exceptionally capable management will doubtless enable many to surmount these various obstacles, but these conditions are not favorable to the maintenance of solvency, to say nothing of satisfactory earnings.

[10] See Co-operative Buying and Selling, Chap. V, Marketing, pp. 374–390, Chap. VIII, Agriculture, pp. 579–581.

[11] See Chap. V, Marketing, p. 335.

To depositors and borrowers alike, a further decline in the number of banks, in agricultural sections particularly, would involve no appreciable inconvenience, and would result in a decided gain in security. But mergers and voluntary liquidation are the desirable means of accomplishing this result rather than bank failures, and it is satisfactory to note that these more desirable methods are being freely employed. More than 50 mergers and voluntary liquidations, during the first seven months of 1928, in the over-banked state of Missouri furnished a notable instance of this desirable tendency.

There is also evidence of not a little concentration in banking where weak and excessively numerous banks are not in question, where the initiative is taken by strong banks which acquire prosperous neighbors in order to become still larger and, at times also, in order to secure the services of experienced and capable officers. Concentration of this general character is limited by legal restrictions upon the operation of branches by banks, and one of the notable developments of the period under review has been the settlement, at least for the time being, of the vexing and contentious controversy which had arisen over this form of banking organization. Many of the states prohibit branch banking entirely; others allowed it within city or county limits; still others, of which California is the most striking example, impose no restrictions. In states which allowed branches, national banks were at a disadvantage, since they were practically limited in this field to the branches of such state banks as they might absorb. A change in the national banking law, giving them branch powers similar to those enjoyed by state banks in their respective states, would have been satisfactory to national bankers, but this remedy encountered opposition from states in which branch banking was either prohibited or restricted, since, upon its adoption, national banks would no longer have unitedly opposed further liberalization of legislation regarding branches in those states. Finally, a compromise measure was adopted, under which national banks are permitted to open branches in cities in which state banks enjoyed that privilege at the time of the passage of the act, but not in wider areas, and not in cities that might subsequently be opened to branches by state law. And further, in order to curb the spread of branch banking under state law, it was provided that state bank members of the Federal Reserve System might establish additional branches only in localities in which the act permitted national banks to open branches. This measure places no obstacle in the way of a nonmember state bank, but it was assumed that any large bank, operating numerous branches, would desire to retain its membership in the System.

With the operation of branches narrowly restricted by legislation, the tendency toward concentration in banking is manifesting itself to an increasing extent, in a slightly different and decidedly more unsatisfactory fashion—in the formation, under a bewildering variety of arrangements, of chains of banks. Investment in a limited number of shares in scattered banks does not constitute a chain of banks. Some measure of control and management is involved. Chain banking overleaps state boundaries, and may, and commonly does, include both state and national banks. Chains lack the internal controls of a unified accounting system, and they escape the simultaneous examinations to which banks with branches are subject. In spite of these defects, with management in honest and capable hands, good results will be attained, but it is obviously a form of organization which lends itself to grave abuse.

Bank Failures.—During the seven years, 1921–1927, according to information gathered by the Federal Reserve Board, 4,513 banks suspended payment, of which 559 were subsequently reopened. The total deposits of these failed banks were $1,151,000,000, an average of but $291,000 for each bank. Even if large allowance is made for heavy withdrawals of deposits shortly before failure, it is evident that this epidemic of failures has been confined almost entirely to small banks with resources of less than $500,000. Since the business of such banks is ordinarily circumscribed within narrow local areas, these numerous failures, however grievous to the communities in which the banks were established, have not been a large factor in the general financial situation of the country.

These failures do not imply a weak condition and poor management of the banks generally, but they indicate, as does experience in earlier periods, that large numbers of banks, which seem to be in a flourishing condition during years of business activity, are unable to withstand the stress and strain incident to depression and a downward adjustment of values in the communities in which they are established. In the territory served by the Federal Reserve Banks of Boston, New York, and Philadelphia, a section which speedily recovered from the industrial reverses of 1920, bank failures were relatively few—only 43 during the seven years, 1921–1927. The Cleveland district with 61 failures, and the San Francisco district with 187, also show a comparatively low casualty rate. In the four southern districts of Richmond, Atlanta, St. Louis, and Dallas, on the other hand, there were 1,321 failures during this seven-year period. The three remaining districts present a still less favorable record; the Chicago district shows 550 failures, Kansas City shows 685, and finally there is the astounding number of 1,097 failures in the Minneapolis district.

Dishonesty and gross mismanagement account for a small number of these failures. The suspension of a larger number was precipitated by adverse conditions of a purely local character, such as a succession of crop failures or the sudden collapse of real estate booms in particular towns and cities. But the great majority of banks failed because they were unable to withstand the stress exerted by the persistence of unprofitable prices for the products of agriculture and animal husbandry—stress that was particularly severe because it was experienced after years of abounding prosperity and extreme appreciation in the value of farm property, and a large increase in the number of farms mortgaged and the amount of mortgage indebtedness.

These adverse conditions alone, it can hardly be too strongly emphasized, do not furnish a complete explanation of the numerous bank failures of the last seven years. By no means all, or even a majority, of the banks in the localities most seriously affected have been obliged to suspend operations. Financially weak and unskillfully managed banks have been weeded out; strong, well-managed banks have no doubt experienced heavy losses, but they survive. Great significance in this connection attaches to the findings of a special committee on the banking situation, appointed in 1927 by the legislature of Minnesota, a state in which adverse conditions have been particularly severe and the number of bank failures numerous. Analyzing the causes of bank failures, the committee says:

> A survey of the closed bank situation in Minnesota presents an interesting picture. Certain communities of the state seem to have escaped entirely, or almost entirely, this epidemic of closed banks, while in other parts of the state the proportion of closed banks to the number of banks chartered in the community is very great, nor is this unequal distribution of closed banks due in large measure to different conditions of soil or condition of the farmers, for in parts of the state where the farming conditions are almost identical one part shows a large percentage of failed banks and another part almost none. The cause lies deeper than that.

Unqualified agreement with this view of the matter, as seen by the Minnesota committee, is not inconsistent with recognition that external conditions during the last ten years, in certain parts of the country, have been most unfavorable to the conduct of banking along safe lines. In the agricultural development of the country, however, the stage is apparently being more generally reached in which farm values will be more closely related to current net income. Except in the event of a war of major magnitude, it is not probable that commodity prices will again exhibit the extreme fluctuations of the last decade, or that we shall again witness the number of bank failures that has marked the last seven years. If this anticipation is realized, the bank failure problem assumes more manageable proportions, but, in the absence of improvements in organization and practice, it is not to be doubted that a discreditable number of failures will continue to occur, mainly concentrated in periods of trade reaction.

There are hundreds of small banks throughout the country which are ably managed and abundantly strong, and which overcome the handicap of an absence of industrial diversity in the communities which they serve by the exercise of exceptional judgment and caution. On the other hand, while there is no exact relationship between the number and size of the entire group of banks in a locality and the strength of its banking position, it is certain that no community can hope to enjoy the benefits of safety in banking if the business is organized in units so numerous as to exceed the available supply of competent officers and responsible directors, and with insufficient earning power to be able to absorb inevitable losses. Ample evidence of the unhappy consequences of excessive numbers and inadequate size in banking is clearly to be found in the geographical distribution of the failures of the last seven years.

In the Federal Reserve districts of Boston, New York, and Philadelphia, there were only 43 failures during these years. These districts have an area of 150,000 square miles with a population of 33,000,000, and were served in 1927 by less than 3,300 banks (3,287). The Chicago district, with a somewhat larger area, 190,000 square miles, but with a population of only 17,000,000, was still provided with a number of banks larger by nearly 2,000 (5,175) and had a record of 550 failures between 1921 and 1928. Again, the Minneapolis district, it is true with a much greater area, 414,000 square miles, but with a population of only 3,500,000, still had 2,633 banks in operation after 1,087 failures in the same period.

Comparison by states tells the same story only the more forcibly. The 11,000,000 people of the state of New York, with an area of 47,000 square miles, appear to have been adequately supplied with banking facilities in 1920 by 1,056 banks, and there were only 10 failures in the seven subsequent years, while the 2,500,000 people occupying an area of 55,000 square miles in Iowa were served by 1,763 banks, of which 329 failed. North Dakota supplies an even more extreme instance of the overdevelopment of banks and its inevitable sequel—349 failures among 898 banks that had been established to meet the need of a population of 650,000 on an area of 70,000 square miles.

No community can possibly provide adequate resources, competent officers, and experienced directors for one bank to every 750 of its inhabitants as in North Dakota, or to 1,400 as in Iowa. And the situation in these states was not exceptional; on the contrary, an excessive number of banks have been established throughout those sections of the country that are mainly devoted to agriculture. Banking troubles were inevitable with the advent of adverse conditions, and for the severity of these conditions the unwise use of credit administered by an inordinate multiplicity of banks was in no small degree responsible.

As in earlier periods marked by numerous bank failures, an insistent demand for greater safety in banking is to be anticipated, and this demand is not rendered less reasonable by the presence of strong and well-managed banks in every locality. The public must make use of banks, but few are in position to distinguish between the strong and the weak.

Bank statements and other external information relating to banks do not furnish an adequate basis for intelligent discrimination. Unless failures become infrequent, it may be expected that all banks will be subjected to an increasing range of restrictions, restrictions which are quite superfluous for well-managed banks, but which are adopted to curb the weak and incompetent minority.

But safety in banking will never be secured if reliance continues to be placed primarily and almost exclusively upon legislative restrictions covering the details of banking operations. A more immediate enforcement of existing legislation would do much, but remedies for bank failures, to be effective, must be designed to reduce the number of financially weak banks, secure more competent officers and directors, and above all to insure that unsound policies will be checked long before solvency is threatened.

X. INFLUENCE OF THE FEDERAL RESERVE SYSTEM

The assigning of a place in the economic developments of recent years to the Federal Reserve System can only be done tentatively. The Reserve System has been one of many influences, and it is impossible to segregate these various influences. Nor is it easy in dealing with this question to write without bias for or against the System. Before satisfactory conclusions can be drawn, more perspective will be required and longer experience.

Perhaps the most valuable approach to the discussion of the contribution of the Federal Reserve System to business in this period is to consider it in terms of the major monetary problems of the period with which the Reserve System has had to deal. Two unusual problems were, first, that created by huge gold movements, and second, the problem of international monetary stability. In addition, there were the continuing problems relating to stability in the money market and the attitude of the Reserve System to those business fluctuations summarized under the term "business cycle."

Gold Movements and Inflation.—As already noted earlier in this chapter, there was a net gold import into the United States of nearly $900,000,000 from the beginning of 1922 to the middle of 1927, and, in the 12 months following, a gold export of about $500,000,000. These were larger movements of gold than in any period of the past, except for the abnormal flow during the war and immediate postwar period.

A huge gold import, such as that from 1922 to 1927, ordinarily carries with it a threat of inflation of credit and of prices. It might have been expected that the inflationary effect of the gold imports would be accentuated because they followed a huge import movement, in the closing months of 1920 and during 1921, which totaled over $800,000,000. This movement of gold had fortunately been absorbed without inflation, by reason of the fact that the incoming gold was used by member banks to liquidate their indebtedness at the Federal Reserve banks. The gold import, from 1922 to 1927, was not absorbed in any such fashion, save to a very limited extent, but, on the contrary, was used as the basis for an expansion in credit and in currency, as was indicated in Table 4 in this chapter, which shows the changes in the reserve position of the country over that period. Of the $900,000,000 in gold (plus about $200,000,000 derived from an increase in the silver stock, and $50,000,000 from other sources), roughly $600,000,000 was used to increase the reserve balances of the member banks at the Reserve banks, and thus support expansion in credit of more than $6,000,000,000. About $300,000,000 was used in an expansion of currency, and the balance of $250,000,000 was used to decrease the amount of Federal Reserve credit in use. Thus it may be said that gold imports from 1922 to 1927 exercised much their normal influence toward credit expansion. This credit expansion was large and rapid; it was accompanied by an increase in the general level of prices, as shown by an increase of 9 per cent (14 points) in the general price index of the Federal Reserve Bank of New York. It is true that there was no inflation of commodity prices. The change in the price index of the Bureau of Labor Statistics from January, 1922 to July, 1927, shows an increase of 3 per cent. That the large increase in bank credit, that is in purchasing power, was not accompanied by a large increase in commodity prices may be explained in a number of different ways, some of which have already been dealt with in this report.

1. It was a period of rapid accumulation of savings, and much of the increase in bank deposits took the form of an increase in savings deposits, which have a relatively slow rate of turnover.

2. Commodity prices in other important countries of the world were tending to decline during this period, and hence commodity prices in this country, which are greatly influenced by conditions in world commodity markets, met resistance against any upward movement.

3. The general prosperity of large business corporations made the securities of those corporations attractive to investors, and much of the additional credit was employed to finance active dealings in a growing volume of securities at rising price levels.

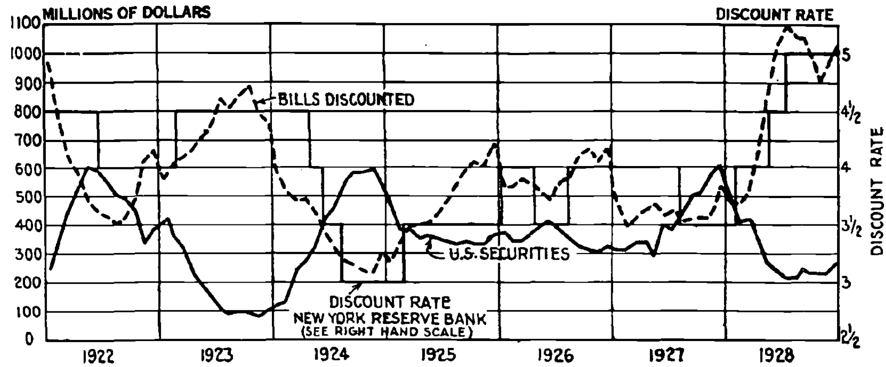
4. The period was characterized by increases in wages and salaries, and additional amounts of credit were employed for this purpose.

5. Considerable amounts of credit found their way into other employment, such as financing a huge volume of building and financing real estate transfers at appreciating prices.

The Federal Reserve System during this period did not prevent a very large expansion in bank credit which might perhaps be described in some part as inflationary, to the extent that it was accompanied by increases in prices of various kinds. The principal influence of the Federal

Reserve System upon this credit expansion related to the timing of the expansion. As was indicated earlier in this chapter, the increase in credit during these years was not continuous, but was more rapid at certain times than at others. It was more rapid, for example, in the years 1922, 1924, and 1927, than in 1923 and 1926. The differences among these years, as to the rate of credit expansion, may be ascribed, in part at least, to the operation of Federal Reserve policy for, during 1922, 1924, and 1927, Federal Reserve policy was such as to encourage credit expansion, whereas, in 1923 and 1926, Federal Reserve operations had a tendency to discourage expansion. The nature of Federal Reserve operations which would presumably have this effect is illustrated in Chart 14.

CHART 14.—FEDERAL RESERVE BANK CREDIT, 1922–1928



It will be seen from this chart that during the first few months of 1922, and considerable parts of 1924 and 1927, the Federal Reserve banks were purchasing government securities. These purchases had the effect of putting money into the money market. The money thus made available was deposited promptly in member banks, and, in 1922 and 1924, was used by them in repaying their indebtedness at the Federal Reserve banks, as shown by decreases in the total amounts of bills discounted. In 1927, the money made available by security purchases was used chiefly to offset losses through gold exports. The member banks, as they found themselves freed from indebtedness at the Federal Reserve banks, were in a position to extend credit to their customers or to the market more freely, and as they received additions to their reserves through gold imports they were able to employ these funds in an expansion of credit.

During the latter part of 1922 and the early months of 1923, the latter part of 1924 and early in 1925, and to some extent in 1926, the Federal Reserve banks were selling government securities. This had the effect of withdrawing funds from the market and of compelling the member banks to increase their indebtedness at the Reserve banks.

Member banks thus found themselves in a position to lend or invest their funds less freely, and there was a tendency to check the rapid expansion of credit. Thus the timing of the employment of gold imports was determined in some measure at least by Federal Reserve policy.

It is not easy to summarize the purposes toward which this policy was directed. Any decision of Federal Reserve policy is made from a consideration of the whole of the credit situation, and it is difficult to interpret the relative importance of the different phases of that situation, as they enter into the decisions of the groups of men who determine policy. But among the factors were certainly the movement of domestic business and prices, the world credit situation, and the movement of gold itself.

The relation of the Federal Reserve System to the gold imports of this period may be summarized by saying that the Reserve System did not sterilize the imported gold, but allowed the gold to have much its usual effect in bringing about an increase in the volume of credit. This increase was limited to a primary credit expansion; that is, the gold was used only once for a credit expansion at the time when the member banks deposited it in the Reserve banks. It was not used for a secondary expansion; that is, the Reserve banks did not utilize the additional lending power which they derived through their receipts of gold during the period.

In the last year of the period under discussion, from July 1, 1927 to the middle of 1928, the gold movement was reversed, and more than $500,000,000 of gold was exported. Under the monetary mechanism of the country prior to the establishment of the Reserve System, any such export of gold in a single year would have brought widespread disaster; for so large a reduction in bank reserves would have been reflected immediately in curtailment of the credit based upon those reserves to an amount many times as large as the gold reserves themselves. The mechanism of the Federal Reserve System provided means by which the loss to reserves from this cause could be repaired by drawing into use Federal Reserve credit. As their reserves were depleted through gold exports, the member banks restored their reserves by borrowing from the Reserve banks against their eligible paper. This increase in member bank borrowing from the Reserve banks did not take place without an effect upon the credit situation. The member banks are always reluctant to remain continuously in debt to the Reserve banks and, as usual in such circumstances, they endeavored to get out of debt by the sale of securities and by some reduction in their advances, particularly for speculative purposes. As a consequence money rates rose. This tendency was accentuated rather than diminished by Federal Reserve policy. By selling securities in the early part of 1928, the Reserve banks made necessary a still further increase in the amount of member bank borrowing, which, in turn, tended to accentuate the firmness of money conditions. The firming of money conditions had the effect of impeding the further export of gold, and gradually checking the rapid increase in the volume of credit, though in the year from June 30, 1927 to June 30, 1928, the increase in credit was larger than in any other year since 1924, despite the loss of gold.

These events may be summarized by saying that the mechanism of the Reserve System made possible a huge export of gold without serious consequences to business or monetary conditions, though at the price of firmer money conditions. In view of the huge growth in credit for speculative uses, the Reserve System did nothing to prevent the gold from exerting something of its normal influence in tightening credit conditions.

International Monetary Stability.—The beginning of the period under survey found the nations of the world with generally unstable currencies. War had forced them into such large issues of paper currency that gold payments were suspended, and currencies were depreciated from their par values. Under these conditions, world trade had shrunk to about two-thirds of its prewar volume, and European purchases of American commodities tended to be restricted. American trade with other nations was made more precarious by the fluctuations of the foreign exchanges. Gold, detached from the currencies of these countries, tended to flow in a steady stream to the United States, and threatened, if long continued, to bring about credit and price inflation.

Under these circumstances, it was to the interest of the United States that every possible assistance be rendered to the countries of Europe in their effort to re-establish themselves on the gold standard as promptly as possible. The investment bankers and the investors of this country played an important rôle in this recovery by lending to European countries as much as $1,000,000,000 a year for several years. The loans furnished the means for these countries gradually to rebuild their industries and reorganize their monetary systems and, at the same time, to continue their purchases of American products during an interval when they were unable to make payment for goods purchased here.

In two specific ways the Federal Reserve System has been able to aid in the European financial recovery. First, the Federal Reserve banks extended credits to the Bank of England, the National Bank of Belgium, the Bank of Italy, and the Bank of Poland at the times when these countries were prepared to announce their legal stabilization programs. In the cases of Belgium, Italy, and Poland, the Federal Reserve credit was a part of a larger credit participated in by many of the European banks of issue. The credits took the form of an agreement on the part of the Reserve banks to purchase bankers' acceptances from those three banks of issue, at stipulated rates and in specified amounts, if the need should arise. In the case of the Bank of England, the credit took the form of an agreement to sell gold to that bank, if desired. In none of these four cases was the credit utilized, but the public announcement that the Federal Reserve banks were prepared to extend this support to the banks of issue of the different countries provided an important psychological influence toward the success of the stabilization programs.

The other method, by which the Reserve System exerted some influence toward facilitating the return of world monetary stability, was its consideration of world conditions in the determination of its credit policy at certain periods. While at all times domestic conditions have of necessity received first consideration in the determination of Federal Reserve discount rates and open market operations, there have been periods when some modification of Federal Reserve policy, with the world situation in view, was not incompatible with domestic conditions.

The two principal occasions of this sort were in 1924 and 1927. The year 1924 was one of somewhat reduced business activity in the United States, so that, as far as domestic conditions were concerned, a policy of low discount rates, supplemented by open market purchases of securities, was likely to be beneficial rather than otherwise. It was at least a time when easy money might be expected to do little harm.

For the international money markets, 1924 was a critical year. London had always been the world's principal money market, and the stability of the pound sterling was prerequisite to a return of international monetary stability. While sterling had returned within 4 per cent of parity early in 1923, it had then receded to 4.25 in January of 1924, partly because of high money rates in this country.

With every desire to bring their currency to a stable position as promptly as possible, the British found themselves with their exchange 13 per cent below parity in January, 1924. The other exchanges of the world were so closely related to sterling that it was almost hopeless to expect their recovery until the important step had been taken in England. The experts were working on the Dawes Plan, and a solution was hoped for.

In the United States, the need for high money rates had passed with the subsidence of the speculative and business boom of early 1923. Under these circumstances, the Federal Reserve System, toward the close of 1923, adopted a policy of placing additional funds in the money market through the purchase of government securities, and, between that time and September, 1924, purchases amounted to $500,000,000. The first result of this action was that the member banks were enabled to repay the Reserve banks much of their indebtedness, so that, by the middle of 1924, the member banks in principal cities had practically liquidated their borrowings. This placed the banks in a position to advance funds more freely, and money rates declined steadily. Consequently, money rates in New York, for the first time in some months, became cheaper than money rates in London. The amount of new financing in New

York was increased, and there was a tendency for funds to flow from New York to London. Sterling exchange began a steady climb, so that, in the spring of 1925, when Great Britain passed her stabilization legislation, sterling was within a few cents of parity, and the transition to gold payments could be made without serious economic disturbance. The return to gold payments by Great Britain opened the way for similar action by many other countries.

It is not possible to determine to what extent the climb in sterling was due to action by the Federal Reserve banks in making money easier in New York and to what extent it was due to other causes, but certainly the recovery would have been more difficult without this Federal Reserve action. In any such vigorous attempt to ease the money market, banking authorities always assume the risk of credit and price inflation, and it may be that there was some inflation as a consequence of the action taken by the Reserve System in 1924, but the generally retarded condition of American business in 1924 made this action appear less dangerous than it might have been at other times. In fact, the probability is that easy money in 1924 was an influence toward preventing a more serious business depression at that time and toward stimulating the rapid business recovery which ensued.

Another occasion when the world monetary situation was an important factor in Federal Reserve policy decisions was in 1927, when the rates of a number of the Reserve banks were reduced in August and September, and purchases of government securities were made. On that occasion, as in 1924, certain results appeared to be ascribable to the action taken. As money rates receded, following Federal Reserve action, and reached lower points than prevailed in London, the gold movement reversed itself, the exchange on London and a number of other centers moved upward, and a threatened money stringency abroad, which would have hampered world trade, was averted.

The economic situations, both in 1924 and 1927, were so nicely balanced that Federal Reserve policy was probably more effective than might ordinarily be expected. It is hardly to be expected in the future that the influence of Federal Reserve policy will be so dramatic or so effective; nor, in fact, is it likely that, now that the currencies of Europe are stabilized, Reserve policy need concern itself so much with conditions abroad. But in the return of the world monetary stability, it seems clear that the Reserve System, both by its action in granting credits to the banks of issue in foreign countries and by its credit policy, has exercised an important and beneficial influence which has reacted favorably upon American foreign trade.

Stability of the Money Market.—The best thing that the Federal Reserve System could do for business would probably be to exert its influence toward a steady flow of funds readily available for business use at moderate rates. High rates discourage business, while, on the other hand, low rates tend to overstimulate business and prepare the way for business disorganization and depression. But it is clear also, from any study of the course of business over past years, that a rate which may seem low at one time may seem high at another, or *vice versa*. Business does not move forward in a steady continuous stream but moves by long fluctuations, and its psychology differs greatly from one period to another. Business is forever tending to be under- or overstimulated. The problem then, for the Reserve System and for other factors which influence credit, is not one of preserving rates at a uniform level but of exerting an influence so that money rates may be adapted to the economic swing of business. High money rates at times of overstimulation and low money rates at times of understimulation should, in the long run, assist in flattening out the fluctuations of business and in bringing about a more even prosperity.

This may be summarized by saying that the Reserve System's direct contribution to business stability consists of adjusting interest rates to the movement of the business cycle, so as, in some measure, to mollify business booms or depressions.

One marked result of the operations of the Federal Reserve System is demonstrated by the figures for the average deviation of money rates from their moving averages, which were shown in Table 2 of this chapter. The figures appear to indicate that, since the Reserve System has been operating under anything like normal conditions, the fluctuations in money rates have been greatly reduced.

A sufficient period has now been covered by the operations of the System, so that the evidence seems reasonably conclusive that the presence of the Reserve System has made a substantial improvement in the stability of the money market. This is in accordance with what one would expect theoretically, for the Reserve System has provided a method never before available in this country, by means of which reserve funds can be drawn into use or drawn out of use in accordance with the necessity of the money market.

Influence on the Business Cycle.—Since 1922, the fluctuations of business, which might be termed the movements of the business cycle, have been moderate, and there have been no long continued booms nor have there been any deep depressions. It is even difficult to determine how many business cycles we have had. The best guess is perhaps that one cycle extended from the middle of 1921 to the middle of 1924, and another from the middle of 1924 to the end of 1927.[12] But some students believe that we have had during this entire period one continuous business cycle. No matter which conclusion is adopted, it is clear that the experiment has not been sufficiently long to justify passing judgment as

[12] See the concluding Review, pp. 890–909.

to the influence of the Federal Reserve System upon the business cycle. Many other causes have been in operation which may account for the moderation of the movement of business in this period. About all that one can do, in attempting to draw a conclusion as to the influence of the System, is to analyze the action which the System has taken at different times to discover, if possible, whether this action was of a character which would tend to mollify the fluctuations.

Such an analysis appears to show that Federal Reserve influence was toward firm money when business was most active, and toward easy money when business was most depressed. This appears most definitely exhibited in open market operations. We reached the bottom of a business cycle in the summer of 1921 and then started up. At about that time the Federal Reserve System began to purchase Government securities in large amounts. From the funds thus obtained, member banks were able to liquidate some of their indebtedness, and were able to loan somewhat more freely, so that the recovery from depression was stimulated somewhat by Federal Reserve action. As the cycle began to reach its peak in the latter part of 1922 and the early part of 1923, the Reserve System reversed its policy and sold securities, making it necessary for the member banks to borrow more heavily, this condition, in turn, making them less ready to lend in large amounts. In the spring of 1923, discount rates were increased and the Reserve System discussed in its publications the dangers of overexpansion of credit. The peak of expansion was soon passed. Near the end of 1923, business had begun to decline toward the low point of the middle of 1924. In December, 1923, the Reserve banks began to purchase Government securities, and between that date and the middle of the following September they purchased $500,000,000. The funds, thus made available, enabled member banks to reduce their indebtedness, and placed them in a position to lend somewhat more freely to their customers. Accompanying purchases of securities, Federal Reserve discount rates were reduced. Business recovered rapidly from this period of depression, and by the early part of 1925 it reached a new high peak. This movement of business was accompanied by a vigorous speculative movement, and in the early months of 1925 the Federal Reserve System sold $200,000,000 of the securities purchased in 1924. During 1925 and 1926 and the early part of 1927, business went forward confidently, with the possible exception of a few months in 1926, when a brief period of hesitation was accompanied by small purchases of securities by the Reserve banks and the lowering of the discount rate at New York for a few months.

In 1927, there was again some evidence of business hesitation, particularly in the second half of the year. This coincided, as it had in 192[illegible] with monetary stringency abroad, and the Reserve System purch[illegible]

$300,000,000 in securities between May and December, and the discount rates of the reserve banks were reduced. Business again recovered promptly from a period of depression.

Accompanying an outburst of speculation in early 1928, and large increase in the volume of credit, the Reserve System sold $400,000,000 of securities between the end of December, 1927 and June, 1928. The outcome of this latest movement both in business and speculation has not yet become apparent.

This recital of facts carries with it no convincing proof that the presence of the Reserve System has reduced the swing of the business cycle, but it does appear to justify the assertion that its influence has been in that direction.

Test Not Yet Complete.—With regard to all this evidence, it seems important to emphasize the need for suspending judgment as to final conclusions. The period has been one of many unusual economic developments. Business has continued for extended periods above any computed normal growth line, with only brief recessions. There has been an extraordinarily large volume of building, of new financing, of automobile production, and of consumption. There has been a huge volume of speculation, accompanied by striking increases in prices of securities. This has been made possible, in part, by gold imports and the resulting comparatively easy money conditions.

It is possible that in some one or more of these directions an unsound economic structure has been built up, the dangers of which are not now obvious. Only the test of a longer period of time can yield convincing results.

XI. SUMMARY

The average level of money rates from 1922 to 1928 has been lower for commercial funds and higher for speculative funds than in the years before the war. Month-by-month fluctuations of rates have been much reduced. Business has been financed less by borrowing from banks and more by borrowing in the capital market through issues of securities. The growth in bank credit has shown more rapid increases in the Eastern, New England, and Pacific districts; in the Middle Western and Southern districts there has been only a moderate growth, and in the Western district a decline. In general, the most rapid increases of bank credit occurred when business was most in need of the stimulus of easily available credit, and the periods of slowest growth occurred when business was in large volume and, perhaps, in some danger from overstimulation.

The effect of gold movements on the volume of bank credit has been modified by changes in the amount of currency in use, changes in practice to bank reserves, and changes in the position of the Federal Reserve em.

The principal influence in the period 1922 to 1928 toward rapid growth of bank credit and easy credit conditions was gold imports—an abnormal influence which cannot be expected to continue in the future. The reversal in the gold movement has materially changed the outlook for the supply of bank funds. It may be that a less rapid increase in bank credit than in the past five years would eventually be more wholesome.

Savings have been in unusually large volume. Widespread savings have tended to increase aggregate loans and investments and total deposits, at the same time reducing somewhat the amount of demand deposits. Thanks, at least in part, to saving, large additional supplies of bank credit have not brought about a rapid advance in commodity prices, and the community has not experienced intense competition between consumers and capital for goods and services. Large and widespread savings have been a primary influence in counteracting the upward price tendency of an abundant supply of bank credit. Vivid memories of 1920 have certainly tended to restrain the accumulation of inventories. Efficient transportation has removed fears of delays in shipment. Style has become a factor of importance in many lines, and there has been growing recognition of the economy and elimination of risks that may be secured in merchandising through a rapid rate of turnover. Declining commodity prices in other countries also have been a restraining factor. These and other influences, in conjunction with large savings, furnish an explanation of the failure of commodity prices to respond with a decided upward swing to the impact of an abundant supply of bank credit available at declining rates during recent years of generally active business.

Government debt reduction also has contributed to the abundant supply of capital. Foreign investments have served to widen the opportunities for funds seeking employment. In general, the abundant supply of funds seeking investment at declining rates seems to have strengthened the financial structure of business.

For more than seven years, there has been a progressive decrease in the number of commercial banks in the United States. This tendency probably will continue. Banks in large centers have been gaining, and seem likely to continue to gain, at the expense of small rural banks. Mergers and voluntary liquidations, rather than bank failures, are bringing about this result.

The Federal Reserve System, during the period under review, has had to deal with two unusual problems; first, that created by huge gold movements, and second, the problem of international monetary stability. In addition, there were the continuing problems relating to stability in the money market, and the attitude of the Federal Reserve System to those business fluctuations called "business cycles." The mechanism of t[illegible] Federal Reserve System made possible a great export of gold in the[illegible] year without serious consequences to business or monetary conditions, though at the price of firmer money conditions. In view of the huge growth in credit for speculative purposes, the Federal Reserve System did not prevent the gold from exercising something of its normal influence in tightening credit conditions.

Investment bankers and investors played an important part in European recovery, by lending as much as one billion dollars a year for several years. Federal Reserve banks extended credits to the Bank of England, the National Bank of Belgium, the bank of Italy, and the Bank of Poland. In none of these four cases was the credit utilized, but public announcement that the Federal Reserve banks were prepared to extend this support created an important psychological influence.

The problem for the Federal Reserve System and other factors which influence credit is not one of preserving money rates at a uniform level, but of exerting an influence so that rates may be adapted to the economic swing of business. High money rates at times of overstimulation and low money rates at times of understimulation should, in the long run, assist in flattening out the fluctuations of business and bringing about a more even prosperity. There is no convincing proof that the Reserve System has reduced the fluctuations of the business cycle, but its influence has been in that direction.