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CAMBRIDGE, MASS., U.S.A.

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VOLUME XLI

PART II

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LONDON : HUMPHREY MILFORD
OXFORD UNIVERSITY PRESS

TWENTY YEARS OF FEDERAL RESERVE POLICY

INCLUDING AN EXTENDED DISCUSSION
OF THE MONETARY CRISIS, 1927-1933

BY

S. E. HARRIS, Ph.D.

LECTURER ON ECONOMICS, HARVARD UNIVERSITY

VOLUME II

THE MONETARY CRISIS



Gokhale Institute of Politics
and Economics, Poona 4.

CAMBRIDGE, MASSACHUSETTS
HARVARD UNIVERSITY PRESS

1933

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PRINTED AT THE HARVARD UNIVERSITY PRESS
CAMBRIDGE, MASS., U. S. A.

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VOLUME II
THE MONETARY CRISIS

INTRODUCTION

THE PROBLEMS

IN this volume, reserve policy in the years 1927-33 is studied intensively. Some of the problems have already been raised in Volume I, and the lines along which an appraisal is to be made are indicated there as well as here. The emphasis is to be placed on the fluctuations in balances of members, the relations between movements in the Bank rate and open market operations on the one hand, with market rates, balances of members, and member-bank credit on the other; and finally on the success in determining the lending policies of members through the use of moral suasion. A summary of the argument will be presented in the remainder of this Introduction.

Particular attention throughout this volume is paid to the movements of deposits. One thinks, in relation to this problem, of Marshall's remark when testifying before an Indian Currency Commission to the effect that India is not a country but a continent. We know altogether too little about the movement of cash and deposits between different sections of the country; it is hoped that a small beginning in the study of this vital subject is made here.

The movements of deposits throw light on the manner in which open market operations carried on in New York affect first the New York money market and then other sections of the country. Movements in reserves of reserve banks, deposits and rediscounts of banks in the different sections of the country, as well as some information revealed by movements through the Gold Settlement Fund (the figures are available in Washington), all considered together, are very revealing on certain aspects of policy. Reserves are lost to other sections of the country with which relations are more intimate and important than with foreign countries, and it is absurd to concentrate our attention on gold movements between countries. Inter-district movements are especially important in a period which witnessed such unusual movements of cash between different parts of the country as did the years 1927-33.

Not only is it necessary to study the movements of cash and deposits between different sections of the country, but it is also

necessary to study the movements of deposits as a whole, for the explanation of their fluctuations plays a very important part in the interpretation of reserve policy. If the loss of deposits is the most important explanation of an increase in rediscounts and a gain the explanation of a repayment to reserve banks, then it is necessary to analyze these losses and gains, making certain that all fluctuations upward or downward are to be treated in the same manner.

The importance of the distinction between demand and net demand deposits is also emphasized; the failure to check speculation is more readily understood if we understand the extent to which the growth of demand deposits was not reflected in a growth of net demand deposits. We shall be spared much confusion if the distinction between these two classes of deposits and the discrepancies in their movements are kept in mind.

Bank Rate Policy, 1927-29. Let us consider first the years 1927-29, in which speculative activities were on the increase. Reserve officials, looking back, are now willing to admit that their rate policy in 1927-29 was weak and ineffective.¹ Most of the banks now express only a limited faith in Bank rate policy; and even the New York Bank admits that most banks in its district lend at 6 per cent regardless of the Bank rate. Officials of the reserve banks put the emphasis on the large influx of outside (non-banking funds, for the most part) money and the failure to raise rates in a decisive manner. It is a reflection on the place occupied by the Bank rate in American central banking that reserve banks give, more frequently than any other reason, the rates current in neighboring districts as the explanation of a change in rate: the Bank rate is thus considered a means of obtaining a fair share of the System's business (when rates are declining), or a means of averting a loss of cash (when rates are rising) by raising rates. The delay in raising rates will always be an obstacle to the fulfillment of an effective rate policy in the United States: political pressure is too strong.

Early in 1928 a dear money policy was introduced. By July, 1928, every reserve bank had increased its rate two or more times. But from August, 1928, to July, 1929, rates were not increased; and so

¹ See the interesting replies to the Senate questionnaire submitted by the reserve banks. Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 724-725, 752-776; W. R. Burgess, "Guides to Bank of Issue Policy," *Proceedings of the Academy of Political Science*, 1930 (13), p. 512; H. L. Reed, *Federal Reserve Policy, 1921-30*, p. 185.

far as I know, no application for an increase was made until February, 1929, in spite of the continued and dangerous rise in speculative loans during this period. What is the explanation? Political pressure for lower rates was undoubtedly a factor:¹ the presidential election was on the horizon. Also, reserve authorities were perplexed by the fact that higher rates seemed to attract more money; that had always been a consideration so far as foreign money was concerned, but now even larger amounts were being drawn from non-banking domestic sources.² As Governor Young expressed it, 800 millions of additional funds were attracted in a few months by an 8 per cent call rate.³ Another explanation of the failure to use the Bank rate in this period of six months was disappointment with the results of the policy for the first half of 1928: reserve credit outstanding continued to increase, and the effects on balances and even on member-bank credit had been disappointing.⁴

The object of reducing rates in 1927 was largely to help Europe retain its gold; an increase in rates that would jeopardize Europe's condition was therefore to be avoided if possible. Strangely enough the English money market did not obtain the relief from a reduction in rates that had been anticipated as a result of the measures taken in the United States: the improvement in the English situation was held to be fortuitous rather than the result of a fundamental change in underlying conditions.⁵ In spite of the higher rates in the United States, however, European money markets did not seem to be disturbed in the early months of 1928, and they continued to draw gold from the United States.⁶ The explanation is undoubtedly the cumulative effects of the large amount of financing in the United States in 1927; foreigners continued to draw on their balances. But by the middle of 1928 Europe was perplexed and concerned.⁷ A failure to increase rates in the United States in the latter part of 1928 may be explained in part by a fear of the consequences to Europe;⁸ while

¹ *C.F.Chr.*, 1928 (127), pp. 1191-1192, 1868; L. T. McFadden, "Call Loans and Federal Reserve Policies," *American Bankers' Association Journal*, October, 1928, pp. 291-293, 373.

² *C.F.Chr.*, 1928 (127), p. 1868; *ibid.*, 1929 (128), p. 1832.

³ Hearings: *Branch Banking* (71: 2), 1930, pp. 716, 724.

⁴ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 65; *C.F.Chr.*, 1929 (128), p. 1833.

⁵ *L.E.*, January 7, 1928, p. 5.

⁶ *Ibid.*, June 9, 1928, p. 1169; *ibid.*, July 7, 1928, p. 5.

⁷ *Ibid.*, January 5, 1929, p. 5; B. Ohlin, "Central Bank Policy and Stock Exchange Prices," *Index* (Stockholm), No. 31, July, 1928.

⁸ Consider the defense of the Board of its firm money policy. *F.R.B.*, 1929, p. 243.

the easing policy of the latter part of 1928 undoubtedly prevented large exports of gold from there.

The situation in Europe was unfortunate: the London, Berlin, and Paris money markets attempted to shift the burden of gold losses elsewhere. Paris exchange was generally the strongest and sterling the weakest, except that early in 1929, when confidence was at a low ebb in Germany, the mark sank low. Unsatisfactory conditions at home forced the English authorities to keep market rates at a reasonably low level, although the rate on short-term paper was artificially raised by applying pressure on British institutions to refrain from purchasing short-term investments, thus encouraging the retention of foreign funds so invested. High rates in Germany were effective in attracting floating supplies of foreign money away from England, in part because the short-term rates were not raised adequately there.

For one and a half years British authorities stabilized monetary conditions to a degree remarkable in view of the disturbed conditions and very large losses of gold;¹ but finally large and continuous losses required the corrective of increases in the Bank rate, in February, 1929, and once more in August, 1929. The second increase contributed to the crash of the stock market. It is a reflection of reserve policy that the reserve banks purchased sterling bills just before the increase in rates, with a view to strengthening sterling, although their responsibility for a crash was to be reduced by any cooperation on the part of foreign authorities by an increase in rates abroad.

The New York rate was increased to 6 per cent in August, 1929. Numerous proposals for increases in rates had been made from February to July of that year. We need not discuss at this point the controversy between the New York Bank and the Board. It is necessary to point out, however, that an increase in rates at this juncture was an invitation to banks, now thoroughly frightened, to use the resources of the reserve banks; moral suasion had been too effective and an increase in rates was now a measure of relief, not of restraint.

It has commonly been held that the speculative fervor in the United States, with its accompanying high money rates, attracted

¹ *L.E.*, February 9, 1929, p. 275; Committee on Finance and Industry, *Evidence*, I, 341-348, 422-424, 801-806.

very large sums of short-term money from Europe. Thus Keynes estimates an increase of short-term indebtedness of the United States of 2.5 billion dollars in a period of two to three years. There is no foundation for this or similar estimates. I refer the reader to the annual statements of the Department of Commerce, which indicate a reduction of short-term indebtedness of the United States in 1928-29. The increased investments in acceptances by foreigners was not above the increased financing by dollar-acceptance credits in the years September, 1927, to September, 1929; and the maximum volume of foreign funds on the stock market was 500 millions. The increase in the first nine months of 1929 was but 200-250 millions, and against this is to be set a reduction of 100-150 millions of acceptances held by foreigners (and an increase in dollar-acceptance credits advanced) and a reduction of deposits in American banks.¹

Loans on Account of Others. Defenders of reserve policy put much emphasis on the unfortunate growth of loans on account of others, for which, they say, the reserve authorities could not be held responsible; but a central bank is to be held responsible for the amount of credit used in banking, whether contributed through banking or non-banking sources. Moreover, the increase in loans on account of others is to be associated with the increase in open market rates for which reserve banks were in part responsible, and strangely enough (in the light of the practice since 1920), they were now disposed to admit their responsibility for higher rates.² They expressed disappointment, however, in June and December, 1928, that an increase in member-bank indebtedness had been accompanied by increases in member-bank credit, and that such large losses of gold and open market operations had not checked the increased use of funds for speculation.³ The banks were responsible also in that the funds obtained by corporations, later to be advanced as loans on account of others, were largely contributed by them through purchases of investments and additional security loans.⁴ The damage was done in the years 1921-27, when large influxes of gold enabled banks to pay off their debts and increase their reserves and earning assets.⁵ Loans of member banks increased by 4 billions, or 20 per

¹ Discussed more fully in Chapter XXV.

² *F.R.B.*, 1928, pp. 737-738.

³ *C.F.Chr.*, 1928 (126), p. 3391; *F.R.B.*, 1928, pp. 737-738.

⁴ U. S. Senate Report No. 534 (72: 1), 1932, p. 4.

⁵ *Hearings: Operation of Banking Systems* (71: 3), 1931, p. 762.

cent, investments by 4 billions, or 70 per cent. Destructive rates were now necessary to stop the progress of speculation; and they were not politically expedient.

Member-bank Indebtedness and the Investment Policies of Banks. Member banks revealed no disinclination to be in debt in the years 1928-29, if we are to judge from their investment policies. Not only were they content to increase their indebtedness to maintain their balances (reserves) but their balances increased at inopportune times. The increases of balances were large in the latter part of 1927 and 1928; but a reduction of balances in February and June-August of the latter year and in the early months of 1929 gave indications of the possibility of a successful consummation of reserve policy. The net movements of balances for these months, or for the period as a whole, were most disappointing, however, if the unprecedented increase in rediscounts and the large losses of gold are considered on the one hand, and the large increase of banking, and especially non-banking, credit and economies of reserves are considered on the other. Moreover, the movements of balances (reserves) of non-member banks were even more discouraging: a central bank is responsible not only for the policies of a selected group of commercial banks. Pressure on member banks was reflected in the offer of greater temptations to non-members. Thus, while balances of member banks increased by $1\frac{1}{2}$ and declined by $\frac{1}{2}$ of 1 per cent in the years ending June 30, 1928, and 1929, balances of non-members (with other banks) increased by 22 and 13 per cent in these two years. A reduction of the amount of cash held in vaults by all banks reporting to the Comptroller of the Currency from 1,008 millions on June 30, 1927, to 820 millions on June 30, 1929, is also significant for the problem of control.

The theory is currently accepted that in periods when banks are subjected to pressure as a result of an increase in indebtedness, they are disposed to reduce their open market investments, thus inducing higher market rates.¹ Let us see what happened in the first six months of 1928, when reserve banks forced members to increase

¹ Open market investments: securities (investments), Street loans (advances to brokers and dealers on the New York Stock Exchange, open market paper (acceptances and other commercial paper). These items are considered in this order here and compared with total loans and investments. Also, all security loans are compared with Street loans (security loans to brokers and dealers).

their debts by 500 millions, the only important increase of indebtedness over the entire period. Member banks actually increased their investments by 400 millions. On the other hand there was a net reduction of 430 millions in Street (New York Stock Exchange) loans by New York banks on their own account and on account of their correspondents. (The reduction was largely concentrated in the New York banks, although the reduction of loans by out-of-town banks may have been larger than it seems to have been, for non-banking loans, which are included in advances through out-of-town banks, may have increased.) Investments in open market paper by member banks during this period were very small; but the tendency was downwards. Thus we may conclude that there was little change in all open market investments; but on the other hand, loans and investments of member banks increased by 800 millions in these six months, and since security loans of reporting banks remained relatively stable we may conclude that the reduction of Street loans was offset by an increase of security loans to customers directly for speculative purposes.

In some respects the results were closer to expected lines in the next fifteen months (to October, 1929). More satisfactory data are available for this period. In the first nine months of 1929, open market investments of member banks were reduced by 900 millions (3,158 to 2,275 millions) and investments in securities by 800 millions besides. But it is to be noted that open market loans had increased by 600 millions in the last three months of 1928; also that the reduction in investments was but 8 per cent (it was not profitable to sell at a loss) as compared to a reduction of one third in open market *paper* and Street loans. Moreover, the reduction in open market investments was more than offset by an increase in other earning assets, for all loans and investments increased by 230 millions. What is more, whatever liquidation occurred may more properly be associated with the use of moral suasion; and the results were disappointing, for the scrutiny by reserve banks of open market investments of members led them to advance more freely by other methods, often for the same purpose. Non-member banks in particular seemed to be tempted to reduce their investments and lend more freely for speculative purposes.

It ought to be mentioned here that the very large issues of capital during this period were also a method of liquidating investments, but the difference was that banks created investments for the pur-

pose. An increase of banking capital of 1,200-1,300 millions in this period was an important source of relief for banks; deposits were reduced in a corresponding manner.

Credit and the Needs of Trade. Much of the controversy surrounding these crucial two years centers in the question of the adequacy of credit and the extent to which speculation deprives other consumers of their rightful share. Production indices are not conclusive on this point, although the index for industrial production was strikingly upward in the year ending June 30, 1929; other indices are not so clearly upward. In 1928-29 (June to June) there is at least some doubt whether the expansion of credit was adequate in view of the increase of production; in 1927-28 there is little doubt of the adequacy.¹ But such measures are of limited significance, especially in view of the shifting of demands from the money to the capital markets and our ignorance concerning the proportion of working capital to be contributed by banks.²

The following figures are of some significance:

LOANS AND INVESTMENTS				
Change in per cent from preceding year	All Banks (1)	All Banks plus loans on account of others through New York banks (2)	Other loans of reporting member banks (3)	Loans on New York Stock Exchange (4)
June 30, 1927-June 30, 1928 ..	+6½	+8+	+3+	+37
June 30, 1928-June 30, 1929 ..	+2	+4	+3-	+44
Billions of dollars	Members — Security loans to customers (5)		All — Security loans (6)	Security loans by members (7)
Dec. 31, 1928	7.35		14.1	10.17
Oct. 4, 1929	8.11		17.0	10.31

A comparison of (1) and (4) reveals that speculative consumers of credit were obtaining a disproportionate part of additional supplies of credit in the years 1927-29. The figures in (3) are the best index available of non-speculative loans, although it is known that part of the funds included in "other loans" are used to some extent

¹ *F.R.B.*, 1928, pp. 618-619; H. L. Reed, *Federal Reserve Policy 1921-30*, pp. 173-175, 189-190; *N.Y.R.B. Ann.*, 1928, pp. 8-9.

² I refer the reader to the discussions of this problem by Keynes, Robertson, and Hayek. I am not unaware, and I should like to emphasize this point, of the limited significance of a comparison of the movements of trade and bank credit. They are not entirely without significance, however.

for speculative purposes. The situation in 1929 is of interest particularly because of the use of moral suasion to check the use of funds for speculative purposes and to increase funds available for other purposes. Nevertheless, in the first nine months of 1929 security loans to customers of member banks increased by 10 per cent while all loans and investments increased by but the same rate. Also, all security loans increased by 31 per cent. (The total in (6) above is not inclusive of all security loans, although it has been used for that purpose. Numerous categories are omitted, including loans on account of others advanced through non-members in New York, and all "others" advanced on other exchanges.) If we exclude loans on account of others, however, the increase of Street loans by banks was but $1\frac{1}{2}$ per cent;¹ but the increase of customer security loans (advanced directly to customers for speculative purposes) is to be considered. Again, from October to October the increase in open market loans by member banks was 5 per cent.

Reserve authorities were sometimes too disposed to explain the high rates by increased demands from speculative sources without attempting to prove that speculative demands brought higher rates, or without paying attention to the effects of their own policy.² At first they were inclined to minimize the increase in market rates, perhaps with a view to denying responsibility for them;³ but when the increase was clearly evident to all, reserve authorities used it as an excuse for introducing the policy of moral suasion.⁴ The official position in 1929 does not seem always to have been that speculation brought higher rates or deprived industry of funds, but rather that the continued firmness of monetary conditions was to be associated with continued demands from speculation: other borrowers suffered only because they had to pay higher rates.⁵ There is not much to choose between both positions.

Open Market Policy, August–December, 1927. Open market operations were introduced to stimulate business and reverse the movement of gold. In view of the results of much more extensive

¹ Unfortunately this is not exactly accurate, for part of the loans made for out-of-town banks are made on account of others.

² *N.Y.R.B. Ann.*, 1928, p. 8; *F.R.B.*, 1929, p. 360; *Mim.L.S.*, 1930 (32), x-6544, p. 368.

³ *F.R.B.*, 1928, pp. 373, 679, 738.

⁴ *Mim.L.S.*, 1929 (31), pp. 121-123; *ibid.*, 1930 (32), pp. 367-368; *C.F.Chr.*, 1929 (128), p. 2395.

⁵ *F.R.B.*, 1928, p. 737; *ibid.*, 1929, pp. 93-95, 243, 360.

operations in 1924 with a similar object in mind, the failure of the operations in 1927 can easily be condoned. Purchases were twice as large in 1924 and, moreover, the purchases from October to December, 1927, were more than offset by losses of gold for the period; so that an active policy directed toward stimulating business was in operation for but two months.

In 1924 (January to November) the market obtained 874 millions of additional cash (482 from purchases of securities, 392 from an inflow of gold and notes) and lost 599 millions as a result of a reduction of rediscounts and acceptances. Balances rose 282 millions.

In 1927 (August–December) the money market gained 488 millions as a result of purchases of securities (225) and acceptances (188) and an increase of rediscounts (75); but lost 356 millions as a result of a loss of gold (159) and withdrawals of notes (197). The increase in balances was but 110 millions. Thus the additional resources obtained were but two fifths as large as in 1924 and were provided in large part by an increase in rediscounts. The open market policy had been an unmistakable failure if the movements in rediscounts, the immediate goal especially in 1924, was the goal in 1927.

What requires more attention in the study of open market operations is the movement of cash within the country, for the effects of open market operations are determined in large part by the manner in which additional cash is distributed. Thus large purchases of investments by reserve banks in August were accompanied by an increase of rediscounts of 15 millions for New York reporting banks, and a reduction of 45 millions elsewhere. In view of the fact that these investments are purchased in New York and hence provide New York banks with additional deposits, it is clear that the New York banks were losing cash (deposits) to banks in the other sections of the country.¹ Otherwise they would not have had to increase their rediscounts. Similar conclusions hold for September; but in October and November the movement was reversed. Seasonal influences are a relevant consideration. In October the New York banks were able to put upon others the burden of additional rediscounts, and in November they increased their balances by the very large amount of 40 millions. New York banks always lose cash in December, and there was no exception this year. A study of the

¹ Ultimately, true enough, the cash may be redistributed if sales are made by out-of-town people.

INTRODUCTION

deposits of New York City banks, New York District member banks, and all member banks in conjunction with movements of loans and investments, corroborates the fact that the first named were losing deposits in July–September, and were in a much stronger position in the last three months of the year. Allowances are made for open market operations, movements of gold and currency, and bankers' balances, all of which affect deposits. The assumption is that the deposits of any group of banks ought to fluctuate with their earning assets, allowing for these other variables; otherwise they are gaining or losing deposits (cash) to other groups of banks. Apparently the open market operations of the early months of the campaign at first stimulated activities elsewhere and, later, speculation in New York.

Open Market Policy, January–August, 1928. The open market policy was reversed in January, 1928; but sales of 200 millions in this month were not large enough to prevent a reduction of rediscounts and an increase of balances. In February, however, a reduction of balances of 58 millions is evidence of effective sales; but the hesitation in March, as well as the failure to allow adequately for incoming notes in January, accounts for the break-down of the policy in these crucial three months. In April balances increased by 31 millions. But the cumulative effects of these very large operations and losses of gold began to be felt once more in June–August, when balances declined by 114 millions. For the period as a whole rediscounts increased almost 600 millions, and the increase was especially large from April to June. The failure to reduce holdings of acceptances was also in part responsible for the collapse of these operations: the decline was but 29 millions in the first five months of the year, as compared with an average of 120 millions for a corresponding period in the previous five years.

The unusually rapid rate at which rediscounts increased seemed to bring a measure of success reflected in some pressure for liquidation; but a reduction in net demand deposits of one billion dollars for reporting member banks is rather misleading: sales of assets by reserve banks and losses of gold account for a decline of deposits of 900 millions; and loans and investments increased.

Too much attention has been given to net demand deposits, which determine reserve requirements. Authorities would not have been misled by any decline in net demand deposits if they properly in-

terpreted such a decline or if they paid more attention to demand deposits. Thus consider the following table:

JANUARY 1 TO OCTOBER 4, 1928

(Millions of dollars)

	Loans and investments	Demand deposits	Due to banks	Net demand deposits
All reporting member banks	+543	...	-376	-823
All member banks	+682	-462	-569	-1110

Net demand deposits equal demand deposits plus the difference between "balances due to banks" and "balances due from banks." It is at once apparent that the movements of demand deposits give a somewhat different picture of the situation than do net demand deposits, and the explanation is only in part the reduction of balances due to banks (and a moderate reduction in United States deposits). In so far as the discrepancies are not explained by the decline in bankers' balances, they may be cleared by the following consideration: in periods of business activity and especially speculative activity, checks outstanding increase very rapidly, and since depositors are given immediate credit, demand deposits increase correspondingly; but net demand deposits do not increase so much, because checks outstanding are equivalent to a credit with other banks (included in "due from banks"), therefore "balances due to banks" minus "due from banks" are reduced, and thus part of the increase in demand deposits is not reflected in any change in net demand deposits. In view of the fact that depositors of checks are given immediate credit, with consequent rise of demand deposits, it seems that any increase in the latter ought to be reflected in an increase in reserve requirements.

From June to August reserve policy seemed to be verging on success. Loans and investments of reporting member banks declined by 450 millions; but if we consider the figures for all member banks from March to June, and July to September, it is at once evident that additional credit was extended by non-reporting member banks. Signs of success were also evident in the reduction of call rates in July and August, following very large increases in earlier months, and a reduction of funds advanced by New York banks on the stock market in June and July. Apparently the combination of much higher rates and withdrawals of funds was proving to be too much

for the speculative interests; but unfortunately the reserve system for some inexplicable reason, perhaps political in nature or perhaps related to their solicitude for legitimate business, now suddenly reversed their policy.

The manner in which the New York banks were able to put the burden of additional rediscounts on other banks in part explains the failure of reserve policy: the additional rediscounts, and the consequent pressure, were spread thin. In spite of the fact that reserve banks disposed of 374 millions of securities and the System lost 297 millions of gold from January to June, the increase in rediscounts was but 144 millions for New York banks and 264 for those out-of-town. In the first three months the situation was even more favorable from the viewpoint of the New York banks: they reduced their debts by 52 millions while outside banks increased theirs by 26. New York banks, it may be noted, are doubly affected by open market operations: when the System sells securities they are the first to lose deposits, primarily because the transactions are consummated in New York, and, secondly, because the New York Reserve Bank loses cash as other reserve banks are reimbursed for their share in the sales. Losses of gold also affect first the New York banks. What, then, is the explanation of the fact that they were able to transfer the burden of rediscounts elsewhere to such a large extent?

In part the explanation is the relative rate of expansion. In particular reporting banks outside of New York expanded much more rapidly than did New York reporting banks, as is especially noticeable in the months of February, March, and June. In these months the gain of deposits by New York banks is also evident in the relative movements of deposits and loans and investments. Higher rates in New York and open market operations brought restraint and higher market rates there first. Many borrowers shifted their demands to other centers, and the trend of funds was toward New York. From March to June, loans on the stock market by New York member banks for others and outside banks increased by 700 millions, while New York banks reduced their advances. This movement was the reflection of high rates in New York and contributed to the favorable balance there. In the first two months the reduction of deposits for New York banks, compared to the decline of their loans and investments, was moderate as compared to that of outside banks, and in the next four months the difference was also striking.

Open Market Policy, September–December, 1928—A Disastrous Reversal. The reserve banks increased their holdings of securities by 28 millions, of acceptances by 293 millions, in these months. Impending disaster is evident in an increase in balances of member banks of 78 millions, in loans and investments of 271 millions, of which 266 were loans on securities. Brokers' loans reported by the New York Stock Exchange increased by 1,150 millions.

An easing of monetary conditions through liberal purchases of acceptances did not help industry as had been anticipated by reserve officials. They had apparently been encouraged to introduce such relief measures by the recent tendency for market rates for speculative consumers of credit to rise. Customer rates rose, but call rates declined. Perhaps reserve authorities were now pleased with this development, for large increases in the call rate are fraught with danger: the call market attracts funds from other markets. On the other hand, speculative consumers of credit obtained the additional funds now made available, in spite of the relative decline of rates on speculative markets. By June New York banks were clearly cooperating by withdrawing funds from the stock market, and other banks later began to give evidence of good faith; but their efforts were largely wasted as a result of the attraction of other funds; and now, under the stimulus of reserve policy and the allurements of profits, member banks once more began to respond to demands from speculative markets.

The situation is evident in the following figures:

ALL BANKS—JULY–DECEMBER

	Loans and investments	Loans	All deposits
Millions of dollars	+1001	+1299	+3368
Per cent.	+1.8	+3.3	+6.3

Rediscounts declined 261 millions from August 11 to November 24; and the percentage decline of New York banks was four times as large as that of other banks. In part the explanation is the stricter restraint exercised by New York banks in the early part of this period and the months preceding. In the third quarter of 1928 the New York reporting banks seemed to be in a stronger position than were other reporting banks, the latter better off than the non-reporting, that is, the smaller banks. In other words, the movement

of loans and investments as compared to deposits was most favorable to New York banks and least favorable to non-reporting banks. The more rapid reduction of rediscounts of New York banks is also to be considered.

In the last three months New York banks seemed to have remained in a strong position; but the changes for October and November are to be distinguished from those of December. Moreover, the New York banks were not so impregnable as they appeared from a consideration of the movements of deposits and loans and investments, and the very large reduction of rediscounts in October and November. In the first place, extensive open market operations provide New York banks with deposits (cash) in the first instance, and thus, if allowance is not made for an increase in deposits to be associated with open market operations, the strong position of the New York banks is exaggerated; and secondly, the increase in strength of New York banks is overemphasized if attention is paid exclusively to demand deposits. For example, in the last quarter demand deposits of all members increased by 2,541 millions, as compared to 949 of net demand deposits; corresponding figures for New York banks were 2,113 and 872 millions. Moreover, an increase in bankers' balances ought to be reflected in an increase in net demand, relative to demand, deposits. The explanation of the less marked increase in net demand deposits is, probably, largely the increased activity of deposits, reflected in a big increase in demand deposits (peculiarly in New York, the center of speculative activities) not equalled by a corresponding increase in net demand deposits; for increased balances due from banks could then be deducted from bankers' balances. In this manner reserve requirements are kept down in a period of great activity, thus making policies of control more difficult. This exaggerated increase in demand deposits as compared to loans and investments cannot be held to indicate, unamended, a gain of deposits for New York banks. Reserve requirements based on demand deposits, it is to be repeated, would have offered an additional check to expansion.

Perhaps the continued high rates in New York, relative to rates elsewhere in July and August, drove business elsewhere and attracted funds to New York, thus accounting in part for New York's strong position; and the tendency of rates to rise elsewhere, in the latter part of the year, contributes to an explanation of New York's more vulnerable position later.

January-September, 1929—The Failure of Moral Suasion. Unhealthy developments in January, following upon the speculative trend of earlier months, led reserve authorities to introduce (in February) a policy of moral suasion. But, in addition, open market policy played a part: the investments of reserve banks declined 524 millions (acceptances for the most part) as compared to a reduction of but 497 millions in the period of active policy of restraint in 1928. This fact is not generally recognized. Whereas, in 1928, losses of gold had facilitated policy, and sales of acceptances to reserve banks had hampered them, in 1929 acceptance policy was an effective tool and a reversal of the gold flow embarrassed them; and, furthermore, economies of notes gave the member banks an additional weapon. The net result was that the indebtedness of member banks was no larger in June, 1929, than it had been in December, 1928. But perhaps this is not the entire story: reductions in balances are even more effective in achieving restraint, and undoubtedly the policy of moral suasion was in part responsible for a failure to maintain balances at as high a level as they might have been held under less restraining conditions.

From February to May, reserve authorities made much progress with their program of checking expansion: security loans declined, but all other loans, the proceeds of which were probably in part used for speculative purposes, tended to increase. Rediscounts increased by 97 millions.

New York banks were able to reduce their rediscounts by 45 millions from February to May, while other reporting banks increased their rediscounts by 43, non-reporting banks by 99, millions. The spirit of cooperation (or perhaps the submission to restraint) was also evident in a reduction of balances, of 56 millions for New York banks as compared with 55 for other reporting banks (the percentage decline was appreciably smaller than for New York banks), and an increase of 20 millions for non-reporting banks. In these three months each group of banks under consideration lost deposits (relative to movements of loans and investments), but the position of the New York banks was least vulnerable in view of the open market operations which first affect their deposits adversely. Thus they were able to put the burden of rediscounting upon outside banks, just as in the next three months (April-June) the latter were able to shift the burden to non-reporting banks. Banks that exercise restraint thus tend to attract funds (gain deposits) and shift the

burden of borrowing elsewhere. From April to June outside reporting banks especially liquidated, and New York banks on the whole neither gained nor lost deposits if consideration is paid to the effects on deposits of open market operations.

By June the policy of moral suasion seemed to lose its effectiveness. Moreover, the objective of bringing cheap money for industry and dear money for speculation was never achieved; for commercial rates (both customers' and open market) continued to increase. A reduction of rediscounts of 48 millions as early as May was ominous, and an increase of the monetary gold stock of 126 millions in April-May was unfortunate for reserve authorities. From June to September loans, and in particular speculative loans, increased at a rapid rate, and banks were once more making large contributions. In June and July rediscounts rose in a threatening manner, yet balances increased; in spite of these signs and a very large increase in brokers' loans, the reserve banks increased their investments in securities and acceptances by 172 millions in August and September. Perhaps the explanation is a desire to avert a catastrophe now held to be inevitable; but whatever the justification, this stimulus to speculation brought the most disastrous rise of security loans and prices yet recorded.

From July to September the decline in deposits was large in view of the increase in loans and investments. New York banks especially lost deposits, if allowances are made for the gains to be attributable to open market operations and the influx of gold. Thus the following figures, for July, are interesting:

	(Millions of dollars)	
	Net demand deposits	Loans and investments
New York reporting banks	+69	+215
Other reporting banks	+173	+33

It is clear that outside reporting banks gained deposits while New York reporting banks lost. Perhaps these severe losses, reflected in an increase of rediscounts of 154 millions in July for New York banks, account in part for the increase in the New York Bank rate to 6 per cent, which had immediate effects: rediscounts of New York banks declined 123 millions in August, while other reporting banks increased their debts by 39 and non-reporting banks by 31 millions. Also, customer rates in New York reflected the increase in the Bank

rate, for they increased .17 of 1 per cent as compared to an average increase of .03 of 1 per cent in February-July.

Summary of Discussion of Movements of Deposits. It is possible to continue the analysis, used above, concerning the loss or gain of deposits by studying the movements in the Gold Settlement Fund. In particular, transit clearings between reserve districts, which give an indication of the balance of payments between districts, are significant. Fluctuations in reserves of reserve banks, as well as the distribution of rediscounts, are also studied. Thus if the New York banks seem to be losing deposits in view of the movements of deposits, loans and investments, open market operations, bankers' balances, and the like, we might expect New York banks to lose on transit account, and the New York Reserve Bank to lose reserves relatively to other districts, increasing its share of the System's discounts.

On the basis of analysis along the lines suggested, the New York banks seemed to gain deposits in eight months of 1928 (including six of the first eight of that year) and lose deposits in four months, particularly in the latter part of the year. In 1929 the New York banks gained deposits in January, February, May, August, and September, and lost in March, April, June, and July. Gains are revealed when restraint was exercised in New York as compared to other sections of the country. Now consider the large operations and pressure on New York banks in the first eight months of 1928 and the first two months of 1929. By March and April, 1929, pressure was applied elsewhere, and renewed pressure in New York in May was followed by pressure elsewhere in June and July. It might be expected that an increase in brokers' loans on account of outside banks and others would improve the balance of the New York District and be reflected in a gain of deposits. But these movements are to be viewed in conjunction with the movements of bankers' balances in New York. Yet only in three months out of five, in which both funds advanced by outside interests on the stock market and bankers' balances in New York increased, did the New York banks gain deposits. On the other hand, out of five months in which banks financed their requirements for transfers of speculative funds to New York, in part by withdrawing balances from outside banks, New York banks gained deposits in four. The results are no more along expected lines for months in which brokers' loans were reduced: New York banks do not always lose cash in periods when

speculative funds are being withdrawn, whether they are re-deposited as bankers' balances or not.

The difficulty may be that funds required to meet demands for speculative transfers to New York may be deposited in New York in anticipation of such requirements. Thus corporations raising cash through issues of securities may hold the cash in New York available for stock market loans. Also, other factors may be of greater significance in determining whether New York banks gain cash: open market operations, gold and currency movements, liquidation, and money rates. This study may also throw some light on the question whether speculative funds are not sent back whence they came, as is commonly argued.

Deposits and Banking Policy. In spite of the large disturbances associated with the speculative activities of 1927-29, reporting banks in New York, other reporting banks, and non-reporting banks retained approximately the same proportion of net demand deposits in June, 1929, as in June, 1927. The loss of net demand deposits for the two years was but 273 millions, or 1 per cent. But this is in marked contrast with the history of the preceding five years, when the average increase of net demand deposits was 740 millions for the years 1922-27. The increase in time deposits for the System was more than 1,200 millions in 1927-28 (the average was 1,000 millions in 1922-27), and the decline was more than 100 millions in 1928-29.

The failure of net demand deposits to increase with demand deposits is to be explained by the reduction of bankers' balances and the increase in deductible items resulting from the increased activity of deposits, both of which tend to reduce net demand relative to demand deposits.

It has seemed helpful to study the movements of deposits in relation to what we may term the calculated movements. From January, 1928, to September, 1929, the following results are obtained:

MEMBER BANKS. — FACTORS THAT DETERMINE CALCULATED DEPOSITS ¹

Time Deposits	+553	Loans and Investments	+1667
Demand Deposits	+339	Open Market operations	-590
	—	Gold and Currency movements	+217
Calculated	-40	Capital, Surplus, and undivided	
Actual (including U.S. Deposits) +940		profits	-1334

(1) An increase in loans and investments should be reflected in an increase in deposits; also, purchases of investments (open market operations) provide member banks with additional deposits as does an increase in the monetary gold supply or a reduction of notes in circulation. An increase in capital of banks is at the expense of deposits.

It will be noted that an increase in loans and investments that contributed to an increase in deposits, and an increase of capital and surplus that contributed to a reduction of deposits, were the most important factors. Discrepancies may be explained by, first, the fact that the effects of open market operations and currency movements are allocated entirely to member banks, secondly, the movements of deposits between member and non-member banks, and, finally, the increased activity of deposit accounts causing a relative increase in demand deposits.

A study of the movements of deposits and loans and investments of both member and non-member banks over periods of six months reveals that member banks lost deposits to non-members in July-December, 1927. In the first half of 1928 both groups of banks lost deposits, but the loss was larger for members than for non-members, perhaps because they bore the brunt of the effects of open market operations and gold movements. In the second half of 1928, members gained a disproportionate share of the additional deposits; but it is not easy to determine to what extent the gains of members are to be associated with the fact that their banking accounts were more active and hence that their demand deposits tended to rise relatively. Similarly it is difficult to distinguish the effect of these two factors, to wit, losses to non-members and the relatively large decline of demand deposits, on the greater losses of member banks in the first half of 1929.

A similar study for New York City reporting banks brings out clearly the strength of New York banks during these two years. Thus from March to June, 1928, a reduction of deposits of 500 millions is indicated, but actually deposits increased, and this in spite of the fact that losses of deposits to be associated with gold and currency movements were allocated entirely to New York banks.

Security Loans, An Interpretation of the Figures. Security loans are not *per se* undesirable. Brokers and dealers perform a necessary function, and security loans are not used exclusively for speculative purposes. Roelse points out that the fluctuations of security loans have not been much different from those of *all other loans* if advances to the stock market by New York banks are excluded.¹ But the similarity may be overdone: advances by New York banks

¹ H. V. Roelse, "Security Loans in Recent Years," *Review of Economic Statistics*, 1930, pp. 110-111.

ought not to be eliminated from consideration, and the large fluctuations in customer security and open market security loans, evident from a consideration of the fluctuations of these two variables, should not be neglected. Reserve officials were inclined, in the early part of the boom period, to pay too much attention to all security loans.

An important question is the amount of credit the security markets obtained. Probably the most satisfactory estimate has been made by a Senate committee recently investigating the entire episode: the total of brokers' loans was estimated at 9,169 millions in October, 1929, just before the crash.¹ The committee might be criticized for including advances by commercial and other banking institutions on the New York Stock Exchange not accounted for in the amounts reported by member banks with loans on account of others, as well as for disregarding the extreme movements resulting from the use of quarterly figures. Average weekly figures give more satisfactory results.

An estimate I have made along similar lines is 9,342 millions, but in addition to it several items ought to be included that were not considered by the Senate committee. It is assumed that non-member banks advanced the same proportion of their loans and investments on outside exchanges as did member banks: the total is thus increased by 700 millions. In view of the smaller size of non-member banks, and the tendency of small banks to maintain a larger proportion of their resources at home, this is probably too large. An estimate is also made of loans on account of others made on outside exchanges. It is assumed that loans on account of others on outside exchanges constitute the same proportion of advances by bankers on outside exchanges that loans on account of others constitute of bankers' loans on the New York Stock Exchange. It is of course necessary to determine the total of bankers' advances on the New York stock market; for advances for outside banks (through New York banks) include banking and non-banking advances. The total of advances through out-of-town member banks is known. An estimate of the advances of out-of-town non-member banks may be made on the assumption that out-of-town non-member banks invested the same proportion of their loans and investments on the New York Stock Exchange as did out-of-town member banks. The

¹ Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 1021-1022.

difference between advances for out-of-town banks and the sum of advances of out-of-town non-members and members will give the non-banking advances made through out-of-town banks. Member-bank advances on outside exchanges are known; and an estimate is made for advances by non-members. On this basis loans on account of others on outside exchanges are estimated to be 1,000 and 2,200 millions in October, 1928, and 1929. The estimate is at best very rough. But the total of loans is thus brought up to 12,000 millions in October, 1929.

If we consider quarterly figures, the extent of the liquidation in 1929 by New York banks (as well as that of the expansion in the latter part of 1928) is exaggerated. Out-of-town banks seem to have had less satisfactory records than New York banks in 1929. But if we analyze the figures for outside banks into loans on account of member banks and the remainder (non-member banks and others), it would seem that out-of-town member banks showed restraint in the first six months of 1929, but did not cooperate in the next three months. The temptation is to criticize non-members in view of the fluctuations in advances for out-of-town banks excluding advances for members. But the similarity of movements of this variable with loans on account of others made by New York banks makes one critical of non-banking lenders rather than of non-member banks. On the other hand, the relative increase in loans for New York commercial banks and trust companies, reported as larger by the New York Stock Exchange than by the New York member banks, seems to point to more liberal advances to speculators by non-member banks, though here again it is necessary to assume that non-banking funds constituted the same proportion of those advanced through member and non-member banks.

In October, 1928, and October, 1929, New York banks contributed 12½ and 15 per cent of their loans and investments to brokers and dealers in New York, as compared to 3½ and 3 per cent for out-of-town banks, or 6-7 per cent if allowance is made for the advances of out-of-town banks on outside markets. New York banks have a peculiar responsibility to one of the most important industries of the city. Nevertheless it is going too far to say that the New York banks merely stepped in when other borrowers withdrew. In particular do the very large advances by New York banks, in the latter part of 1927 and 1928 and in the months preceding the crash, require consideration. Furthermore, if we consider all security loans,

the record of New York member banks does not always seem exceptional. Thus from March to June, 1928, their brokers' loans were reduced by 208 millions; but *all* security loans of these banks actually increased by 56 millions. From July to September, 1928, their advances to brokers declined 91 millions; but loans to customers on securities increased by 56 millions. All we can say is that the record of New York banks was better, not only than that of non-member banks in New York, but than those of non-banking lenders and out-of-town banks (including advances of non-member banks and non-banking lenders).

Figures for security loans from out-of-town reporting member banks are available; but, unfortunately, those for security loans of all out-of-town banks are not. The significance of a comparison of the fluctuations in security loans of out-of-town reporting banks with advances on the New York Stock Exchange by outside banks (including non-banking loans and loans for non-members made through them) is therefore of limited significance. In January–February, 1928, out-of-town banks seemed to cooperate, for security loans declined 2 millions, while out-of-town banks contributed 86 millions to this market (for themselves and others). Either they were reducing loans to customers on securities, or the advances were made largely by non-members and others. But in March–June, 1928, and January–March, 1929, the expansion of security loans was much greater than the increase in loans on account of outside banks; in July–September it was not so great.

Loans reported by the New York Stock Exchange increased by 139 per cent from June, 1927, to September, 1929. The increase in loans reported by member banks was but 117 per cent. Loans by commercial banks as reported by the Stock Exchange increased by 133 per cent; those by private banks, foreign agencies, etc., reported by the Exchange increased by 190 per cent. The difference between 133 and 117 may be explained by contributions of non-members. The difference between 190 and 117 may be explained by more liberal advances by non-banking lenders and foreigners. In part the differences between the figures contributed by the Exchange and New York member banks may be explained by the fact that the former relate to the end of the month when brokers' loans are usually higher. When loans by private banks, foreign agencies, etc., increase more rapidly than loans by commercial banks, it may be held that foreigners were making large contributions — as, for

example, in March–September, 1928, and April–June, 1929, in particular.

Bankers' Balances and the Problems of Speculation and Reserves. Banks made large withdrawals of balances in 1927–28 and 1928–29, but reporting member banks expanded their balances (due from) with other domestic banks, while non-reporting banks reduced theirs. Apparently smaller banks were attempting to obtain relief by withdrawing balances from larger. Member banks in particular reduced their balances with others in the first few months of 1928 and 1929, and in the few months preceding the crash of 1929; they were not nearly so much inclined as were non-members to consume balances for the purpose of advancing on speculative markets. Thus, in the midst of the violent speculative activities of the second quarter of 1928, members reduced their balances, and in the second and third quarters of 1929 they actually increased their balances.

Member banks lost cash to non-members as a result of withdrawals of balances: a comparison of members' balances due to and those due from banks gives an indication of the withdrawals by non-members. In particular, member banks lost balances in the first half of 1928 and 1929, the periods of most extreme speculation. New York banks were especially affected in the first few months of these years: restraint is first felt in the New York market. In the second quarter of 1928, other member banks began to suffer losses as a result of withdrawals of bankers' balances; but the continued exercise of restraint resulted in large losses by New York banks in the third quarter of 1928, while others gained.

For the period as a whole (June, 1927–October, 1929) the most striking feature is the large loss in net balances (due to domestic banks minus due from domestic banks) of national banks (800 millions, or 60 per cent) as compared, on the one hand, to that of 223 millions (12 per cent) for all reporting members, and to that of 42 millions (5 per cent) for reporting New York banks, on the other. Undoubtedly the phenomenon is explained in part by a tendency for balances to move to New York as a result of speculation.

Checks on other banks and clearing house exchange, the total of which may be deducted from balances due to banks in arriving at the volume of deposits subject to reserve requirements, fluctuated wildly in this period, though the tendency was upward. Unfortunately, figures are available only for call days and these only for

national banks. On successive call days the figures were 716, 863, 990, 1,924 (December 31, 1928), 1,473, 715, 936, and 1,195 millions. The amount is determined to a large extent by the peculiar conditions current on the call day. Similar observations apply to certified checks outstanding which are included in *due to banks* in computing reserve requirements. They fluctuate roughly as clearing house exchange, and fluctuations of both variables are largely concentrated in the New York banks. Banks are therefore able to deduct from the additional balances due to banks (including certified checks, etc., which increase in periods of speculation) the additional assets — clearing house exchange, etc.

It has seemed helpful to *calculate* the net balances and compare them with the actual net balances.¹ In only two periods, the last quarter of 1928 and the first quarter of 1929, were the discrepancies great. Thus in the last quarter of 1928, the calculated change in net balances was a reduction of 692 millions; actually, the reduction was 323 millions. The explanation is that the increase in exchanges on clearing house, etc., was 934 millions, much in excess of the increase in certified checks outstanding (533 millions). Changes in both of these variables are largely concentrated in New York banks. Also, bankers' balances in New York were reduced by approximately 200 millions, while balances (due from) with outside banks increased, especially outside of New York. Thus large additional credits (clearing house exchange) could not be deducted fully because debit items (certified checks, balances with the banks in New York) had not adequately increased; and outside banks increasing their balances due from banks do not usually have adequate debits from which fully to deduct these credit items.

It may also be observed that a study of the variations in net balances and the items that compose them fails adequately to explain the large divergences of movements between demand and net demand deposits. We need more light.

¹ A bank may deduct from debts due to banks various credit items. The main items are given below. Differences between movements of *actual* net balances — differences between (1) and (2) — and *calculated* net balances arise because the possibility of deducting credit items (due from) may not be realized if the debit (due to) items are not available.

(1) <i>Due to banks</i>	(2) <i>Due from banks</i>
Bankers' balances (domestic and foreign)	Checks outstanding including clearing house exchange
Certified checks outstanding	Balances <i>with</i> other domestic banks
Due to Federal reserve bank	

Absorption of Credit in Speculative Security Loans. Reserve authorities defended their policy of restraint in 1928-29 on the grounds that the increase of speculative loans was at the expense of legitimate business. Therefore it is relevant to consider whether credit was thus absorbed. The question of absorption ought to be distinguished from the question of whether industry was deprived of banking funds as a result of the large consumption of credit by speculators; and the latter question should be considered in the light of the question whether any loss to legitimate industry of banking funds was not more than made up by additional financing thus made possible through capital markets.

As early as 1926, Rogers published an article in which the small volume of brokers' deposits, their rapid turnover, and the unimportant absorption of credit by speculators were stressed: deposits thus created escaped to "legitimate" consumers.¹ Peculiarly enough, it was not until the latter part of 1928 that this analysis was applied to the very large loans for speculative purposes made by non-banking lenders.²

Keynes more recently comes to a somewhat similar conclusion:³ deposits used in speculative transactions (Business deposits B) cannot vary much because they circulate very rapidly. But he goes further: the advance of the bearish movement is marked by large increases in savings deposits resulting from the withdrawal of "bulls" and the tendency of corporations to hold cash in excess of their needs. In this sense it might be held, although Keynes does not say so, that speculation absorbs credit: savings deposits are increased as a result of the rise of security prices.

In a criticism of Keynes, Williams denies that these savings deposits are ever made if they are immediately relent, and also contends that deposits are absorbed as a result of speculative activities, in the same sense that money is absorbed in the purchase of goods.⁴ Keynes does not deal with the problem of what proportion of these savings deposits are relent on the stock market as loans on account of others; but, as we shall see, a large proportion was not relent, and

¹ J. H. Rogers, "The Effect of Stock Speculation on the New York Money Market," *Quarterly Journal of Economics*, 1926 (40), especially pp. 444-445, 450-455.

² B. M. Anderson, Jr., "Brokers' Loans and Bank Credit," *Chase Economic Bulletin*, October, 1928, p. 8; *C.F.Chr.*, 1928 (127), p. 2629.

³ J. M. Keynes, *op. cit.*, I, 249-256.

⁴ J. H. Williams, "The Monetary Doctrines of J. M. Keynes," *Quarterly Journal of Economics*, 1931 (45), especially pp. 561-573.

hence there may be something in Keynes' point that saving deposits accumulate (and hence are not all relent), although Williams' criticism is justified in view of the facts presented by Keynes. Both Keynes and Rogers admit that some credit is absorbed; but Williams is inclined to put the emphasis on the large amount so absorbed. I may add that Keynes does not consider adequately the large creations of speculative loans for customers directly (not brokers); and in view of the fact that the non-professional speculator is less likely to keep his deposits down to a minimum, the deposits held by speculators have been larger than either Keynes or Rogers allows.

Keynes also contends that the increase in brokers' loans is a measure of the increased strength of the bearish movement. Some doubt may be expressed on this point. A large part of the increase in brokers' loans is contributed by banks, and this increase cannot be held to be a reflection of the progress of the bearish movement. Also, even the so-called loans on account of others are made only in small part by those who would ordinarily be holders of securities.

It has been asserted by Hoover and Reed that the capacity of New York banks to retain a constant proportion of all deposits is evidence that speculation does not absorb credit:¹ the deposits created as a result of the extension of speculative loans, they say, are transferred to out-of-town banks. This type of analysis is of doubtful value, however. The movement of deposits between New York and the rest of the country is determined by numerous factors, and in 1928-29 New York banks tended to gain deposits in view of the movements of bankers' balances, gold and currency, open market operations, and loans and investments. It may perhaps be asked why New York banks seemed to gain deposits in 1928-29, in spite of the assumed fact that deposits created as a result of speculative transactions tend to go elsewhere. It might be expected that, in periods when deposits created as a result of speculative account were large, New York banks would lose deposits: the assumption is that they are transferred to out-of-town banks. A weekly study for the twenty-one months under consideration reveals that New York banks lost deposits when security loans were large and gained when security loans were being repaid in large quantities. Allowances were made each week for the most important factors that determine

¹ C. B. Hoover, "Brokers' Loans and Bank Deposits," *Journal of Political Economy*, 1929, pp. 713-727; H. L. Reed, *Federal Reserve System 1921-30*, p. 168.

the movement of deposits. This investigation seems to lend support (however small) to the theory that the deposits under consideration are soon lost to out-of-town banks.

Too much attention may be paid to net demand deposits. A consideration of the large increase in demand deposits and, in particular, in certified checks outstanding, which for purposes of reserves and in their effects are in fact deposits, points to the conclusion that the direct absorption of credit in speculation is larger than is assumed by Keynes and Rogers.

Roughly the increase in brokers' loans corresponded to the increase in security prices, although this conclusion in part depends on the index used.¹ Therefore, it may seem that speculators held approximately no more securities (volume) in 1929 than in 1927, in spite of the large increase in brokers' loans. But if it is true that margins required increased from 25 to 50 per cent, each dollar of brokers' loans contributed to the financing of more security transactions than it did in 1927. If brokers' loans were 5 billions in 1927 and 10 billions in 1929, and margins were 25 per cent in the first year and 50 per cent in the second, one may inquire where several billions of additional cash necessary to finance margins came from: partly from withdrawals of deposits and partly from additional loans from banks; but probably for the most part from the appreciation in security values. This aspect of the question deserves more emphasis than it has received.

Another difficult problem is the sources from which 8 billions of domestic stocks or 15 billions of securities issued in these twenty-one months were purchased. The banks accounted for a small part in this period; and if brokers' loans merely made possible the holding of a constant volume of securities at higher prices, we can only conclude that banks must have played a large part in making possible the absorption of such large issues by investors or by speculators through direct advances to them. It may also be pointed out that domestic corporations which accounted for only 60 per cent of the loans on account of others lent only *part* of the additional cash received. Although there was a close correlation between additional issues of securities and all loans on account of others in the first three quarters of 1928, in the next nine months corporations tended

¹ Brokers (as a group) borrow more as their customers sell out and other margin buyers step in and buy at the higher prices: thus brokers borrow when disbursements are in excess of receipts.

to hold additional cash received rather than to relend it, and to some extent to expand plant and working capital.

THE AFTERMATH, 1929-33

Obstacles to Fulfillment of Open Market Objectives. The object of large purchases has been to reduce the indebtedness of member banks, and, to some extent, especially in the latter part of this period, to increase their balances. It is possible that, had reserve authorities not been satisfied with a reduction in indebtedness in 1930-31, they might have increased their operations. But it is unlikely, for the threat of speculation in the first half of 1930 restrained them. It may be contended that the reduction of indebtedness delays the progress of expansion or the retardation of liquidation: a maintenance of the level of indebtedness and an increase in balances might stimulate expansion earlier. On the other hand, confidence may be at such a low ebb that member banks may use the additional cash obtained through open market operations to *hoard* balances rather than to repay debts, as was true in April, 1932.

The uneven distribution of the cash distributed by reserve banks is also an obstacle: banks or sections of the country requiring additional cash may not receive it while large balances accumulate in New York. The distribution was most satisfactory, however, in the six months ending March, 1930; but as much cannot be said for the operations of 1932. Not only may the distribution of the additional cash thus created be unsatisfactory, but the net effects may be disappointing because the additional reserve credit is absorbed in financing losses of gold or withdrawals of currency following monetary disorders, or hoarded balances; or any additional credit created may be for undesirable purposes. Reserve banks cannot always determine the cash reserves of banks, although they are sometimes inclined to minimize their capacity. Even the bond market may not profit much if the fear is so widespread that surplus reserves are hoarded or invested in short-term paper.

A Survey of Open Market Operations. In the first six months (October, 1929-March, 1930) an increase in securities held by reserve banks of 500 millions or more, when considered with an inflow of currency of 400 millions, is a measure not to be sneered at. Rates declined in a precipitate manner, stimulating an active speculative

movement and a premature development in the bond market. It might as well be argued that operations were too large as that they were too small. In the next fifteen months (to June, 1931) no aggressive operations were undertaken and reserve credit tended to decline. Speculation had apparently frightened the authorities, and perhaps potential operations, as a result of numerous monetary disturbances, never got under way. The low level of money rates and of indebtedness perhaps played too large a part in reserve policy, and the rapid liquidation had not made an adequate impression. If reserve authorities are to be criticized for vacillation, their policies during this period may be questioned. But in view of all the circumstances, their errors of judgment seem minor.

They met the crisis of 1931 in a courageous manner. A creation of 1,100 millions of additional reserve credit in a period of about four months was an achievement indeed. Some observers may be critical because securities were not purchased in large quantities; but it would have been suicidal to conceal the seriousness of the situation by stimulating unnecessary appeals for reserve credit, in view of withdrawals of 500 millions of gold and 650 of currency. The task of the reserve authorities was to make reserve credit available, but under conditions that would discourage excessive demands.

Purchases were made on an unprecedented scale in 1932 (March-June) in order to stimulate business or stop liquidation. But the purchases have largely been in vain so far as the original objectives are concerned: they financed withdrawals of gold, currency, and additional balances inflated as a result of fear. The reduction of indebtedness and the increase of balances for purposes of expansion were disappointing. In the six months since the latter part of February, earning assets of reporting member banks have nevertheless been reduced by a billion dollars. On the other hand, liquidation would undoubtedly have been much larger if the debts of member banks were one billion or more larger, as seems likely in the absence of these open market operations.

Bank Rate and Open Market Operations — A Conflict? Since 1929 the New York Bank has been deprived of its control over open market policy. Perhaps this fact explains its tendency to be in the van in the movement to reduce the Bank rate: it thus attempts to retain its control over reserve policy. On the other hand, the New York Bank is likely to see the need of expansion first and is particularly

likely to be aware of the need of lower rates to stop the inflow of gold; but in the years 1930-32 it assumed the leadership in the downward movements to a degree never paralleled in reserve history. And to the extent that such reductions have not been accompanied or preceded by open market operations, the inference is that other reserve authorities have been disinclined to agree with the authorities of the New York Bank, particularly if rates of other reserve banks have been reduced neither so much nor so rapidly, or have been reduced merely to maintain prestige.

Acceptance Policy and Relations with Foreign Countries. Both reserve banks and their foreign correspondents tended to hold smaller quantities of acceptances during this period. Foreign correspondents lost interest in 1930 because of the decline in rates; but in 1931 the efforts of foreign central banks to strengthen their position was the decisive factor. The presence of excessive supplies of money was reflected in vigorous competition on the part of the money market to purchase bills. Reserve banks did not reduce their buying rate enough to remain an important factor on the market, although their rates declined rapidly.

Foreign central banks accumulated large deposits at reserve banks after May, 1931, as a result of the reduction in their holdings of acceptances, or transfers of deposits with commercial banks to reserve banks, or the sale of assets by other foreign interests in the United States. They also obtained deposits through purchases of foreign currency bills by reserve banks. The money market lost cash as a result of the accumulation of deposits at reserve banks by foreign central banks, for any of the mentioned reasons except the last. (The repayment of these bills, however, involved losses of cash for the New York money market.) When foreign central banks withdrew gold by converting their deposits into it, the loss was not at the expense of American banks; but the antecedent transactions that provided the deposits involved losses for the American money market.

The Process of Liquidation. In the fifteen months ending December, 1930, loans and investments of all banks declined more than did deposits; but in the next year the reverse was true. Open market operations, movements of currency and gold, and bankers' balances largely account for the differences in the relative movements. Loans

of all banks declined in 1929-30 as well as in 1931; but in 1930 the increase in investments largely offset the decline in loans. A large reduction of investments occurred in the second half of 1931.

Contraction for member banks was not so marked in the fifteen months ending December, 1930, as for non-members; but members suffered from a much more drastic liquidation of credit in the latter part of 1931. It also seems that in 1929-30 member banks were gaining deposits at the expense of non-members. Economic depression first affected non-members, which are more generally situated in agricultural sections, while open market operations and gold movements affect member banks more quickly, thus tending to inflate their deposits. A similar trend is to be observed in the movements of banks in New York City, reserve cities, and country banks. In the fifteen months ending December 31, 1930, an increase in the earning assets of New York banks is to be compared to relative stability for banks in reserve cities and contraction in country banks. The close relation of the New York banks to open markets (call, acceptance, etc.) is a relevant consideration, as are the factors already mentioned in discussing member and non-member banks.

The full measure of liquidation is revealed best by the reduction in "loans otherwise secured and not secured" of member banks. By considering this variable we eliminate from consideration real estate loans (which banks have been unable to liquidate), loans secured by stock and bonds (which remained remarkably high until the latter part of 1931 as a result of the need of substituting credit for advances withdrawn by non-banking lenders), and other open market advances. The liquidation of security loans was larger for out-of-town member banks than for New York members, which were forced to assume a large share of the responsibility of protecting the speculative markets. Liquidation of commercial loans of New York banks was approximately as marked for New York banks as for other member banks in the fifteen months under consideration. Increased advances on open markets and increased holdings of investments tended to obscure banking conditions in New York.

A word about the violent changes in the few weeks following the crash in October, 1929. In the week of the crash the increase in balances with New York banks was but one third of the reduction of loans on account of others and out-of-town banks. Apparently this liquidation was largely on account of out-of-town lenders, for the withdrawals of speculative funds were only in part redeposited as

bankers' balances, and the increase in deposits of New York banks was not large enough to account for the increase in loans and investments and open market operations, not to mention an increase in balances of 500 millions. In other words, New York banks were losing deposits in spite of the increased margins required of out-of-town speculators. The increase in brokers' loans by New York banks was not equivalent to the amounts withdrawn: security prices declined and customer loans on securities increased. In the next three weeks New York banks gained deposits, perhaps in part because of margin requirements. Out-of-town banks were forced to increase their rediscounts by 100 millions, while New York banks reduced their rediscounts.

October, 1929-May, 1932—An Interpretation of Monthly Figures. An inspection of Gold Settlement Fund figures together with statistics for loans, investments, deposits, bankers' balances, operations of the reserve banks, and the like, throws much light on reserve policy during this period. When banks in one district lose cash on transit (clearings) account, they are generally forced to increase their rediscounts, and reserve banks of this district lose cash. But sometimes government transfers of cash offset the movements on transit account, making increased rediscounts unnecessary. It will be evident that the inter-regional movements of cash play a much more important part in determining the reserve, as well as the earning assets, of individual reserve banks, than does any other factor.

The New York Bank is able to distribute the burden of gold losses and currency withdrawals widely, in spite of withdrawals of bankers' balances, when other reserve banks participate generously in the purchase of additional assets, as was done during the crisis of 1931, for example. Also, the New York Bank can more easily relieve the situation elsewhere by purchasing assets freely and relieving other reserve banks of their responsibility to purchase a proportionate share, as it did in the spring of 1932, for example. Other reserve banks are thus relieved of the necessity of remitting for purchases on their account.

Recent Currency Legislation and Proposals; the Future. In 1914 eligibility laws were considered of fundamental importance; to-day they are negligible. Access to a central bank ought not to be determined by technical rules of eligibility, especially by rules that are

based on a banking theory that can no longer be accepted. The tendency has been to liberalize rulings from the very beginning: reserve banks have not been able to control the supplies of reserve credit to any important degree by depending on eligibility regulations. Although a narrow definition may facilitate the task of reserve banks, any such changes as proposed in the Banking Act of 1932 are a step backwards.

In their discussions of stabilization proposals of 1932, reserve officials have been more willing to admit the limited significance of open market operations than ever before. They cannot determine the balances of member banks, for gold and currency movements are of large proportions; and they can neither force the banks to expand their earning assets nor determine the use to which credit is put.

On the question of moral suasion the Board still seems at odds with the New York Reserve Bank. In spite of the accepted doctrine that member banks have a right to rediscount, the Board now proposes to refuse rediscounts when the investment policies of member banks are disapproved. The Board does, at least, now recognize the difficulty of distinguishing the use to which reserve credit is put by member banks from the use to which other resources are put by them.

Since the above was written, an additional chapter (XLIV) on "The End of Liquidation?" and a section on "The Crisis — March, 1933," have been added. It is not expedient to summarize their results, nor to comment on the statistical appendix and the bibliographical note, at this point.

PART VII

**SPECULATION AND RESERVE POLICY
1927-29**

CHAPTER XXV

DISCOUNT POLICY, 1927-29

I. CURRENT OPINION OF RESERVE OFFICIALS ON EFFECTIVENESS OF RATES

IT HAS been pointed out in earlier discussions of discount policy and moral suasion that the reserve system did not rely adequately on the Bank rate in the years 1928-29.¹ In reply to questions put to them by a subcommittee of the Senate, reserve banks have revealed recently that they had lost confidence in the effectiveness of discount policy, although the New York, Boston, Chicago, and Philadelphia Banks repeatedly recommended an increase in rates in the first half of 1929.² It is clear nonetheless that most of the reserve banks were satisfied that an increase in rates would not solve the problem, and the Philadelphia and Chicago Banks, in replies to other questions, were not optimistic concerning the effectiveness of discount policy.

Even the New York Bank expressed only a limited faith in it. Eighty per cent of the banks in the New York District advanced at a rate of 6 per cent, regardless of the level of the Bank rate; but it was held that customers in a position to obtain the most advantageous rates by shifting their demands from place to place, could profit from a reduction of rates or were penalized when rates were increased. At most, increases or reductions in rates are passed on in financial centers to prime customers and to borrowers in the open market.³ This is part of the explanation of the fact that the average

¹ Students of banking policy owe a debt to Senator Glass's Subcommittee on Banking and Currency for preparing a questionnaire, which was submitted to each reserve bank, the replies to which shed much light on reserve policy. Hearings: *Operation of Banking Systems* (71: 3), 1931, Pt. VI.

² *Ibid.*, pp. 724-725. Only the New York, Boston, and Richmond Banks preferred the use of discount rates to moral suasion. Cf. C. O. Hardy, *op. cit.*, pp. 144-145, 228-229.

³ Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 766-774. There is general agreement that for the most part increases are not passed on by member banks to their customers. A study of the movements of market and Bank rates reveals that the former generally leads (*cf.* Chart on page 768).

customer rates in leading cities increased but $1\frac{1}{2}$ per cent in 1927-29, although the New York rate rose from $3\frac{1}{2}$ to 6 per cent; and declined $1\frac{1}{2}$ per cent in 1929-30, when the New York rate was reduced by 4 per cent.

In their replies to the Senate committee the officials of the New York Bank seemed uncertain of the criteria of effectiveness. A concurrent movement of market and Bank rate is not necessarily evidence of an effective rate: in truth, an inspection of customer and market rates on the one hand and Bank rate on the other will convince the student that the market rate was usually in the van; and fluctuations in Bank rate were merely a recognition, often belated, of altered conditions on the money market. A refusal to raise rates in 1929 did not prevent market rates from rising further.¹ Undoubtedly it may be contended that anticipations of changes in the Bank rate were reflected in withdrawals of funds by lenders and, therefore, higher rates; and it may also be held that open market operations, resulting in an increase in indebtedness, were in large part responsible for the increase in market rates.

The argument of the New York Bank for the use of a strong discount policy was vulnerable on some points. Less attention was paid to the open market-indebtedness doctrine than in the past; faith was expressed in the effectiveness of the Bank rate; it was admitted, however, that the relation of Bank and market rates was not close and that an increase in rates was not necessarily followed by a reduction of member-bank indebtedness. In a brilliant passage it was clearly pointed out, as has rarely been done by officials of the System, that the volume of indebtedness was also determined by other factors — open market operations, movements of currency and gold, and so on — and elsewhere it was explained that the effectiveness of rates was revealed by the effects on the volume of member-bank credit and gold movements.² The spokesman of the

¹ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 768.

² Cf. *Ibid.*, especially pp. 762, 766, 776.

"Possibly the general guide to discount and open-market policy which has been found of most value has been the observation of changes in the total volume and *velocity* (italics mine) of bank credit which is, in effect, a measure of the country's purchasing power." (p. 762.)

"... During the period from 1924 to 1927, inclusive, it is our opinion that in general the changes in the rates of discount were reasonably effective. ... In particular the rate of increase of bank credit and the movement of gold appear to have been influenced by rate changes. The increases during the years 1928 and 1929 were not completely effective. ... The very rapid increase in brokers' loans 'for the account of others' was

New York Bank is to be criticized for thus limiting the responsibility of his bank to the control of the volume of member-bank credit. Has the Bank no responsibility for movements in non-member bank credit and (what has been of unusual significance of late) banking credit offered by non-banking lenders? Bank credit continued to increase in 1928 and the latter part of 1929, in spite of the increase of rates in 1928. Lower rates, induced in large part by reserve policy in 1927, undoubtedly accounted for the desired reversal of the movements of gold in that and the following year; but who would impute effectiveness to a rate policy that brought foreign balances and gold to the United States in the latter part of 1928 and in 1929, thus relieving member banks of much pressure?

2. THE FAILURE OF BANK RATE POLICY, 1928-29

Those who defend the vigorous use of discount policy are inclined to attribute the failure of reserve policy, first, to the delay in reversing the policy of easy money in 1927, and, secondly, to the unexpected growth of loans on account of others.¹ Emphasis has also been placed on the rapid and unprecedented increase in open market rates, under which conditions the temptation to borrow for a profit was compelling. Thus the Chicago Bank, in its post-mortem, points

a circumstance which in considerable measure offset the effectiveness of increases in the discount rate. While the experience of the reserve system with the discount rate is too brief to make possible the drawing of positive conclusions, it is, nevertheless, our view that had the increases in rate during this latter period been made more promptly and been larger, they would have produced the desired result. Bank credit proved fairly responsive to rate changes." (p. 766.)

"The effects of discount-rate changes are more apparent in member-bank credit than in the amount of reserve-bank discounts. It is clear from Chart B that, generally speaking, increased rates have tended to check credit expansion and lower rates to encourage it. It appears clear from these movements that the credit policy of member banks is responsive to changes in Federal reserve rates. But changes in their borrowings at reserve banks are dependent not only on their policy in advancing credit but more largely upon currency demand, gold movements, and changes in Federal reserve holdings of acceptances and Government securities." (p. 776.)

Note that the symptom of velocity of credit is referred to, but nothing is said of it later; otherwise how could the New York Bank explain the ineffectiveness of rate policy by the growth of "loans on account of others?"

¹ Cf. quoted passage in *ibid.*, p. 766; also W. R. Burgess, "Guides to Bank of Issue Policy," *Proceedings of the Academy of Political Science*, 1930 (13), p. 512 and H. L. Reed, *Federal Reserve Policy 1921-30*, p. 185. Apparently Governor Strong had favored earlier and more drastic pressure than was actually applied. B. Strong, *op. cit.*, p. xxii; cf. *B.M.*, 1929 (118), pp. 911-913.

to the tendency of call money rates to rise more rapidly than Bank rate in 1928-29.¹

By the early part of 1928 ² important reserve officials were aware of the dangers of the speculative boom, although the New York Bank has recently contended that the danger was not adequately recognized.³ The delay in taking vigorous measures may be properly interpreted, nevertheless, as a weakness of discount policy in the United States: ⁴ a rise in rates is always more delayed than is a decline, and, of course, the explanation is political pressure and the unpopularity of higher rates.⁵ Delay may be explained by the fact that member banks frequently use an increase in the Bank rate as an excuse to increase their rates.

We may go back to July-August, 1927, and point out that several reserve banks were so impressed then by the dangers of speculative activity that they objected to the injection of any artificial stimuli, though they were prepared to admit that the European situation and domestic business conditions required some corrective action.⁶ In a reply submitted by the New York Bank, it has been argued that money rates in the United States have been lower than required by the domestic situation but not so low as required by the foreign situation; ⁷ but if that is an adequate response to those who were critical of the introduction of easy money in 1924, 1927, and 1931, it does not absolve reserve authorities for their failure to reverse

¹ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 765.

² The Open Market Investment Committee was aware of the danger of speculation in 1927, but held that "this possibility should not stand in the way of the execution of an otherwise desirable policy." *Ibid.*, p. 754. Others were also aware of the danger. *C.F.Chr.*, 1927 (125), p. 703. In December, 1927, the Board was aware of the excessive increase in security loans. *F.R.B.*, 1927, pp. 795-799. In January, 1928, the LaFollette Resolution on Brokers' Loans was presented although in its final report in May the Senate committee was much less insistent on a reduction of the volume of brokers' loans than in its original resolution. *C.F.Chr.*, 1928 (126), pp. 354, 3061-3062. In the February, 1928, *Bulletin*, the Board commented on the reversal of its policy in the last few weeks of 1927, and on the large increase in member-bank credit in the absence of an increased demand from trade and industry. *F.R.B.*, 1928, p. 111. In March, Platt announced to the Senate committee that the increase in brokers' loans of January was a serious matter. Hearings: *Brokers' Loans* (70: 1), 1928, p. 79; cf. the comments of Governor Seay in "Security Prices," *Trust Companies*, January, 1928, pp. 12-13.

³ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 817.

⁴ *Annalist*, 1927 (30), pp. 429-430; *ibid.*, 1929 (33), pp. 546, 930, 970; *B.M.*, 1929 (118), pp. 911-913.

⁵ Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 766-767.

⁶ *Ibid.*, pp. 756, 800; cf. *F.R.B.*, 1927, pp. 630-631.

⁷ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 762.

their policy more quickly in 1924 and 1927-28. Even Professor Sprague objected to a vigorous use of the discount rate in 1928.¹

In the first seven months of 1928 each reserve bank increased its rate two or more times. The increases were in a sense competitive; the reason most frequently offered was that neighboring reserve banks had increased their rates or that a large number of reserve banks had increased theirs. They were prepared to pay lip service to the theory of regionalism, but in practice they were seriously concerned with the rate policies of other reserve banks.² An upward movement of rates elsewhere was reflected in increased pressure on member and reserve banks in districts not introducing higher rates, with the result that reserve banks, intent on preserving stability, were in turn induced to raise their rates. Officials who were influenced by such observations assumed that an increase was followed by higher market rates.

Reserve banks also paid attention to their reserves, in relation to fluctuations of their reserve ratio, fluctuations in the System's ratio, and their ratio as compared to the System.³ Regardless of the attitude of the public, it is clear that reserve banks view an appreciable reduction from a high conventional reserve as an important consideration in the determination of discount policy.

In the autumn of 1928 the System was apparently subjected to political and other pressure with the object of modifying the policy

¹ Hearings: *Stabilisation* (70: 1), 1928, p. 148.

² Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 752-764. Thus the Boston Bank, in increasing its rate early in February and in July, 1928, was influenced by a similar change in New York. The Cleveland Bank raised its rate in May, 1928, when it was affected adversely by higher rates elsewhere. The Dallas Bank proposed a level of rates in districts outside of New York above the level of the New York rate as a means of repatriating 100 millions of capital sent by Dallas banks to Wall Street and bringing home money sent from other districts to New York. The Dallas Bank reduced its rate in 1930 in order to be in line with System policy. In 1928 the Kansas City Bank increased its rate although conditions at home did not require an increase; and in 1929 a rate below that in vogue in nine other districts was the occasion for an increase in rates: member banks were not passing on to customers the advantage of lower rates. Philadelphia suffered from an adverse balance in 1928 and therefore increased its rate. The St. Louis Bank increased its rate early in 1928, on the grounds that it was one of two banks that had not modified its rates and it was not prepared to assume a disproportionate share of the System's rediscounts. In 1930 the San Francisco Bank expressed the opinion that its rate was out of line with those of other reserve banks in the same class, and the Chicago Bank reduced its rate because its rate was too far out of line, although the easy money policy was not favored by the latter. Compare pages 777-778 where reserve banks express a strong preference for non-uniformity of rates.

³ *Ibid.*, 1931, especially pp. 752-757, 764.

in force and reducing rates;¹ but the only concession made was in the buying rate, which, as is now known, was rather unfortunate. Member banks thus increased their balances, and a large proportion of the additional funds put into the money market was allocated to speculative uses.²

The failure to use the discount weapon to any significant degree from July, 1928, to August, 1929, is to be explained in part by the dissatisfaction with the results obtained in the first half of 1928, in part by the recurrence of the fear of the use of the weapon aroused by political pressure, and in part by the European situation.³ Higher rates were reflected in a large increase in rediscounts and somewhat disappointing results so far as the balances of member banks and the volume of credit of members are criteria; and an increase in market rates was followed by large additions to the total supplies of funds available.⁴ In truth there were increasing signs that the authorities were becoming doubtful whether the proper method of attack was through higher rates; for the withdrawal of open market funds associated with pressure brought to bear by reserve banks, attracted funds greater than those withdrawn.⁵ Is

¹ McFadden, chairman of the Banking and Currency Committee, was especially critical. Secretary Mellon on the other hand objected to the introduction of preferential rates on Government securities. *C.F.Chr.*, 1928 (127), pp. 1192, 1868; L. T. McFadden, "Call Loans and Federal Reserve Policies," *American Bankers' Association Journal*, October, 1928, pp. 291-293, 373.

² Burgess and the Reserve Board admitted as much late in 1928. *C.F.Chr.*, 1928 (127), p. 3341 (Address before the American Acceptance Council); *F.R.B.*, 1928, pp. 735-736; cf. *Review of Economic Statistics*, 1929, p. 13. Recently Governor Young has said that it was less easy for credit to seep into speculative channels if created by the purchase of bills than through other methods; he thus explained the policy of the autumn. Hearings: *Branch Banking* (71: 2), 1930, p. 649. Early in October, 1928, Governor Young first presented the view that reserve banks furnish the basis of credit growth and therefore they can properly use their influence to prevent excessive use for speculative purposes. *C.F.Chr.*, 1928 (127), pp. 1871-1872. At this early date he was apparently aware of the failure of the new policy.

³ In April, 1929, the Board explained that the firm money policy was introduced because security loans were expanding too rapidly, not because they were concerned over the outflow of gold. *F.R.B.*, 1929, p. 243.

⁴ Sprague pointed out that high call rates were more dangerous than low rates. *C.F.Chr.*, 1928 (126), pp. 2559-2560.

⁵ In presenting evidence to a Congressional committee in 1930, Governor Young was optimistic concerning the possibility that high market rates might exercise a deterrent effect on speculation, but even on this occasion he admitted that for long periods it might seem as though speculation were not being restrained. He pointed out that an 8 per cent rate attracted 800 millions of additional funds in a few months. Hearings: *Branch Banking* (71: 2), 1930, pp. 716, 724. In 1929 he was not so optimistic: in his Cincinnati speech, he said that higher rates for speculative uses would necessarily

it not significant that from August, 1928, to February, 1929, a period in which security loans expanded rapidly, no application was made, so far as I can learn, for higher rates by any reserve bank? The magnetic effects of higher market rates, the assumed need of satisfying legitimate needs in the fall, and the dissatisfaction with the results of open market operations and discount policy, undoubtedly contributed both to the delay in the latter part of 1928 and to the support given to the policy of moral suasion in 1929.¹

3. RATE POLICY AND EUROPE

Low rates had been introduced in large part to help Europe, and it was with much trepidation, therefore, that they were raised in 1928;² but it might be said that low rates had been effective in reversing the flow of gold, stimulating borrowing in New York, and contributing toward the recovery of business in the United States.³ In the early months of 1928 higher rates in New York were accompanied by continued large exports of gold from the United States and surprisingly little stringency in Europe; London seemed to view the course of events in the United States with equanimity.⁴ The expla-

attract funds from other employments, with the result that rates would be higher for legitimate uses. *C.F.Chr.*, 1929 (128), p. 1832. Congressman McFadden pointed out, as several others had, that high rates would defeat their purpose. *Ibid.*, 1928 (127), p. 1868. The realization of this point was probably an important factor in Federal reserve policy in the latter part of 1928. Thus Burgess in December, 1928, admitted that the reserve system could not control the international flow of funds nor the spirit of speculation. *Ibid.*, 1928 (127), p. 3340. Perhaps the acceptance of Keynes' suggestion of elastic buying points for gold might have made possible higher rates at home without attracting foreign gold. J. M. Keynes, *op. cit.*, II, 326.

¹ Thus in 1931, Governor Harrison said that two years ago it would not have been deemed possible that sales of 400 millions of securities, exports of 500 millions of gold, and three increases of the Bank rate would not have checked inflation. Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 65. Cf. *ibid.*, p. 817. Governor Young also commented on the large measures taken in 1928 and early in 1929. *C.F.Chr.*, 1929 (128), p. 1833.

² It is worth observing that England's hope of a reduction of rates was not realized in spite of the increased financing from American sources in 1927. The official attitude seemed to be that the improvement in sterling was the result of these fortuitous circumstances rather than a fundamental improvement in the balance of payments. When the market rate declined in London in 1928, the situation in the United States was ominous and hence a reduction of Bank rate could not be introduced. *L.E.*, April 23, 1927, p. 833 and July 2, 1927, p. 9; *ibid.*, January 7, 1928, p. 5.

³ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 816.

⁴ *L.E.*, June 9, 1928, p. 1169; *ibid.*, July 7, 1928, p. 5. Hawtrey accounts for the large outflow of gold from the United States by the continuance of high rates in Great Britain in 1927-28. R. G. Hawtrey, *The Art of Central Banking*, p. 69.

nation probably is the momentum of the events brought on by easy money: large advances to Europe in an earlier period made possible the influx of gold into Europe in a period when rates were rising in the United States more rapidly, for Europe could draw on the balances accumulated earlier.¹ By the middle of 1928 Europe was seriously perplexed, London in particular.² The inability to obtain capital was already beginning to be felt in Germany, and London was lending more than it could afford to Central Europe, although the current interpretation was that Paris was lending freely in Berlin, with the result that sterling depreciated as French banks withdrew British balances in remitting to Germany.³ Later investigations were to reveal that London was lending much more than was Paris.⁴

Undoubtedly, lower rates in the United States, or at least the failure of rates to rise as they had risen in the first eight months of the year, and increased lending through acceptance credits by the American banks, prevented a flow of gold to the United States that would have been embarrassing to reserve officials in the face of their declared intentions in 1927.⁵ It is illuminating to realize that, in spite of large increases in the volume of dollar acceptances outstanding, the holdings of American acceptances by foreign correspondents did not increase in the second half of 1928.⁶

¹ The New York Reserve Bank attributed the improvement in European exchanges in the first five months of 1928 to seasonal influences and the movements of funds in anticipation of monetary stabilization in France. Later in the year European exchanges tended to depreciate and Europe began to ship gold to the United States and to withdraw balances accumulated in earlier months. *N.Y.R.B. Ann.*, 1928, p. 15.

² *L.E.*, January 5, 1929, p. 5; cf. B. Ohlin, "Central Bank Policy and Stock Exchange Prices," *Index* (Stockholm), No. 31, July, 1928.

³ *L.E.*, October 6, 1928, p. 597.

⁴ *L.E.*, *Supplement*, August 27, 1931, Annex. V, p. 6 (the Basle Report).

⁵ B. M. Anderson, Jr., "Effect on Europe of Tight Money in America," *Chase Economic Bulletin*, July, 1929, p. 10. I do not know that I can agree with Hawtrey that the high rate in 1928 is to be explained merely by speculation and the loss of gold. R. G. Hawtrey, *Trade Depression and the Way Out*, p. 28. On the other hand, it is clear that the reserve authorities did not view their losses of gold with equanimity; the reduction of gold in circulation is evidence of that point.

⁶ According to an official study, the short-term capital funds invested in the United States by foreigners were reduced by 100 millions in 1928. Foreign deposits and investments in Treasury certificates were reduced by 187 and 271 millions respectively and investments in bankers' acceptances and brokers' loans increased by 164 and 107 millions respectively. The increase in the former occurred in the early part of the year. Investments of American funds abroad also increased. *C.F.Chr.*, 1929 (128), p. 2917.

In the early part of 1929 the situation became so serious that the Bank of England raised its rate from $4\frac{1}{2}$ to $5\frac{1}{2}$ per cent, thus renouncing a policy of stability that, for a period of almost two years, had been maintained with a pertinacity remarkable in the light of unstable conditions both at home and abroad. The Bank had focussed its attention on the volume of bankers' balances and had held them at a level surprisingly stable, considering seasonal fluctuations.¹ Exports of gold were accompanied by purchases of securities; imports, by sales of investments.

But the Bank of England, by raising its rate, conserved its gold only temporarily. The European situation was fundamentally weak, and by increasing its rate, England put the burden of meeting Europe's unfavorable balance upon other European countries.² The German banks lost a large part of their foreign assets and gold, a loss aggravated by the impairment of confidence during a period of uncertainty concerning the future of reparations.³ An improvement

Also note the following items taken from the statement of resources and liabilities of all member banks December 31: *

	(Millions of dollars)		
	1927	1928	1929
Due from banks in foreign countries (including branches)	258	305	264
Due to banks in foreign countries (including branches) . .	746	543	577
Net change of indebtedness on deposit account of American banks to foreign banks		-250	+75

* These figures are to be compared with the more inclusive items published by the Department of Commerce.

¹ *L.E.*, February 9, 1929, p. 275; *ibid.*, January 4, 1930, p. 5. Cf. the testimony of Harvey of the Bank of England before the Macmillan Committee. He clearly points out that the Bank of England observed carefully the movements in bankers' balances; they were relatively stable. Harvey also made it clear that on different occasions the identical volume of balances may bring ease or stringency; hence stability is not always desirable. He also defends the practice of offsetting imports of gold and thus maintaining balances at a stable level; the practice is indulged in only when the foreign exchanges require it. The level of the open market rate is also considered in determining the proper volume of balances. He also answers satisfactorily, it seems to me, the contention of McKenna that Wednesday figures give a false impression of the relative stability of bankers' balances in the first quarter of the year. Committee on Finance and Industry, *Evidence*, I, 1931, especially qs. 341-348, 422-424, 801-806.

² *F.R.B.*, 1930, p. 504 (Report of Bank of Netherlands).

³ Germany's exchanges were strong beginning the latter part of 1927. The high rates in Germany had a depressing effect on the value of sterling and the franc. In 1929, and even the latter part of 1928, Germany was able to put the burden of remittances on the London money market; but when the mark depreciated as a result of the flight of capital in the early months of 1929, both the mark and sterling depreciated. Sterling was strengthened in February as a result of an increase in Bank rate. France was able to draw gold; but it is to be noted that France consumed an important part of its foreign assets. An increase in rates in February brought a temporary improve-

in the German situation, higher rates elsewhere, an increased tendency to hoard gold in France, and the attraction of the call market in New York again jeopardized England's position in the second half of 1929; and purchases of sterling by the reserve banks did not prevent another increase in the Bank of England rate.¹

The New York rate had been raised in August, and the European situation probably accounted in part for the delay.² Reserve authorities were anxious that an increase in rates abroad be averted, although such action on the part of European central banks would have relieved the reserve authorities of an undivided responsibility for higher rates in the United States.

4. FOREIGN EXCHANGES AND THE ATTRACTION OF FUNDS TO NEW YORK

From 1927 to 1929 European countries were troubled by the exchange problem; but in the latter part of 1927 and the early months

ment in the British situation; but a revival of confidence in Germany in the middle of the year was reflected in an appreciation of the mark and renewed pressure on sterling. Germany met its unfavorable balance in the first half of 1929 by consuming part of the reserves of the Reichsbank and commercial banks. *F.R.B.*, 1930, pp. 3, 112 (Report of the Bank of France); *ibid.*, pp. 298-299 (Report of the Reichsbank); *ibid.*, pp. 712-716 (Report of the Reparation Agent); *L.E.*, January 4, 1930, p. 5; *Wirtschaft und Statistik*, 1929, pp. 601-602, 687-688.

¹ *C.F.Chr.*, 1929 (129), pp. 681, 1064, 1957; *F.R.B.*, 1930, pp. 2-3; Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 901-903.

² It is well known that the desire to provide commerce and industry with accommodation at reasonable rates was an important factor in the refusal of the Board to approve an increase at an earlier date. Cf. especially *C.F.Chr.*, 1929 (128), p. 2559; *Mim.L.S.*, 1930 (32), x-6544, p. 368; Richmond Reserve Bank, *Proceedings*, 1929, pp. 36-37.

Apparently the need of higher rates seemed stronger to members of the Board as the year progressed. Governor Young in March, 1929 criticized those who held that higher rates could be restricted in their application to funds used for speculative purposes by a control of the use of credit; that was an implied criticism of the Board's position. *C.F.Chr.*, 1929 (128), p. 1832; cf. pp. 1172, 2396, 2741, 3122, 3392, 3442; *Mim.L.S.*, 1929 (30), p. 390.

In May the Federal Advisory Council endorsed the request of the reserve banks for higher rates. Hamlin's statement that the higher rates approved in August were a victory for the adherents of moral suasion is not convincing. The large increase of borrowing by New York banks in July seems to offer a refutation of his statement that the increase of rates was dictated by fear on the part of New York banks to rediscount. On the other hand, officials of the New York Bank commented on the unwillingness on the part of member banks to borrow. Governor Young's explanation of the increase is not in agreement with Hamlin's, nor is the statement of the New York Reserve Bank. Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 173; *ibid.*, pp. 763, 768; Hearings: *Branch Banking* (71: 2), 1930, p. 649.

of 1928 they experienced a breathing spell.¹ It was generally merely a question of which country was to bear the burden. For the period as a whole, the franc was generally stronger than the mark or sterling, and the mark stronger than sterling. France's strong position is easily explained by the repatriation of capital and the influx of foreign money; it is extremely doubtful that the continued influx of gold is to be explained by the rate of stabilization, except in the sense that increased amounts of cash for circulation and hoards were necessary.² More tenable explanations are the unwillingness of France to lend, the inability of the Bank of France to provide the money market with cash so that it would not be necessary to draw money from abroad for the purpose of obtaining domestic money, and the tendency of the public to replenish their hoards consumed in the earlier period of instability.³ France is experiencing a form of latent inflation that the United States has experienced since 1921, and the results conceivably may be as disastrous; thus, in the United States each dollar of gold imported after 1920 made possible an increase of deposits of approximately ten or more dollars, but the effects on commodity prices were not apparent. In truth the American banks were supplying money that had been previously supplied

¹ Cf. Chart XXI and pp. 793-797.

² J. H. Rogers, *America Weighs Her Gold*, pp. 63-64.

³ Cf. Committee on Finance and Industry, *Report*, Cmd. 3897 (1931), pp. 67-69, 106-107; J. M. Keynes, *op. cit.*, II, 161-162, 306; *F.R.B.*, 1930, pp. 112-115; *ibid.*, 1931, pp. 146-149 (Reports of Bank of France for 1929 and 1930); Royal Institute of International Affairs, *The International Gold Problem*, see in particular comments of Hawtrey and Rist (pp. 157-160, 193-206) — the former is critical of French policy and the latter defends it; T. Bologh, "The Import of Gold into France," *Economic Journal*, 1930, pp. 442-460; several excellent discussions in the London *Economist*, — *L.E.*, July 27, 1929, p. 156; *ibid.*, January 10, 1931, p. 54; *ibid.*, August 9, 1930, p. 269; *ibid.*, December 20, 1930, p. 1157. France's ability to draw gold is reminiscent of its pre-war experiences. The Bank of England has been able to control these flows within limits by inducing somewhat higher money rates through open market operations and cooperation with the money market, and, later, by injecting an element of uncertainty by paying out standard instead of fine gold, thus making movements of short-term capital more risky by widening the gold points. But impaired confidence in Europe, which was reflected in a further improvement in the balance of payments of France, was finally decisive in forcing England to abandon the gold standard. The lack of confidence in recent years, together with the increased significance of movements of short-term capital have made the tendency of the French to increase their hoards more dangerous than ever to monetary stability. No measures taken by the French authorities with a view to reducing government hoards, stimulating investments by the Bank of France at home or the French people abroad, have been of any practical significance. (Cf. League of Nations: *Report of the Gold Delegation of the Financial Committee*, p. 16, however.)

by the capital market. The addition to hoards in France may continue for an even longer period if each dollar of gold imported into the country adds but one dollar to the hoards or to the amount in circulation; but ultimately the large additional supplies of gold may bring a measure of inflation.

One may inquire why Germany's position was stronger than England's during this period.¹ Is not the reply that Germany was starved for capital and therefore borrowed as much as could be obtained, as well as that the German monetary authorities were responsible for a policy of dear money?² They compelled the bank to offer foreign assets in order to obtain cash at home, and the consummated this policy by rationing credit and raising rates, thus compelling the market to surrender foreign assets.³ Also, in relatively quiet periods, the banks were impressed (however unsuitable they have been) with the responsibility of reducing their earning assets (*Debitoren*), for they had become indebted heavily to foreign creditors on deposit account.⁴ Contrast this policy with that of the British. Great Britain was lending more funds than were available for the purpose. The Bank of England scrupulously refrained from increasing its rate in a period of unusual gold movements, although efforts were made to maintain the market rate at a respectable level which, however, was frequently not high enough to offer competition

¹ See *Vierteljahrshefte zur Konjunkturforschung*, 1930 (V: 1, A), p. 17:

(GERMANY'S EXCHANGES)

1927, first half — pound, franc, and dollar at premium.

1927, second half — dollar especially at discount; franc at premium; pound at discount part of the time.

1928 — dollar especially at discount and sterling at small discount in first half then the dollar at slight discount; and franc at large discount.

1929, first few months — dollar especially at premium; sterling and franc also.

1929, second half — sterling especially at a discount.

The effects of French stabilization in 1927, American monetary conditions of 1927-29, and the attraction of British and French funds to Germany are apparent.

² Thus the private discount rate rose from 4 to 7 per cent in 1927, declined to approximately 6 per cent in 1928 and rose to 7½ per cent in the early months of 1929. *Vierteljahrshefte zur Konjunkturforschung*, 1931 (VI: 1, A), p. 42. German authorities put much faith in the theory that a widening of the margin between domestic and foreign rates would attract the required supplies of short-term capital. They were to be disappointed later. *Ibid.*, 1929 (IV: 1, A), pp. 15-16.

³ *F.R.B.*, 1930, p. 299. Cf. *Wirtschaft und Statistik*, 1929, pp. 601-602, however.

⁴ *Vierteljahrshefte zur Konjunkturforschung*, 1929 (IV: 1, A), p. 14. The reduction, however, was especially significant after 1929. *Ibid.*, 1931 (VI: 1, A), p. 42.

to Germany for available supplies of foreign short-term capital.¹ There is a modicum of truth in the charge sometimes made by the French that England was maintaining too high a price level. Other countries in a strong position — Switzerland and Belgium, for example — were able to maintain relatively stable conditions without suffering the discomfort English authorities experienced.² The National Bank of Switzerland, for example, maintained stable rates throughout these years and found the introduction of a measure of discrimination against foreign bills adequate protection. It may be suggested that although several European central banks were troubled by the attraction of funds to New York, they seemed as strongly averse to taking vigorous action to check the outflow and were as much concerned with the effects on trade of higher rates as were the reserve authorities of whom Europeans have been so critical.

Much has been written concerning the attraction of short-term foreign money to American shores in 1928-29; but whatever evidence is available does not point to a net influx of short-term funds.³ The Department of Commerce estimates that the reduction in short-term indebtedness was 226 millions in 1928 (change in net debt of American banks to foreigners) and in 1929 there was an increase of but 13 millions. (The crash occurred in October.⁴) Compare these figures with an estimate made by Keynes that the short-term indebtedness of the United States increased by 500 million pounds in a period of two or three years.⁵

¹ Hawtrey is critical of the recent tendency to keep rates high to attract foreign short-term capital. Yet although deflation was *possibly* induced in this manner, with the result that British exports suffered through the losses inflicted on agricultural countries — as Hawtrey points out — it is difficult to envisage the possibility of low rates in view of the necessity of struggling daily to maintain these foreign balances. The effects of these movements are more decisive than the improvement in the trade balance so far as the balance of payments is concerned. R. G. Hawtrey, *Trade Depression and the Way Out*, pp. 69-73.

² *F.R.B.*, 1930, p. 309 (Report of Bank of Switzerland); *ibid.*, pp. 294-295 (Report of National Bank of Belgium).

³ Foreigners, on the other hand, probably purchased in 1928-29 close to a billion dollars of long-term securities in New York. R. G. Hawtrey, *The Art of Central Banking*, p. 74.

⁴ See U. S. Department of Commerce, *The Balance of International Payments of the United States in 1929* [*Trade Information Bulletin* No. 698], especially pp. 34, 57-58, 66; *ibid.*, 1930 [*Trade Information Bulletin* No. 761], pp. 58-61.

⁵ J. M. Keynes, *op. cit.*, II, 380. Robertson however is aware of the actual state of affairs. A. C. Pigou and D. H. Robertson, *Economic Essays and Addresses*, p. 137.

The following figures are taken from the studies of the Department of Commerce referred to above:

	(Millions of dollars)	
	1928 ¹	1929 ¹
<i>Due from Foreigners</i>		
American deposits with foreigners	199 (305) ²	209 (264)
Liabilities of American banks for unmatured bills drawn by foreigners and accepted by American banks	509	833
Liabilities, etc., to finance American exports	372	405
Overdrafts by foreigners	255	205
Other short-term loans and advances	319	278
<i>Due to Foreigners</i>		
Foreign deposits with Americans	1580 (543)	1661 (577)
Unmatured bills drawn by American banks and their customers accepted abroad and discounted there	93	75
American guarantees of acceptances executed by foreign banks for account of American importers	53	34
Foreign funds put out in American market: Acceptances....	565	865
Treasury certificates	166	62
Brokers' loans	333	271

¹ December 31.

² Figures in parentheses are (roughly) "due from" foreign banks of all member banks (published by the Federal Reserve Board) and due to foreign banks of member banks. Perhaps the fact that figures for "due from" published by the reserve banks are larger is to be explained by the inclusion of balances due from branches. Department of Commerce figures include non-banking deposits as well as inter-bank deposits and therefore it is clear that two thirds of the deposits with American banks are made by non-bankers or are deposited by banks or individuals with non-member banks. The exclusion of non-banking deposits in the figures published by the reserve authorities undoubtedly explains the differences between the totals given by reserve banks and the Department of Commerce more than the exclusion of non-member bank deposits from the reserve figures.

Unfortunately, figures for December 31 do not tell the entire story, for the movements of the last three months of 1929 may obscure to some extent the movements of the first nine. But there can be little doubt that there was no important inward movement of short-term funds into the United States in 1928 and 1929. Also consider the following facts:

1. From September, 1927, to September, 1929, the increase in American acceptance credits used in the financing of American export trade, the storage of goods in foreign countries, or movements of goods between foreign countries, was approximately 350 millions. On the other hand, the increase in bills purchased by the reserve banks for foreign correspondents was but 270 millions, leaving a net increase in indebtedness to America on acceptance account of 80 millions. But in addition we ought to allow for an increase in investments on foreign account *exclusive* of purchases by central banks. Thus in 1929 only three quarters of the increase of foreign funds put

out on the American acceptance market seems to have been put out by central banks. (Foreign correspondents increased their holdings by 223 as compared to a *total* increase of 300 millions on foreign account.) A similar allowance for the two years under consideration would leave the acceptance account approximately balanced between the United States and foreign countries.

2. Governor Young estimated that but 370 millions of money were deposited by foreign banks in American banks just before the crash.¹ This figure is considerably smaller than the total deposited with *member* banks at the end of 1929. (See the foregoing table.) Apparently large additional deposits were made in the next three months by foreign banks. On the other hand, national banks lost 87 millions (291 to 204 millions) of foreign deposits (bankers') from December 31, 1928, to October 4, 1929; but they also withdrew 34 millions from abroad, and hence the net loss was 53 millions.² We may conclude that deposits of foreign banks with American banks declined in the nine months preceding the crash and then increased.

3. Undoubtedly the funds advanced by foreigners on the stock market were larger in October just before the crash than on December 31, 1929. On the other hand, investments on other markets were smaller in October than in December. Thus investments in acceptances by foreign correspondents of reserve banks were 449 millions on September 30 and 548 millions on December 31.

What are the facts regarding brokers' loans? Governor Young estimated that 150 millions had been invested by foreign *banks* on the stock market just before the crash.³ But a more recent study by the Glass Committee is more valuable and comprehensive. At the peak of speculation, foreign banks apparently had contributed 10 per cent of the total loans on account of others made on the stock exchange: these banks apparently contributed 300, and other foreign sources accounted for 80, millions. Advances by foreigners through non-members, or advances made directly by foreign banks, are not included in these figures.⁴ The Department of Commerce estimates that the maximum volume of brokers' loans made by foreigners was 500 millions. This estimate agrees fairly well with that of the Senate

¹ Hearings: *Branch Banking* (71: 2), 1930, p. 739.

² Comptroller of the Currency, *Report*, 1929, pp. 352-367.

³ Hearings: *Branch Banking* (71: 2), 1930, p. 739.

⁴ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 1024.

if allowance is made for the omissions in the latter. It is clear that in the last few months of the year brokers' loans on account of foreigners declined by 200-300 and increased approximately 200 millions in the first nine months of 1929. It may be observed that, in the same period, loans on the stock exchange made by private banks, foreign agencies, etc., increased by 433 millions. An appreciable proportion was advanced by foreign interests.¹

But an increase of a few hundred millions of dollars of brokers' loans is a far cry from an increase of short-term indebtedness of 2.5 billion dollars. In truth the Department of Commerce estimates the net increase in indebtedness to have been but 304 millions in the years 1923-29 inclusive. Available evidence points to little change in the net short-term indebtedness on foreign account in 1928-29. Increased funds put out on the acceptance and security markets are to be set against the increased financing of foreign trade by the use of American acceptance credit, the sales of less profitable assets by foreigners, and the withdrawals by foreigners of deposits in American banks.

Large losses of gold by the United States were hailed as the successful consummation of the 1927 policy of cheap money.² But when these losses and the reserve banks' policy of dear money failed to check the unhealthy development in the security markets, the authorities began to regard the depleted reserves and the important losses that had been suffered.³ They meticulously pointed out that the means of replenishing reserves were not available.⁴ But the reversal of the movement proved embarrassing in 1929, for higher

¹ It is contended in the *Midland Monthly Review* (July-August, 1929) that the money advanced by foreigners on the stock market was larger than estimated by the Department of Commerce: funds classified as foreign deposits were in truth in part advanced on the stock market. "The United States Balance of Payments," *Economic Journal*, 1929, p. 467. The later study of the Senate committee does not, however, support the position of the Midland Bank.

² *F.R.B.*, 1928, pp. 229-230.

³ In September, 1928, Governor Young pointed out that the public had not paid adequate attention to the loss of gold and in October he commented on the responsibility of reserve authorities to shape their policies in such a manner as to protect their gold. *C.F.Chr.*, 1928 (127), pp. 1752, 1871.

⁴ Thus in September, 1928 the Board pointed out that the free gold was not as large as it seemed and that the substitution of Federal reserve notes for gold in circulation would not result in a marked improvement in the reserve ratio. *F.R.B.*, 1928, pp. 613-614; cf. *C.F.Chr.*, 1928 (126), p. 3391 (Burgess' Address of May, 1928); *ibid.*, 1928 (127), p. 3340 (Burgess' Address of December, 1928).

The problem of free gold is discussed in the chapter on Reserves of Reserve Banks.

rates were not easily imposed when gold was coming into the country; European critics were annoyed because the gold was employed to reduce debts rather than as a means of expansion, and therefore rates remained high and the inflow was not checked.¹

¹ G. E. Roberts, "Speculation, Gold and Bank Policy," *Review of Economic Statistics*, 1929, pp. 198-199; *L.E., Banking Supplement*, October, 1929, p. 6; A. W. Mellon, "Strong Position of Federal Reserve System," *Trust Companies*, 1929 (49), pp. 765-766.

CHAPTER XXVI

NON-BANKING FUNDS AND CONTROL

THERE is general agreement that the increase in loans on account of others prevented the consummation of a more effective reserve policy; but it does not follow that reserve authorities are not to assume part of the responsibility for the increase in this type of loan. In the first place, they were in part¹ responsible for the unprecedented increase in money rates which tempted private lenders in possession of large balances.² Also, funds obtained by corporations through the capital market, and later advanced on the speculative markets, were provided by banks in large part either by purchases of investments or loans on securities to the public.³ It will be recalled that reserve authorities were rather boastful of their capacity to put member banks in debt, thus compelling them to put pressure on borrowers and inducing higher rates.⁴ But their

¹ I should like to repeat at this point that the reserve authorities normally play a relatively small part in the determination of market rates; but in 1928-29, their failure to offset losses of gold and the sale of 500 millions of securities contributed to higher rates.

² On several occasions the Board admitted that reserve policy was an important cause of firm monetary conditions. *F.R.B.*, 1929, pp. 243, 360-361. Defenders of reserve policy are not justified in absolving reserve banks from their share of the responsibility for higher rates. National City Bank, *Economic Conditions*, August, 1928, pp. 121-123; Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 766, 768, 807. Cf. C. O. Hardy, *op. cit.*, p. 154.

³ This point is carried rather too far by the Glass Committee. U. S. Senate Report No. 584, *Operation of the National and Federal Reserve Banking Systems* (72: 1), 1932, p. 4.

⁴ But by June, 1928, reserve authorities were not so optimistic of their possible success in reducing the demand for credit on the part of the public: Burgess was concerned with the rapid increase of member-bank credit resulting from additional creations of reserve bank credit. A policy of forcing member banks to increase their debts had been ineffective, and now he suggested the possibility of a penalty rate. *C.F.Chr.*, 1928 (126), p. 3391. Also, the Board announced that large exports of gold, sales of securities, and advances in the discount rate had not had the effect of arresting the rapid expansion of member-bank credit. The Board expressed a pious hope, however: member banks, heavily in debt, would exert a continuous pressure on customers, and a reduction of their debts to reserve banks would be possible only if investments were sold or the loan account of members was reduced, unless the banks were relieved by imports of gold or purchases of investments by reserve banks. *F.R.B.*, 1928, pp. 373-376. The New York Bank was also annoyed at an increase of loans and investments of members in

policy was too effective: high rates bring money out of the ground, and in general it seemed that the higher the rate, the larger the amount of cash drawn from outside sources. Nothing short of a sudden and destructive increase in rates that would have brought stock market values down decisively could have prevented this development.¹ In short, the reserve banks induced higher rates on the money market; but the increase was not so large as it would have been if other funds had not been attracted by the rise in rates; and borrowers were not restrained adequately by the increase in rates.

Hardy raises an interesting question when he argues that "it is impossible to appraise the claim that loans on account of others present a dangerous element of instability." His point is that non-banking lenders withdrew their funds in 1929 only after the banking system had depressed call rates, a change in the situation that may be construed as evidence that banks could carry on without the contributions of non-banking lenders. But nevertheless one may reply that this action on the part of the reserve system anticipated panicky withdrawals of banking funds by non-banking lenders, and resulted in part from previous warnings given to reserve banks by

spite of an increase in open market (call) rates paralleling the increase in indebtedness. *C.F.Chr.*, 1928 (126), pp. 3390-3391.

In September, 1928, Governor Young seemed more hopeful of liquidation resulting from an increase of borrowing by members, though he was of the opinion that high Bank rates were necessary to control borrowing for the purpose of lending on the open market at high rates. *C.F.Chr.*, 1928 (127), p. 1753. He also pointed out that rates were high when indebtedness of members was large. The Board also accounted for high rates by the increased indebtedness. *F.R.B.*, 1928, pp. 679-682.

In the late months of the year reserve authorities once more seemed to lose faith in the effectiveness of their policies. They had introduced an easing policy and were content to associate the higher rates of 1928 with reserve policy and the loss of gold. They were discouraged because the tendency toward liquidation in the third quarter of 1928 had now given way to expansion once more. *C.F.Chr.*, 1928 (127), p. 2453; *F.R.B.*, 1928, pp. 737-738.

A reduction of indebtedness in the latter part of 1928 was followed by a further increase of rates, with the result that the Board now renounced its favored doctrine of the relation of debts and rates, at least to the extent of admitting that their theory had not been verified in the unusual conditions current in the money market. Authorities also seemed to assume now that a reduction of the volume of reserve bank credit should be accompanied by a reduction of market rates. *F.R.B.*, 1929, pp. 359-361.

¹ In April, 1928, Professor Sprague pointed to the danger of high rates on security loans which attracted funds from other uses. A gradual tightening of rates could not therefore be effective and a drastic operation was not expedient. *C.F.Chr.*, 1928 (126), pp. 2559-2560; cf. O. M. W. Sprague, "The Working of the Gold Standard under Present Conditions," *Proceedings of the Academy of Political Science*, 1930 (13), p. 527.

the reactions of these lenders. The call rate could not remain at fabulous levels forever, nor could the rise in stock market levels continue indefinitely; and the occurrence of a break in the market would require the replacement of funds contributed by non-banking lenders by those provided by banks. True enough, as Hardy points out, the additional burden on the System was the increased reserves required to cover the increase of deposits accompanying the withdrawal of funds by non-banking lenders. But after all, the main element of instability contributed by loans on account of others was not that related to conditions just before and after the crash, but rather that they made possible at an earlier point a large part of the increase in stock market prices and prevented the banking system from putting an end to the diversion of funds to speculative channels.¹

Supporters of the use of a discount policy frequently argue that an increase in Bank rate induces a rise in market rates, and therefore, a reduction in credit outstanding.² In the past there has been little occasion to distinguish banking from non-banking funds in a discussion of the effectiveness of Bank rate; but if we are to restrict the goal to the control of the volume of member-bank credit outstanding, effectiveness of Bank rate will be of limited significance. It may be said that the experience of our reserve officials was similar to that of most European central banks in recent years, when their efforts to introduce higher rates have been thwarted by the influx of foreign money. The Bank of England has gone a step further: it has been necessary to maintain high rates to attract foreign money; but since the volume of investments available for the use of foreigners in possession of surplus balances in London has been limited, the Bank of England has endeavored to prevent incoming foreign money from depressing rates too severely, lest inadequate supplies of foreign money be retained.³

¹ C. O. Hardy, *op. cit.*, pp. 159-161. Cf. R. G. Hawtrey, *The Art of Central Banking*, p. 60. (His position is criticized on page 507.)

² Thus it was argued in the Bulletin of the National City Bank that as long as banks can obtain accommodation at reserve banks at advantageous rates, it would be difficult to convince customers of the necessity of restraining the growth of security loans. National City Bank, *Economic Conditions*, April, 1929, p. 56.

³ *L.E.*, January 31, 1931, pp. 213-214. An important official of the Bank of England publicly admitted that the Bank had requested cooperation, although he denied that the market had been informed at what rate they should tender bills. Committee on Finance and Industry, *Evidence*, 1, 1931, 385-386.

In assigning responsibility for the increase in loans on account of others, one may say that the damage was done in the years 1921-27, when gold was coming in and member and non-member bank balances were increasing rapidly.¹ Banks used the incoming cash to repay reserve banks for debts incurred in earlier periods; but a large part was employed in increasing balances which the reserve banks tended to increase still further through open market operations. Member banks increased their loans and, to a greater extent, their investments,² with the result that corporations and individuals accumulated large deposits that were to be put to active use later as loans on account of others.³ There is a moral in all of this. Member banks are guided by their reserves, and although, temporarily and perhaps for many years, inflation is only latent and Europe finds little relief in the endless accumulation of inactive deposits in America, ultimately this latent purchasing power is thrust upon the market in a manner so destructive and effective that the past sluggishness of these deposits is easily forgotten. Perhaps the prin-

¹ It began to be apparent by the latter part of 1927 and in 1928 that the excessive volume of imports of gold since 1920 was the decisive factor in the unhealthy development in the security markets. B. M. Anderson, "Some Major Forces in the International Money Market," *Chase Economic Bulletin*, October, 1927, pp. 16-21; G. J. Seay, "Security Prices," *Trust Companies*, January, 1928, pp. 12-13; G. E. Roberts, "Federal Reserve Authorities Have Command of Gold and Credit Situation," *Trust Companies*, January, 1928, pp. 11-12.

Reserve authorities admit, in retrospect, that the expansion of credit was altogether too rapid in the years 1922-29; but their defense is that excessive expansion was necessary in view of the European situation. In retrospect it seems rather surprising that we were not troubled more by the large growth of credit in the years 1922-27; thus, for example, the Board in 1927 commented on an increase of loans and investments of 3 billions in two years in the same breath that they were urging a policy of easy money. *F.R.B.*, 1927, pp. 627-728; *Hearings: Operation of Banking Systems* (71: 3), 1931, p. 762.

² Thus, from the end of 1920 to the end of 1927, all member banks increased their loans by approximately 4,000 millions and their investments by an equivalent amount; but the increase was approximately 20 per cent for the former and 70 per cent for the latter.

³ The Senate Subcommittee of Banking and Currency inquired concerning the relation of the portfolio of securities and acceptances of reserve banks and fluctuations in security loans, brokers' loans, and investments of member banks. Reserve banks were not unanimous, although there was general agreement that investments of member banks increased as the investments of reserve banks increased. The reply of the minority was not wholly satisfactory. That the reduction of securities and acceptances held by reserve banks in 1928-29 and the increase in 1929-30 were not followed by a reduction (1928-29) and an increase (1929-30) in security loans of member banks is not adequate evidence that the open market operations in 1927 did not explain the large increase of security loans in 1927-29. The original impetus was given in 1927. *Hearings: Operation of Banking Systems* (71: 3), 1931, pp. 812-814.

ciple of lending to the limit set by reserves ought to be modified in the light of the activity or non-activity of the deposits created. The stage was set for inflation in the years during which Europe was impatiently awaiting its development in the United States although inflation was expressed more in the prices of securities than in commodities.

CHAPTER XXVII

MEMBER-BANK INDEBTEDNESS AND INVESTMENT POLICIES OF MEMBERS

As HAS been said, reserve authorities at intervals have assumed responsibility for the increase in market rates; member banks in debt apply pressure on borrowers, especially those who are not regular customers. But member banks failed to reveal the disinclination to be in debt that might be expected from a consideration of the rather platitudinous utterances of reserve officials on the subject. Both their debts and, more important, their *balances* mounted in spite of increasing Bank and market rates.¹ Losses of gold and reserve policy were in large part responsible for the higher rates.

It is necessary to consider the reserve balances not only of members but also of non-members. If expansion is to be controlled, it is also necessary to control the balances of the latter, a large part of

¹ Member bank balances fluctuated as follows:

	(Millions of dollars)
1. July, 1927, to January, 1928	+137
2. January, 1928, to August, 1928	-152
3. August, 1928, to January, 1929	+113
4. January, 1929, to May, 1929.....	-91
5. May, 1929, to September, 1929	+39

The fluctuations in balances are the most significant guide to the success of reserve policy. It is true, as reserve authorities have pointed out, however, that economies of reserves are an important consideration. *F.R.B.*, 1928, p. 825. The increase in the first period gave the first stimulus to the catastrophic increase in advances for speculative purposes. Member banks had not been sufficiently anxious to reduce their debts; they preferred to remain in debt and increase their balances because it was profitable to do so. In the months of February, and June to August, 1928, reserve policy and losses of gold accounted for appreciable reductions in balances, and apparently the policy of moral suasion was effective in the early months of 1929. But if we allow for the unprecedented increases in indebtedness of member banks, the economies of reserves made possible by the reduction of net demand deposits, and the large increase of bank credit reflected in the increase in loans on account of others, which also involved important economies in reserves, then we may conclude that reserve policy had rather unimportant effects on member bank balances and liquidation even in these periods. The increases in the third and fifth periods emphasize the reversal and failure of reserve policy in the latter part of 1928 and 1929. It may also be pointed out here that open market operations and losses of gold, although restraining in that member bank indebtedness is increased, bring losses of deposits and a reduction of reserve requirements; and smaller balances are required.

which are held with correspondent banks. A very important aspect of the failure of reserve policy is revealed by a study of the figures for the two years ending June 29, 1929. The reserve balances of members increased by $1\frac{1}{2}$ per cent in the first of these two years and declined by $\frac{1}{3}$ of 1 per cent in the second. But in the first year, reserve balances of non-members increased by 22, and in the second, by 13 per cent.¹ The foregoing figures indicate the price that member banks pay for cooperation when large banking resources are at the disposal of non-members.

TABLE I.² RESERVE BALANCES, MEMBERS AND NON-MEMBERS*

	(Millions of dollars)		
	June 30, 1927	June 30, 1928	June 30, 1929
All banks reporting to the Comptroller	2933	3105 (+172)	3192 (+87)
All members	2280	2342 (+62)	2359 (+17)
All others	653	763 (+110)	833 (+70)

* Changes are given in parentheses. Balances at reserve banks are interpolated from weekly figures.

Note that the increase for non-members was no less than 70 millions in 1928-29, as compared with a decline of 17 millions for members.

The theory that member banks dispose of open market investments when their indebtedness assumes large proportions is not well supported by the events of the year 1928. In the first six months of that year members increased their rediscounts by more than 500 million dollars, a phenomenal increase, and yet investments in securities increased by 400 millions; from January to July the increase in rediscounts was from 465 to 1,090 millions. On the other hand, member banks in New York City reduced loans on the stock market on their own account from 1,342 to 929 millions; loans on account of outside banks, as well as those for their customers or

¹ Economies of cash are an important consideration :

CASH IN VAULTS *			
	(Millions of dollars)		
	June 30, 1927	June 30, 1928	June 29, 1929
National banks	364	315	298
All banks reporting to the Comptroller			
other than national	644	573	522

A reduction in the cash held in vaults of 188 millions or 18 per cent for all banks is quite extraordinary.

* Comptroller of the Currency, *Report*, 1928, pp. 87-91; *ibid.*, 1929, pp. 103-108.

² Sources of this and following tables are given on p. 799.

clients, increased by 70 millions in this period. Investments in acceptances and commercial paper by member banks, now accurately available, were not large.¹ The conclusion may safely be drawn that member banks held a stable volume of open market investments in a period in which the Bank rate was raised several times and member-bank indebtedness attained a level that, according to accepted theory, would result in unrelenting pressure on member banks to contract.² Although members cooperated to the extent of reducing their lucrative loans on the stock market, they substituted other open market investments for their Street loans. It is also to be recalled that members substituted direct security loans to customers for loans advanced to the public indirectly through brokers. All loans and investments of members increased by 800 millions in the first six months of the year, and there was little change in the total loans on securities of reporting member banks; what is of more significance at this point, investments of members increased 400 millions. Apparently members did not dispose of open market investments, in spite of the assumed pressure of an increased volume of indebtedness and higher rates; they accumulated other earning assets despite the restraining measures introduced by reserve authorities.

In the succeeding fifteen months developments were more along expected lines, in particular in the first three months of 1929 when the pressure was strongest; but the reduction of open market in-

¹ Hearings: *Operation of Banking Systems* (71:3), 1931, pp. 872-873. The investments in acceptances of member banks were of small proportions. The tendency is evident in the following figures:

	(Millions of dollars)			
	Dec., 1927	June, 1928	Nov., 1928	July, 1929
Total outstanding	1081	1026	1200	1127
Held by members, New York District	53	28	17	20
All banks and bankers in the United States	105	71	50	90

² In 1931 a Senate committee inquired of reserve banks what was the relation between the modification of monetary conditions through the use of open market operations and the investment policies of member banks. The banks were not in agreement. In a cautiously worded reply, the New York Bank held that the most obvious and direct relationship is between the fluctuations in public securities held by reserve banks and the investments of member banks; the relation with security operations of member banks is less direct and there is some correlation with brokers' loans. In 1928-30 the security policy of reserve banks seemed to be effective at times when loans by banks were the dominating element in brokers' loans. Investments in acceptances, however, are determined by seasonal needs. *Ibid.*, p. 813.

vestments was, for the entire period, small in view of the conditions.¹ Fortunately, figures for all open market loans of members are available for the period beginning October 31, 1928. In the first nine months of the succeeding year, the total was reduced from 3,158 millions to 2,275, and in addition the reduction in investments was approximately 800 millions. But an increase in open market loans of 600 millions in the last three months of 1928 is also to be considered. It may be observed, furthermore, that the reduction for Street loans in New York City and in open market paper (acceptances and commercial paper) was (for each group) approximately one third from the end of December, 1928, to October 4 of the next year. The reduction in investments in securities was, however, but 8 per cent.² Apparently the pressure was beginning to be felt; but it is to be noted that in these nine months all loans and investments of members increased by 230 millions.³ Moreover, the increase in indebtedness during this period was, relatively speaking, small; and hence any liquidation may be associated more properly with the application of moral suasion than with discount policy or the pressure of an increase in indebtedness.

A word about investments. The increase for all banks reporting to the Comptroller of the Currency, which includes members and other state commercial banks and trust companies for the most part, in the year ending June 30, 1928, was approximately 1,500 millions, or 9 per cent; the decline in the succeeding year was 1,400 millions, or 8 per cent.⁴ The rate of increase of investments in

¹ In the latter part of 1928 and in 1929, reserve authorities began to comment on the reduction of investments in the portfolios of member banks. Firm money conditions and demands for the financing of active business were given as the explanation of the liquidation of securities. *F.R.B.*, 1928, pp. 737, 824; *ibid.*, 1929, pp. 526-527.

In his Gary speech of September, 1928, Governor Young commented on the pressure to which member banks were being subjected; the level of indebtedness was so high that members could not get out of debt readily by shifting the load. Perhaps Governor Young thus attempted to explain the negligible reduction in open market investments. *C.F.Chr.*, 1929 (127), p. 1753.

² The decline in bond prices was a relevant consideration. *Mo. Rev. of Boston R.B.*, June, 1929.

³ The Board estimated that from March 27, 1929, to October 4, 1929, loans to local customers of members increased by 1,346 millions and open market investments were reduced by 918 millions. *F.R.B.*, 1930, p. 98; *cf. ibid.*, 1931, p. 248. (Open market investments include short-term open market loans and all investments.)

⁴ Statistics of investments used in this discussion are taken and calculated from Comptroller of the Currency, *Report*, 1927, pp. 102-103; *ibid.*, 1928, pp. 35, 92-93; *ibid.*, 1929, pp. 109-110; *ibid.*, 1930, pp. 51, 752-753; *F.R.A.*, 1930, pp. 94-95, 172.

Approximately 250 millions of an increase of 1,500 millions in the first year and 20 millions of the reduction of 1,400 millions in the second year are accounted for by

United States Government securities in the first year was at about the same level as for all investments; but the decline was only approximately 3 per cent. It may also be pointed out that the increase in the first year was at about the same rate for all state loan and trust companies as for all banks, less for all state commercial banks than for all banks, and somewhat larger for national than for all banks. Liquidation in the second year was much more rapid for state banks (13 per cent) and trust companies (14 per cent) than for all banks (8 per cent), and much less rapid for national banks (3 per cent) than for all. Perhaps the conclusion may be drawn that state banks and trust companies — and particularly non-members, considering the small liquidation of investments by national banks — liquidated investments at a more rapid rate in the second year, both because they were being pressed by correspondents and because they were seeking the most profitable outlet for their funds, namely, open market loans. On the other hand, the decline of investments for all member banks was 7 per cent, and for members in the New York District 10 per cent. Apparently state banks in the System raised the average for all members; and the pressure on the New York market is evident in the large sales of investments by members in New York as compared to all members.

In a sense an increase of banking capital is nothing but a liquidation of investments; the only difference is that an issue of capital means the sale of a bank's own securities.¹ Moreover, an increase of capital and surplus results in a reduction of deposits for the banking system and thus releases reserves in the same manner as does a reduction of other investments. Thus it may be argued that an increase in the capital and surplus of all national and state banks, trust companies, and other banks reporting to the Comptroller, of 529 millions in the year ending June 30, 1928, and 737 millions in the year ending June 29, 1929, partly offset the purchase of securities in the first year and accentuated the effects of sales in the second year.² (Figures for undivided profits are included in the totals for national banks.)

savings and other banks not included in the category of commercial banks and trust companies.

¹ Statistics of capital and surplus are taken and calculated from Comptroller of the Currency, *Report*, 1927, pp. 96-97; *ibid.*, 1928, pp. 87-88, 92-93, 102-103; *ibid.*, 1929, pp. 103-104, 109-110; *F.R.A.*, 1930, pp. 94-95, 172.

² Of an increase in 531 millions in the first year, 62 millions are accounted for by savings banks and similar institutions other than commercial banks and trust com-

It is also significant that the increase in capital and surplus was much larger for trust companies than it was for all banks, much smaller for state banks, and somewhat smaller for national banks than for all banks. The very large increases for trust companies largely concentrated in the financial centers, and particularly in New York, and the small increase for state banks largely concentrated in the South and West, as well as the disproportionate increase for members in the New York District, indicate that these changes involved transfers of cash to New York.¹ Also, member banks accounted for 1,198 millions of an increase of 1,267 of capital funds for all banks reporting to the Comptroller, and 1,237 millions for all commercial banks and trust companies. Apparently, non-member state banks and trust companies scarcely increased their capital and surplus during this period. This fact bears directly on the problem of movements of funds and the numerous failures of small banks in 1930-31.²

panies; but in the second year the former apparently reduced their capital and surplus by 31 millions while all banks increased their capital liabilities by 768 millions. The explanation probably is the speculative fervor of the period and is significant for the problem of the movement of funds to New York.

¹ PERCENTAGE CHANGE IN CAPITAL AND SURPLUS *

	Year ending June 30	
	1928	1929
All banks reporting to Comptroller	+8	+10
National and state banks and trust companies	+8	+11
National banks	+10	+3
State commercial banks	-1	+10
State trust and loan companies	+12	+26
All member banks	+9	+12
Member banks in the New York District	+16	+27

* Undivided profits included for member banks.

² Undivided profits are included in the figures for members and to that extent in the total.

CHAPTER XXVIII

CREDIT AND THE NEEDS OF TRADE

I. CREDIT AND TRADE

It is not easy to draw any conclusions on the question of the adequacy of credit in the light of the needs of trade and industry; it is clear that the rate of credit expansion was much more rapid from July, 1927, to June, 1928, than was the expansion of trade and industry, a tenable conclusion even if non-banking loans are excluded from consideration. In 1928-29 some indices, if we assume that credit should expand as rapidly as trade, point to inadequate supplies of credit, others to more than adequate supplies; a doubt may, however, be expressed whether adequate supplies were available in the year July, 1928, to June, 1929. It is also clear that the security market was obtaining a disproportionate part of the total amount of credit distributed, and hence a deficiency of credit can be explained in part by the excessive allocation to speculative purposes; and the increased amount of credit used for speculative purposes may not be explicable merely in terms of the increased velocity of bank deposits. More on this question later. Some doubt may also be expressed whether any comparison of the growth of trade and banking credit is adequate: the relative contributions of the banks on the one hand and corporate savings and contributions through the capital market on the other is one of the important considerations.¹ Perhaps the only conclusions that can be drawn from this chapter are whether the expansion of credit was equivalent to the expansion of trade. Whether the amount of credit was adequate or not seems to be an insoluble problem.

I am now discussing the problem of loans and investments of banks, which is what I now mean by credit. To those who contend that deposits did not increase, but rather that their rate of turnover increased, or to those who argue that by credit we mean deposits, the reply is as follows: deposits reflect the movements of numerous

¹ Cf. A. C. Pigou and D. H. Robertson, *Economic Essays and Addresses*, pp. 103-104, 110-111; League of Nations: *Course and Phases of World Economic Depression*, p. 225.

factors other than the fluctuations in credit (earning assets) of banks. Moreover, the stability of deposits in this period may obscure the diversion of purchasing power to non-active (savings) accounts as a result of the speculative boom. The failure of deposits to increase merely indicates what an unsatisfactory index of bank credit and

TABLE II. TOTAL CREDIT: LOANS AND INVESTMENTS

	Total				All banks plus loans on account of others		Reporting member banks: other loans		Reporting member banks: security loans	
	Member banks		All banks		(3)		(4)		(5)	
	Amt. ¹	%	Amt. ¹	%						
June 30, 1927...	32756	...	53750	...	54595	...	8650	...	6281	...
June 30, 1928...	35061	+7	57265	+6½	58998	+8	8948	+3	7002	+11
June 30, 1929...	35711	+2	58474	+2	61428	+4	9159	+3	7667	+9

	Member banks: loans on security to customers	Street loans: New York Stock Exchange figures		Street loans: elsewhere	Security loans ^a			
		(6)	(7)		(8)	Total		By member banks
						(9)	(10)	
	Amt. ³	Amt. ³	%	Amt. ³	Amt. ³	%	Amt. ³	
June 30, 1927.....	...	3.6	...	...	...	...	...	
June 30, 1928.....	...	4.9	+37	...	...	...	...	
Oct. 3, 1928.....	...	...	...	...	12.4	...	8.9	
Dec. 31, 1928.....	7.35	...	...	1.0	14.1	+14	10.2	
June 29, 1929.....	...	7.1	+44	...	15.1	+7	10.1	
Oct. 4, 1929.....	8.11	...	...	1.0	17.0	+12	10.3	

(1) Millions of dollars.

(2) *F.R.B.*, 1930, p. 484. Reserve authorities ought not to designate these series as "total security loans," for loans by non-members and loans on account of others made by non-members are excluded as well as loans on account of others advanced outside of New York; but this series gives a valuable index of the movement of security loans. It includes security loans by members and loans on account of others made in New York through member banks in New York. In a later chapter on security loans, a more inclusive series is presented; at least an attempt is made to arrive at a more inclusive figure for brokers' loans. It is estimated that brokers' loans increased from 8 billions in October, 1928 to 12 billions in October, 1929.

(3) Billions of dollars.

an inadequate determinant of reserves deposits actually are; the fact that reserve requirements were not increased is no reason for condemning reserve authorities for taking action in 1928-29.¹ Also, orthodox banking practice requires remedial action when loans expand relative to deposits, and, therefore, any large creation of credit for speculative purposes reflected in an increase of loans rela-

¹ Cf. C. O. Hardy, *op. cit.*, pp. 172-173.

tive to deposits may lead banks, acting in the orthodox manner, to introduce restrictive measures. It may also be added that reserve requirements based on banking debits (or clearings) would have exercised a salutary influence in 1928-29.

Columns 1 to 3, Table II, give some indication of the increase in member-bank credit; but it is to be noted that the total includes loans for speculative purposes. Column 4 gives an index of the movement of trade and commercial credit; but reserve authorities have admitted that part of the credit represented by this variable has been absorbed on security markets.¹ Column 3 is probably the most satisfactory index of the growth of credit; all loans on account

TABLE III. INDICES OF TRADE AND PRODUCTION

	Industrial production	Production of manu- factures	Production of minerals	Building con- struction	Factory employ- ment	Wholesale distrib- ution	Depart- ment store sales
June 30, 1927...	108	109	105	154	100	104	106
June 30, 1928...	109	111	101	158	97	100	107
June 30, 1929...	127	129	113	129	103	108	113

of others are not included, however, for such loans by non-member banks advanced in New York City, or for all banks on other stock exchanges, have been omitted. Column 5 gives an indication of the increase in credit used for speculative purposes; but the figures are restricted to reporting member banks, and all security loans are not used for speculative purposes.² A more comprehensive index, unfortunately available only recently, is presented in column 6, from which it is clear that security loans of *all* member banks to *customers* increased approximately 10 per cent in the first nine months of 1929. If we compare the increase of 10 per cent with an increase in all loans and investments of all member banks of less than 1 per cent in the same period, we may conclude that Federal reserve policy in 1929 was unsuccessful in providing adequate credit for industry and withholding accommodation from speculators; but this conclusion is to be qualified in the light of the less rapid increase in all security loans of *members*, both to customers and on the open

¹ *Mo. Rev. of N.Y.R.B.*, March, 1930; *Mo. Rev. of Cleveland R. B.*, April, 1930.

² Figures for 1927-28 (June 30) are available for all member banks. The increase in security loans was from 8.156 to 9.068 billions, or 11 per cent. Cf. *Hearings: Operation of Banking Systems* (71: 3), 1931, pp. 1021-1022.

market (column 10). *Total* security loans increased at a disconcerting rate in 1929, but if we exclude loans on account of others, the increase of security loans by member banks is but $1\frac{1}{2}$ per cent (column 10). (The increase is 17 per cent for the year ending October 4, however.) The apparent discrepancy in columns 6 and 10 is explained by the fact that the former includes security loans to customers only; while the latter includes both these loans and open market loans on security. In other words, a reduction in open mar-

TABLE IV
(Millions of dollars)

	Jan.-Sept., 1929
(1) Member bank loans on securities to customers	+770
(2) Total security loans	+140
(3) Difference—reduction of loans to brokers and dealers by members..	630
(4) Reporting member banks—loans to brokers and dealers in New York City on own account and for out-of-town banks	+110
Advances for non-member out-of-town banks, non-reporting members, and others through out-of-town banks	+740
(5) Reduction in advances on out-of-town exchanges by member banks.	40
(6) Increase of Street loans in New York—non-member banks, non- reporting members, and others through out-of-town banks	700

ket loans to brokers and dealers in the first nine months of 1929 is to be set against a somewhat larger increase in security loans to customers.¹ These figures reveal one important aspect of the problem in 1929; namely, that member banks were cooperating at least to the extent of withdrawing funds from the open market; but non-member banks and non-banking lenders failed to cooperate—or at least non-members did not cooperate, or an important part of the funds advanced by out-of-town banks was on behalf of non-

¹ The weekly averages for the periods of approximately three months covered by the call days are more significant than the net change for the periods as a whole.

BROKERS' LOANS
(Millions of dollars)

	On own account		For out-of-town banks		For others	
	Average	Change *	Average	Change *	Average	Change *
Oct.-Dec., 1928	1041	+161	1741	+186	2193	+336
Jan.-Mar., 1929 ...	1113	+72	1788	+47	2639	+446
Apr.-June, 1929 ...	894	-219	1624	-164	2935	+296
July-Sept., 1929 ...	1080	+186	1759	+135	3328	+393

* From weekly average of preceding period.

bankers, who failed to cooperate. The important point is the difference between (4) and (6).¹

Table IV is almost self-explanatory. It is revealed that out-of-town non-member banks, non-reporting members or corporations and individuals lending through out-of-town banks, or all, increased their open market loans to brokers and dealers while members for the most part curtailed their open market loans on securities. From (1) and (2) it is calculated that members reduced their open market security loans by approximately 630 millions. But although these official figures indicate a reduction of security loans on the open market by more than 600 millions, reporting member banks in New York City increased their advances to brokers and dealers on their own account and for out-of-town banks by approximately 110 millions. The only conclusion that can be drawn from these figures is that out-of-town non-members, non-reporting members or lenders operating through out-of-town banks increased their loans on the open market. (An allowance is made for the reduction in open market loans by members in other cities.) It is also to be noted that the facts concerning security loans of non-members and loans on the New York exchanges by non-reporting banks are not available, but the movements are indicated by a comparison of security loans of reporting banks and loans to brokers in New York for the account of banks; and it may be assumed that reporting members give an indication of the response of all members to reserve policy.

In conclusion, it may be said that bank credit expanded at an unusual rate in 1927-28, and yet market rates rose spectacularly. It is maintained here that the excessive use of bank credit for speculative purposes was an important cause of higher rates, both because the movements brought the dear money policy of the reserve authorities, and because speculators obtained a disproportionate part of the total amount of credit (loans and investments) distributed.² In the following year, at least, member banks cooperated to the extent of withdrawing loans to brokers; but all security loans by reporting banks expanded rapidly in the year ending June, 1929,

¹ The non-cooperation of non-members may be indicated by an increase of 1,676 millions in demand loans by New York banks and trust companies as reported by the New York Stock Exchange as compared to 1,559 millions reported by *member banks* in New York City. It is possible of course that part of the difference is explained by an increase in loans on account of others made by non-members.

² The question of whether credit was thus absorbed or not is discussed later.

and security loans of all members increased in the first nine months of 1929, despite the liquidation of advances to brokers on the open market. Moreover, in the face of non-cooperation on the part of non-banking lenders, and possibly non-member banks, as evidenced by the continued increase of *all* security loans and open market security loans, the limited success with member banks cannot be held to indicate a successful consummation of reserve policy. If rates remained high in 1929, and even rose to some extent, the explanation can only be the continuance of a dear money policy induced by the apparent excessive application of bank credit for speculative uses, which required a continuance of restrictive measures by reserve banks in 1929.

A large increase in loans relative to deposits has always been held to be a symptom of an over-extended condition of banks; and the large volume of security loans contributed to the proportionate increase of loans. Restraint was therefore directed toward non-speculative as well as speculative borrowers.

2. THE CONCERN OF RESERVE AUTHORITIES WITH SPECULATION AND HIGHER RATES

Professor Reed, in his excellent study of reserve policies since 1921, attempts to prove that higher money rates were not induced by an excessive diversion of funds to security markets and that higher rates were not an important reason for interference on the part of the reserve authorities.¹ I should prefer to put it in this

¹ Professor Reed also contends that the rate of expansion of member-bank credit in 1928-29 was less than usual and therefore attributes the rising tendency of rates to the restricted growth of credit. But there is no justification for excluding credit advanced through non-banking sources; and the inclusion of these advances would lead to a different conclusion. Moreover, many of us believe that the rate of expansion since 1919 has been excessive. Reed also assumes that the "withdrawal of the 'absorbed' credit from the security markets evidently did not do much to reduce the outstanding volume of bank credit and therefore it seems all the more doubtful whether the actual absorption had been very great." He neglects the movements in loans on account of others. Also, increasing disposition on the part of commercial borrowers to pay higher rates is scarcely a tenable explanation of the increase in rates. H. L. Reed, *Federal Reserve Policy, 1921-30*, pp. 173-175, 189-190. Cf. *N.Y.R.B. Ann.*, 1928, pp. 8-9.

The Federal Reserve Board pointed out that the increase in loans and investments of all member banks for the year ending June, 1928, was 8 per cent, an expansion that was excessive as compared to the expansion since 1922 and when considered in the light of the moderate needs of trade. *F.R.B.*, 1928, pp. 618-619. But, it may be pointed out, rates rose rapidly during this period. How are we to account for the increase if not by the excessive use of funds for speculation, losses of gold, and reserve policy?

manner: higher market rates were in part induced by the reserve banks and then were used as an excuse for an attempt to obtain control of the situation; although it may also be said that continued speculation and the large losses of gold would have brought some hardening of rates.¹ There is some justification for Professor Reed's position. Reserve authorities were sometimes too ready to assume that an increase in funds available for speculation was at the expense of other uses. When rates for industrial uses were rising rapidly, they were sometimes inclined to emphasize this cause of higher rates rather than their policy of dear money.² On the other hand, speculation was in part responsible for higher rates, for it brought the policy of dear money and tied up funds in so far as the bear element accumulated saving deposits, especially when they were not relent.³

It is significant that in 1928 reserve officials were inclined to minimize the increased cost of credit to business and industry, in spite of the marked increase in acceptance rates;⁴ and that in the latter part of 1928 and in 1929, the higher cost of credit to legitimate borrowers was held to be an adequate reason for employing moral suasion rather than discount policy.⁵ Undoubtedly reserve officials were sometimes too anxious to avert the assumption of any responsibility for higher rates to industry in 1928, and it may be held that their attitude on this point anticipated their policy in 1929.⁶

By way of summary this much may be said. Reserve authorities

¹ Cf. *N.Y.R.B. Ann.*, 1928, p. 8; C. E. Mitchell, "Federal Reserve Policy is Fully Justified," *American Bankers' Association Journal*, August, 1928, p. 183.

² Cf. *F.R.B.*, 1929, p. 360, for example and *Mim.L.S.*, 1930 (32), x-6544, p. 368. In 1929 Governor Young said that banks gradually shift money to employments that pay the highest rates and thus speculation brings higher rates elsewhere. In 1930, however, he denied that banks would desert their customers. *C.F.Chw.*, 1929 (128), p. 1893; Hearings: *Branch Banking* (71:2), 1930, p. 743.

³ This point is discussed more fully later.

⁴ For the movement of rates during this period see *F.R.B.*, 1930, p. 10; Hearings: *Operation of Banking Systems* (71:3), 1931, p. 768. The increase in the market rate on acceptances preceded the increase in Bank rate and was of large amplitude. Reserve officials were inclined to omit mention of the rise of the rates on acceptances. Customer rates did not rise much until the second quarter of 1928, but the rise was rapid for several months. Reserve officials, however, put the emphasis on the rise in the call money rate. Cf. *F.R.B.*, 1928, pp. 373, 679, 738; *C.F.Chw.*, 1928 (126), p. 3391; *ibid.*, 1928 (127), pp. 2169-2170.

⁵ *Mim.L.S.*, 1929 (31), pp. 121-123; *ibid.*, 1930 (32), pp. 367-368; *C.F.Chw.*, 1929 (128), p. 2395.

⁶ Governor Young in 1930 said that reserve banks informed him in the late summer of 1929 that higher rates were not a deterrent to business. Hearings: *Branch Banking* (71:2), 1930, p. 718.

did not always assume that higher rates were caused by the excessive use of member-bank credit for speculative purposes, although several statements were made in which the increased demands by speculators were stressed. Nobody can deny that they were concerned with the rates charged to legitimate borrowers, and many will contend that they were too much concerned with that problem. Their position early in 1929 was not so much that speculative absorption had brought higher rates as it was that *continued* firm money was to be *associated* in part with *continued* demands from speculative sources *in spite* of the higher rates, and that these demands *might* become the most important factor in bringing higher rates. Reserve authorities were not unaware of the fact that legitimate borrowers were at intervals not taking a normal amount of credit, and the interest of reserve authorities in the large demands from speculators may be traced to the fact that inordinate demands bring higher rates for all, rather than to any assumption that other borrowers were being deprived of funds beyond the extent to which higher rates and a *general* increase in the demand for credit had a depressing influence. Their emphasis was put on the use to which credit was put, the effect of this distribution on rates, and also, to some extent (especially in 1929), on the total volume of credit.¹

The appearance of the studies of central banking by Hawtrey and Hardy makes it tempting to append at the end of this chapter a few additional remarks concerning the attitude of reserve authorities toward inflation in speculative markets.

¹ The official attitude is well revealed by the following:

November, 1928: The high level of rates reflects the combined effect on the money market of a large loss of gold and of a firm money policy in a period in which the volume of bank credit continued to expand. *F.R.B.*, 1928, p. 737.

February, 1929: The growing volume of speculative credit has occasioned some strain in a period in which 500 millions of gold have been lost. Firming tendencies at this time of the year require attention. The extraordinary absorption of funds in speculative security loans which has characterized the credit movement during the last few years deserves particular attention lest it become the decisive factor in further firming money rates to the prejudice of the country's commercial interests. Resources are adequate if competently administered. *Ibid.*, 1929, pp. 93-95.

April, 1929: The firm money policy is justified on the grounds that bank credit was expanding rapidly in the country and particularly in the form of security loans, while current requirements of trade and industry made relatively little demand for additional bank credit. *Ibid.*, p. 243.

June, 1929: The growth in stock market loans indicates the extent to which the growing demand for funds has been a factor in raising money rates. *Ibid.*, p. 360.

Hawtrey takes a well-balanced position, arguing that some intervention on the part of reserve authorities was necessary.¹ On the other hand the main justification for intervention given, namely, the protection of reserve banks against losses on assets purchased from member banks, seems rather weak. He then makes a distinction (that I find difficult to accept) between two types of increases in security prices, of which only one is considered inflationary: an increase in security prices need not concern the reserve authorities if it is not explained by the anticipation of higher prices for commodities and capital goods, but is merely the result of capitalization at a larger number of years' purchase and anticipation of larger profits at present prices; and even if the increase in security prices is inflationary in the sense that it reflects future increases in the prices of commodities and capital goods, reserve authorities need not be concerned, for the rise in commodity prices would be a sufficient guide. It may, therefore, be assumed that in view of the fact that commodity prices did not increase, the rise of security prices in 1928-29 was not inflationary, and that reserve authorities should not have been concerned. Would Hawtrey deny that the rise in security prices was inflationary and that it brought excessive issues of securities and a disproportionate investment in fixed plant?²

Numerous criticisms of reserve policy offered by Hardy are justified. Undoubtedly, if reserve authorities were so much interested in legitimate trade as they seemed to be, they should not have introduced a policy of dear money, unless they were intent on driving speculators away from the money market by the introduction of decisive measures with a view to providing cheap money for industry in the near future. A dear money policy not firmly and consistently enforced was responsible for dear money for industry and the continuance of large demands by speculators. Nobody can be sure, however, that a decisive policy would have been expedient or successful.

We cannot accept the inference that because deposits were not locked up, action by reserve authorities with a view to discouraging speculation was not justified. If the volume of loans and investments is not an acceptable criterion of the expansion of credit, then we must certainly not be satisfied with deposits, but we ought to

¹ R. G. Hawtrey, *The Art of Central Banking*, pp. 72-74, 82-83.

² I am not convinced by Hawtrey's attempt to prove that issues of securities in 1927-29 gave no evidence of inflation. *Ibid.*, p. 65.

consider the velocity of bank deposits, *i. e.*, bank debits. Perhaps reserve authorities were not adequately concerned with the fluctuations in deposits during this period; but possibly they were also aware that it would not be easy to justify the strong policy deemed necessary if attention were directed to deposits, which had been maintained at a relatively stable volume. Also, had they paid more attention to the question of absorption of bank credit in speculation and less attention to the increase in loans and investments, they certainly would have been led to give more consideration to bank debits, and hence would have been even more concerned with the inflationary tendencies of the period. Less space, then, would have been given to the question of the deprivations suffered by legitimate industry and more to the dangerous increase of purchasing power in general (bank debits).¹

We may conclude that reserve authorities were concerned with the speculative use of credit because the increased use for this purpose was followed by higher money rates. But they occasionally assumed, and without justification, that an increase of speculative credit involved an untoward increase in all credit; and at times they seemed to forget that the higher rates were first induced in part by their own action, which, it is true, was inspired by the fear of speculation. On the other hand, they were vitally interested in keeping rates down for legitimate borrowers, although they were in part responsible for the increase.²

¹ C. O. Hardy, *op. cit.*, especially Chapters VII-VIII.

² The discussion in this chapter should be considered together with the note at the end of this Part (VII) on the absorption of credit.

CHAPTER XXIX

OPEN MARKET POLICY — THE FIRST PHASE AUGUST-DECEMBER, 1927

I. CONTRAST OF 1924 AND 1927

IN 1927 the Federal Reserve System relied on both discount policy and open market operations to stimulate business, reverse the movement of gold, and increase the exportation of agricultural products. Purchases of securities were only about one half as large as in 1924, when a similar experiment had been tried; but the business recession was not so serious in 1927. In 1924 purchases were suspended before the movement of gold was reversed but *after* business conditions had improved; in 1927 gold was exported in the midst of the operations, but business did not recover until after operations had been suspended.¹ It is important to remember that, since a large part of the purchases of securities in the second half of 1927 is to be associated with losses of gold, open market operations as a means of introducing monetary ease were on a modest scale.² Speculation,

¹ Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 816-817.

² Reserve officials can scarcely be blamed for having erred in 1927:

Jan.-Nov., 1924			
Public securities	+482 *	Acceptances	-56
Gold	+291	Rediscunts	-543
Money in circulation..	-101		
Increased cash	874	Reduced cash.....	599
		Balances †	+282
Aug.-Sept., 1927			
Public securities	+120		
Gold	+9		
Oct.-Dec., 1927			
Public securities	+105	Gold	-168
Aug.-Dec., 1927			
Public securities	+225	Gold	-159
Acceptances	+188	Money in circulation	+197
Rediscunts	+75		
Increased cash	488	Reduced cash.....	356
		Balances †	+110

* Figures are in millions of dollars.

† Items of small dimensions are omitted.

The purchases of acceptances offset the increase in notes in circulation in 1927 and it is apparent that an active open market policy of expansion was carried through for

however, constituted a much more serious threat in 1927, as the Open Market Investment Committee was well aware.

In his 1924 memorandum, Governor Strong put special emphasis on the beneficial results to be anticipated from a reduction of member-bank indebtedness. Banks were pressing their customers to repay; business recovery would be delayed until the banks were nearly out of debt; hence it was necessary to accelerate, by the

TABLE V
(Millions of dollars)

	1927				
	August	September	October	November	December
Rediscounts:					
Reserve system	-45	+13	+2	-9	+114
New York Reserve District	-5	+24	-15	-20	+64
New York City reporting					
member banks	+15	+16	-15	-2	+54
Member-bank balances:					
Reserve system	-6	+17	+26	+47	+26
New York City reporting					
member banks	-4	+2	+2	+40	+1
Monetary gold stock:					
Reserve system	+10	-1	-18	-76	-74
Public securities:					
Reserve system	+58	+62	+5	+73	+27
Loans and investments:					
New York City reporting					
banks	-28	+122	+67	+133	+131
Net demand deposits:					
New York City banks	-52	+11	+31	+175	+140

purchase of securities, the rate of repayment to reserve banks. The policy was successful, for debts were reduced and rates declined; but it is not clear that the improved situation is not in part to be ascribed to an influx of gold. In 1927 less attention was paid to the debts of member banks; and, although the debts of banks declined

but two months. The whole operation provided banks with additional cash approximately equal to but one third the amount provided in 1924 and it was provided in large part by an increase in rediscounts. In the earlier period larger purchases of securities, a large and continued influx of gold and notes, a very large growth of balances, and a spectacular decline of rediscounts did not bring disaster. In 1927 the dampening effects of a quick reversal of gold movements, an outflow of currency, and an increase of rediscounts did not prevent disaster. The New York Bank, in its post-mortem, understates its case in truly sportsman-like manner. Cf. *Hearings: Operation of Banking Systems* (71: 3), 1931, pp. 803-807, 815-817.

temporarily, the net effect in spite of the open market operations was an increase of indebtedness — or, at least, debts as high in January, 1928, as they had been before the new policy had been introduced, despite the fact that the money market had been provided with several hundred millions of cash through the purchase of securities and acceptances. Moreover, the loss of gold was not the exclusive explanation of the continued high level of indebtedness, for balances of member banks increased more than 100 millions. For approximately one month debts declined, but in September the indebtedness of banks began to rise, although the increase was moderate until December.

(1) That purchases in August of 58 millions of securities were reflected in an increase of 15 millions of rediscounts of reporting member banks in New York City and a reduction of rediscounts of 45 millions for the System is evidence that New York banks were losing deposits to the rest of the country. The movement continued, though in a less certain measure, into the next month. It is to be remembered that purchases of securities are made in the New York market for the most part; hence, if a movement of deposits from New York had not occurred, it would not be expected that the reduction of rediscounts would be made elsewhere. (The seasonal outflow of cash from New York is also to be considered.) The decline in deposits of New York banks, together with a large increase in loans and investments, supports the conclusion. The explanation may be in part the delay in reducing Bank rates elsewhere.

(2) In August the banks seemed to be content to maintain their balances at a stable level and to use the additional cash to repay the reserve banks. But in the events of September the first signs of danger are apparent to the observer of to-day: balances of member banks were increased, and the increase in borrowing by New York banks was only in part offset by a reduction of borrowing elsewhere.¹ By October the New York banks were able to put the burden of borrowing on others, in spite of large losses of gold; and banks, particularly those outside New York, increased their balances appreciably. By November, with the direction of the movement of deposits clearly toward New York, New York City banks were able to increase their balances by 40 millions, although they reduced their

¹ Cf. Chart II and also the discussion of it on p. 726; also Chart IVe (p. 741) and the discussion on pp. 740-743.

rediscounts.¹ A large loss of gold was offset by purchases of securities. In December an increase in balances outside of New York and a large loss of gold required a large increase in rediscounts; the movement of cash to New York was now checked; but the explanation is in part seasonal.

(3) Security prices (Standard Statistics) rose 16 points in the five months ending with December although the only spectacular increase in call rates occurred in that month. The steady increase in

TABLE VI

(Millions of dollars)¹

	Loans and investments		Demand deposits		Net demand deposits	
	July-Sept.	Oct.-Dec.	July-Sept.	Oct.-Dec.	July-Sept.	Oct.-Dec.
New York City reporting member banks	+25	+376	...	...	-234	+359
New York District member banks	+10	+811	-610	+404	-377	+771
All member banks	+430	+1061	-464	+654	-80	+935

(1) Changes from end of last month of previous period, or last call date.

loans and investments of New York during this period was mainly in security loans.

An inspection of Table VI induces the conclusion that New York banks lost deposits from July to September.² The movement of demand deposits in relation to loans and investments of the New

¹ Cash generally flows from New York in October and to New York in November. As early as November, the Minneapolis Reserve Bank reported that deposits of city banks in its district were at a record level. In view of the moderate demand for funds, additional deposits were made with correspondents and (later) investments were increased and (finally) security loans were increased. *Mo. Rev. of Minneapolis R. B.*, November, 1927.

² Figures for demand deposits are not available for New York reporting banks. It is assumed that if deposits of a group of banks increase more rapidly than its loans and investments increase, it is gaining cash (deposits) at the expense of other banks; and similarly, a reduction in excess of the reduction in loans and investments indicates a loss of cash (deposits). But other factors are taken into account. Thus an inflow of currency or gold or purchases of assets by reserve banks increase the deposits of banks, and affect the New York banks at an early stage and affect them more than other banks are affected. Net demand deposits are to be used with caution. Roughly, they consist of demand deposits plus the difference between balances due to banks (including certified checks outstanding, bankers' deposits, etc.) and balances due from banks (including exchange on clearing houses, balances with American banks, etc.). An increase of bankers' deposits will therefore account for an increase in net demand deposits unless the bank receiving the deposits has some credits with other banks that were not previously deducted because adequate balances were not previously available against which deductions might be made.

York District, as compared with relative movements of these two variables for the rest of the country, the relative movement of loans and investments and net demand deposits for the three groups of banks, and a consideration of the open market operations of the period that are first reflected in addition to the deposits of New York banks, offer more or less evidence of losses of deposits from New York banks. The position of New York banks in the last three months of the period seems stronger, if the movements in net demand deposits and loans and investments of reporting member banks in New York City are considered — especially stronger if demand deposits and loans and investments of banks in the New York District are taken as criteria. (I mean stronger than in the previous three months.) Apparently a large increase in bankers' balances and (*perhaps*) a reduction of items deductible from "due to banks" made possible a corresponding increase in net demand deposits of reporting banks, relatively to demand deposits.

2. MEMBERS PREFER TO REMAIN IN DEBT

The theory on which reserve authorities had placed so much faith was exploded.¹ Member banks prefer to remain in debt and expand their business on the basis of reserve funds when such expansion is adequately profitable. Reserve officials were confronted, with a novel situation: open market operations had been undertaken to relieve member banks of debt and thus ease the situation. In a surprisingly little time, member banks found their debts mounting; yet, in spite of the restraining effect of an increase in debts, they seemed to be stimulated more effectively than might have been anticipated from a reduction of debts. In other words, member banks were inclined to remain in debt and later to increase their debts rather than refrain from expanding credit, although the reserve banks had voluntarily provided them with a large amount of additional funds.

¹ In the following statement, the New York Bank exaggerates the effectiveness of its open market operations in 1928-29: sales of securities were followed by increased rediscounts, which led banks to scrutinize their loans and investments more carefully. The expansion of bank credit was checked, but security speculation was not permanently checked. Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 807.

CHAPTER XXX

OPEN MARKET POLICY AND THE MOVEMENT OF DEPOSITS, JANUARY-AUGUST, 1928

I. THE FAILURE OF OPEN MARKET POLICY

IN 1928 the open market policy was reversed, but it may be pointed out that measures of restraint were in fact not taken until February, and in March the authorities lost courage once more. The explanation may be that reserve officials considered the expansion in February a response to the demands of trade.¹ Thus it may be held that sales of 200 millions of securities in the first two months of 1928 were without effect, for sales in January were not large enough to offset the inflow of currency; in spite of a large loss of gold, balances of member banks increased by 27 millions, and member banks were able to reduce their indebtedness by 64 millions; and the restraining effects of the policy of February were without permanent effect because the authorities gave the money market breathing space in March.² The relevant figures are given in the Table on the opposite page.

Reserve policy failed because the reserve banks hesitated in the midst of the campaign of dear money, because the policy was introduced too late, and because acceptance policy was not subordinated to general policy.³ A reduction of balances by 58 millions in February was accompanied by a surprisingly small increase in rediscounts; but the reserve banks did not follow up their advantage, for in the next two months balances increased 28 millions (in April they increased by 31 millions, although rediscounts increased by 148), and in May a further increase in rediscounts of 175 was necessary

¹ From December 31, 1927 to February 28, 1928, loans and investments of all member banks declined from 34,247 millions to 33,688 millions, and loans from 23,866 to 23,099 millions. Although the first call date came rather early in 1928, it may be pointed out that a large reduction is unusual between the last call of the preceding year and the first call day.

² Hearings: *Stabilization* (70: 1), 1928, p. 147; H. L. Reed, *Federal Reserve Policy, 1921-30*, p. 141.

³ Of importance also are the varying effects of policies not always systematically carried out by all reserve banks on conditions in individual reserve districts. Consult Chart IVI, p. 744, and discussion, pp. 743-745.

to keep the reduction of balances down to 8 millions. Sales of securities in March-April were on an inadequate scale; so that in March a moderate increase in rediscounts was sufficient to maintain balances, and in April banks were content to rediscount at an unusual rate, in part to increase their balances. It was not until June that the dear money policy reflected in sales of securities and additional rediscounts, and, directed in part to a reduction of balances,

TABLE VII
(Millions of dollars)¹

	Aug. 1927- Jan. 1928	Jan. 1928	Feb. 1928	March 1928	April 1928	May 1928	June 1928	July 1928	Aug. 1928	Feb. 1928- Aug. 1928
Rediscounts ²	+11	-64	+6	+42	+148	+175	+183	+71	-29	+596
Securities held by reserve banks ...	+131	-94	-106	+9	-64	-94	-25	-19	-3	-302
Acceptances by reserve banks ...	+183	-5	-13	-17	+15	-9	-105	-59	-7	-195
Member-bank reserve balances held at reserve banks	+137	+27	-58	-3	+31	-8	-33	-31	-50	-152

(1) Monthly changes from end of preceding month except for figures in first and last columns.

(2) As used in this study includes collateral loans from reserve banks as well as rediscounts.

began to give any evidence of effectiveness; in the months of June-August, balances were reduced by 114 millions, the largest reduction occurring in August, when member banks actually lessened their rediscounts.¹ On the whole member banks were very slow in reveal-

¹ Large reductions of balances have not been common. Wholesale liquidation cannot be enforced. Even in 1920-21 the reduction of member-bank balances effected in a period of twenty months was but 262 millions, or 14 per cent, and in part this reduction is accounted for by numerous withdrawals of banks from membership in the reserve system. In July-August, 1923, February-April, 1925, and February-April, 1926 (all of these inclusive; that is, the change for July-August means that for the daily average of June to that for August), the balances of members were reduced by 32, 71, and 53 millions respectively. From February to August, 1928, the reduction was 152 millions or 6 per cent, and from February to May, 1929, balances were reduced by 91 millions or 4 per cent. Reductions as large as the one effected in 1928 may be of considerable significance, however, for earning assets of banks may be reduced ten or more times the amount by which balances have been reduced. Subscriptions to banking capital, sales of securities by reserve banks, or losses of gold may make possible a reduction of deposits, however, that is not offset by a liquidation of earning assets. Reductions of balances of large proportions occurred in 1920-21 and especially in 1931-33; but liquidation comes more as a matter of course in periods of depression and fear.

ing any disinclination to increase their debts, as is evidenced by the very rapid increase in rediscounts and the slow and very moderate reduction of balances.

That rediscounts did not rise more rapidly and that the resulting pressure failed to bring a larger reduction of balances, may be explained either by sales of acceptances to the reserve banks or by the failure of reserve banks to reduce their investments in acceptances. In the first five months of 1928, the net reduction of acceptances held by the reserve banks was 29 millions as against an average reduction of 120 millions in the preceding five years. Reserve authorities might have profited from a similar experience in the period January-May, 1923, when they were forced to increase their investments in acceptances by 12, although their security holdings were reduced by 187, millions. In June-July, however, the reserve banks were able to reduce their acceptances by 164 millions; but the delay was fatal.

It has been assumed up to this point that a reduction of balances of member banks requires pressure on their part to force their customers to liquidate; and the reduction of deposits may conceivably be considered a measure of the liquidation effected; but this assumption is not justified. The reduction of net demand deposits for reporting banks of approximately one billion in the months January-August, 1928, can be accounted for largely by sales of securities, liquidation of acceptances by the reserve banks, and a loss of monetary gold, which together comprised a loss in deposits of 900 millions.¹ In this sense open market operations are not so effective as they seem to be, for if they are followed by a reduction of deposits and balances, it does not necessarily follow that liquidation has been enforced. Member banks borrow to the extent required to maintain reserves, and the reduction of balances was, then, a symptom only of a reduction of deposits against which reserves were required, rather than evidence of enforced liquidation. That open market operations did not result in liquidation is apparent from the increase of loans and investments. The problem of the fluctuations in deposits is discussed more fully later; it will be evident that other factors also contributed to the movement of net demand deposits.

¹ Time deposits increased approximately 400 millions and more than offset an inward movement of currency of approximately 300 millions.

The New York Bank is not justified in attributing the large decline in deposits relative to loans and investments from January to June exclusively to losses of gold. *Mo. Rev. of N.Y.R.B.*, July, 1928. Cf. *ibid.*, August, 1928, however.

2. DEMAND VERSUS NET DEMAND DEPOSITS

A study of the figures of this period makes it necessary to modify the conclusions stated above and draws attention to the danger of concentrating attention on net demand deposits. Reserve requirements are determined on the basis of net demand deposits; hence fluctuations in their volume are an important consideration, especially in periods of strain. An inspection of the figures during this period reveals that the reduction in net demand deposits (or the absence of a large increase) is to be explained in part by the reduction in bankers' balances.¹ A large part of the discrepancy between the movements in demand and net demand deposits defies explanation. The solution probably lies in this direction: in periods of prosperity deposits are active and more checks than usual are out-

¹ For illustrative purposes, the following figures (in millions of dollars) are offered:

(1) Demand deposits	
Period I.....	10000
Period II.....	10000 - 100 = 9900
(2) Due to	
Period I.....	1500
Period II.....	1000
(3) Due from	
Period I.....	1200
Deductible.....	1000
Period II.....	1000
Deductible.....	850
(4) Due to minus due from	
Period I (deductible).....	500
Period II (deductible).....	150
(5) Net demand	
Period I.....	10500 (10000 + 500)
Period II.....	10050 (9900 + 150)

It will be noted that in the second period these balances (due to) are reduced by 500 millions and "due from" by 200 millions. An increase in checks outstanding is reflected in an increase in demand deposits immediately and also in an increase in "due from" in so far as the recipient banks have balances (due to banks) from which these items may be deducted. Therefore, demand deposits are increased and net deposits are *not* increased in so far as the items are deductible. In so far as the additional balances "due from" are not deductible, both demand and net demand deposits are increased as a result of an increase in checks outstanding. Let us now look at the problem from the viewpoint of the depositing bank. If deposited by banks with debit balances in their relations to other banks (not fully offset by credit balances) a deposit with another bank results in a reduction of net demand deposits of the depositing bank. The transaction looked at from the viewpoint of the bank receiving the deposit, however, is likely to result in an increase in balances due to banks and hence in net demand deposits.

standing. The result is that demand deposits increase rapidly; the corresponding asset is an increase of checks in process of collection. The increase in net demand deposits is not so large in so far as banks are able to deduct additional amounts from their balance "due to banks," because they are in possession of additional amounts "due from banks" (checks in process of collection, etc.). The increase in amounts deductible will be large if banks with large amounts of bankers' deposits and small amounts deposited with banks increase the latter.¹ Thus the increased velocity of bank deposits tends to

TABLE VIII
(Millions of dollars)

Jan.-Sept., 1928	Loans and investments	Demand deposits	Due to banks	Net demand deposits
All reporting member banks	+543 ¹	...	-376	-823
All member banks	+682	-462	-569	-1110

(1) Figures for reporting banks are interpolated from weekly returns; part of the divergences may thus be explained.

increase demand deposits more than it increases net demand deposits. On the other hand, the upward movement of net demand deposits will be slower or the decline larger if the volume of items from which deductions may be made declines more rapidly than does that of deductible items. Apparently, a change of this nature occurred from December 31, 1927, to October, 1928. If weekly figures were available, different results would probably be obtained for the period as a whole.

3. SIGNS OF SUCCESS

Signs of restraint were in evidence from June to August inclusive; reporting banks liquidated approximately 450 millions of loans and investments from May 29 to August 29.² In these three months an

¹ The net effect is likely to be an increase in demand deposits considerably above that in net demand deposits; and the divergences will be especially large in the financial centers where additional amounts due from banks can be deducted from balances due to banks.

² This summary for reporting member banks is subject to some modification in the light of the figures for all member banks. It is clear that non-reporting banks expanded.

LOANS AND INVESTMENTS
(Millions of dollars)

	All member banks	Reporting member banks
Mar.-June, 1928	+1373	+850 *
July 1-Oct. 3, 1928	-132	-234 *

* Interpolated from weekly figures.

extraordinary decline of net demand deposits of reporting banks, approximately 800 millions, and of balances with reserve banks, 88 millions, is to be explained in part by liquidation on the part of member banks.¹ Liquidation of assets held by reserve banks is also not to be neglected. But the reserve banks did not retain their advantage, for in the next month they temporarily and disastrously suspended their policy of dear money. The check to the upward

TABLE IX

1928	Call money rates — new	Money advanced by New York banks — stock market end of month figures	Stock prices — Standard Statistics Co. index
	(Per cent)	(Millions of dollars)	(Points)
Mar.-May	+1.36 ¹	+831	+19.8
June	+0.63	-399	-6.8
July	-0.26	-19	-1.1
August	+0.85	+110	+4.1

(1) It was under the stimulus of the marked increase in call rates from March to May that loans on account of others increased in a spectacular manner for the first time. Cf. *F.R.B.*, 1928, p. 168. Loans on the account of New York banks declined to an appreciable degree in 1927 under the pressure of declining rates on the stock market; but a large increase in rates in December, 1927 (from 3.6 to 4.4 per cent) was reflected in a large increase of loans on their own account; private lenders were apparently not aware of the situation as yet or were not in a position to increase their loans. Loans on their own account continued to increase until the middle of 1928 and in general followed a course parallel to the movement of total loans on the stock market. Cf. chart, *Hearings: Operation of Banking Systems* (71:3), 1931, p. 809. But closer examination reveals that the average (weekly figures) of loans on own account and for outside banks for the months March to June, 1928, declined by 104 millions for the former and increased 66 millions for the latter; and during the months July to September, declined by 272 and 6 millions respectively.

movement of loans and investments was an achievement; but the gain was lost with a reversal of policy in the fall.

Reserve policy in the last few months of this period was reflected in events on the stock market. The upward swing of security prices and brokers' loans was temporarily checked as it had been in the early part of the year.

By June the continued increase in open market rates was beginning to have some effects, although the reduction of speculative

¹ But from an inspection of the information supplied on call dates, it is evident that the reduction of net demand deposits is explained in part by the reduction of bankers' balances, and in part by an increase in time deposits.

(Millions of dollars)

	All member banks				Reporting banks	
	Demand deposits	Time deposits	Due to banks	Net demand deposits	Due to banks	Net demand deposits
Mar.-June, 1928	+255	+516	-257	-45	-362 *	-292 *
July 1-Oct. 3, 1928 ...	+133	-29	+110	-196	+184 *	-187 *

* Interpolated.

The increase in "due to banks" apparently occurred in September and early October.

advances in June is in part to be ascribed to seasonal withdrawals of funds from the market. Undoubtedly reserve policy was partly responsible for the higher rates, for New York banks on their own account were beginning to withdraw funds from the market, although outside banks or their clients were not so cooperative. The combination of higher rates and withdrawals by New York banks, in spite of replenishments by outsiders, gave the market its first shock.

4. NEW YORK BANKS GAIN DEPOSITS AND PUT THE BURDEN OF REDISCOUNTS ON OTHER SECTIONS

The manner in which member banks in other districts assumed the burden of rediscounts, forced upon them, is revealed below. It is rather remarkable that large sales of securities in the New York market and unusually large exports of gold were followed by relatively small increases in rediscounts by banks in New York City:

TABLE X¹

(Millions of dollars)

1928	Securities held by reserve banks	Monetary gold stock	Rediscounts by New York City reporting member banks	Rediscounts elsewhere
January	-94	-39	-33	-31
February	-106	-6	-16	+22
March	+9	-38	-3	+45
April	-64	-48	+70	+78
May	-94	-80	+77	+98
June	-25	-88	+49	+134
	-374	-299	+144	+346

(1) Average monthly figures.

Thus, although reporting banks in New York City were deprived of almost 700 millions of cash through losses of gold and sales of securities, they increased their indebtedness by but 144 millions while outside banks increased theirs by 346.¹ That debts at outside reserve

¹ Most transactions in securities and acceptances on behalf of reserve banks are consummated in the New York market, and New York banks therefore are the first to feel the effects of sales of investments by reserve banks. Their deposits and cash are reduced. Moreover, New York banks are also affected adversely because the New York Reserve Bank suffers large losses of cash, as sales on behalf of other reserve banks require transfers of cash to them and the magnitude of the loss suffered by the New York Bank is determined by the extent to which sales have been made for outside reserve banks. Thus restraint is introduced at an early stage in New York both because member banks in New York have been deprived of deposits, and reserve banks have

banks did not increase to a greater extent is to be explained largely by the inflow of currency. Approximately 300 millions' (net) of currency flowed in, of course offsetting to that extent the reduction of deposits (and cash) caused by the loss of gold and the sale of investments by reserve banks. The results for the first three months are even more striking. Banks in New York City reduced their indebtedness by 52 millions in a period in which the reserve banks disposed of 191 millions of securities and the monetary gold sup-

TABLE XI¹
REPORTING MEMBER BANKS
(Millions of dollars)

1928	Loans and investments		Loans on securities		Other loans		Net demand deposits	
	Outside N.Y. City	In N.Y. City	Outside N.Y. City	In N.Y. City	Outside N.Y. City	In N.Y. City	Outside N.Y. City	In N.Y. City
January	+30	+134	+30	+105	-50	-39	+47	+63
February	-9	-169	-22	-183	0	-14	-147	-162
March	+141	+47	+58	-78	+58	+109	-90	-4
April	+209	+234	+112	+226	+33	+63	+95	+140
May	+72	+130	+39	+112	+11	-7	-13	-41
June	+32	-116	+61	-174	+11	+14	-123	-187

(1) Monthly changes.

plies were reduced by 81 millions; banks outside of New York increased their rediscounts with the reserve banks by 26 millions.

The explanation of the distribution of rediscounts among the reserve banks is to be found in part in the relative rates of expansion. We note, for example, the movements in loans and investments, in loans on securities, and other loans for the months of February, March, and June — months in which banks outside of New York City were forced to assume a large part of the burden of rediscounting. The rate of expansion for reporting banks outside of New York was more rapid, or they expanded while New York banks were liquidating; and it may be remarked that in February, March,

suffered losses of cash as a result of sales of investments; moreover, open market operations are reflected by an increase in market rates in New York followed tardily and only to a smaller degree elsewhere.

It may also be noted that from December, 1927, to June, 1928, the amount of money in circulation and Federal reserve notes in circulation were reduced by 312 and 177 millions respectively. That the outside banks especially gain from this influx of cash, may be gleaned from the fact that the reduction of reserve notes for the entire New York District was but 39 millions or one fourth of the total reduction of notes in circulation.

TABLE XII

(Millions of dollars)

1928	January-February ¹		March-June ²	
	Change	Per cent	Change	Per cent
Loans and investments:				
All member banks	-559	-1.6	+1373	+4.1
All reporting member banks	-195	-0.9	+850	+4.0
Reporting member banks in New York City	-197	-2.8	+374	+5.4
Loans:				
All member banks	-787	-3.3	+1204	+5.2
All reporting member banks	-355	-2.2	+767	+5.0
Reporting member banks in New York City	-320	-6.0	+359	+7.2
Net demand deposits:				
All member banks	-869	-4.3	-45	-0.2
All reporting member banks	-276	-2.0	-292	-2.1
Reporting member banks in New York City	-133	-2.4	-137	-2.5

(1) From December 31, 1927, to end of February, 1928.

(2) From end of February to end of June.

TABLE XIII¹

(Millions of dollars)

1928	Loans and investments		Loans		Net demand deposits	
	Jan.-Feb.	Mar.-June	Jan.-Feb.	Mar.-June	Jan.-Feb.	Mar.-June
Non-reporting member banks	-364	+523	-437	+437	-593	+246
Reporting member banks						
Outside New York City	+3	+476	-31	+408	-142	-154
In New York City..	-197	+374	-320	+359	-133	-137

TABLE XIV¹

(Millions of dollars)

Jan.-June, 1928	Loans and investments		Loans		Time and demand deposits	
	Change	Per cent	Change	Per cent	Change	Per cent
All member banks	+814	+2.2	+417	+1.7	+70	+0.2
Non-member banks	+1000	+4.2	+640	+4.4	+419	+2.0

¹ Figures in Tables XIII and XIV do not always agree with Table XII because monthly averages are used in Table XII, and in Tables XIII and XIV weekly figures are used in order to obtain figures for call dates for which days figures for all member banks are available. Where the weekly figures are not available on the call date, interpolated figures are used.

and June, reporting banks outside of New York City increased their loans on security by 97 millions while New York banks reduced theirs by 435.

It is important to observe the rate of expansion of loans and investments as compared with the rate of expansion of deposits. Particularly in the months mentioned, the decline of deposits for reporting banks outside of New York City was relatively large compared to the movements in loans and investments as well as to the movements of deposits and loans and investments of New York City banks alone. In other words, and it is particularly apparent in February, March, and June, reporting banks outside of New York City were losing cash (deposits) to banks in New York City, and therefore the former were confronted with the task of rediscounting to a disproportionate degree. Undoubtedly liquidation in New York, brought on in part by pressure resulting from sales of securities, losses of gold, and increased rediscounts, brought higher rates in New York, drove borrowers to outside banks, and attracted funds of outside banks to the New York market.¹

¹ The above analysis is made on the basis of the figures for reporting member banks, as these banks provide weekly figures; they hold approximately two thirds of the loans and investments and deposits of all member banks. Figures for non-reporting banks are available at call dates (generally four times a year) and comparisons of the figures for all member banks (and non-reporting banks), all reporting banks, reporting banks in New York City, and other reporting banks are presented. The results in general are supported by these additional series. Thus from March to June, inclusive, approximately 1,000 millions of additional loans and investments of all member banks other than reporting member banks in New York City are reflected in an increase of net demand deposits of but 90 millions; the corresponding figures for reporting banks in New York City are an increase of loans and investments of 374 millions and a reduction of net demand deposits of 137 millions. The insignificant increase in deposits for banks outside New York City, in spite of the large creations of credit, can be explained by losses of deposits to New York; and the failure of deposits in New York City to decline more drastically in spite of the losses of gold and sales of securities may be explained by New York's favorable balances in relation to the rest of the country. More on this point later.

5. DEMAND AND NET DEMAND DEPOSITS ONCE MORE

Once more it is necessary to consider these facts in the light of the relative movements of demand and net demand deposits:

TABLE XV
(Millions of dollars) ¹

	Loans and investments		Demand deposits		Due to banks		Net demand deposits		Time deposits	
	Jan.- Feb. 1928	Mar.- June 1928	Jan.- Feb. 1928	Mar.- June 1928	Jan.- Feb. 1928	Mar.- June 1928	Jan.- Feb. 1928	Mar.- June 1928	Jan.- Feb. 1928	Mar.- June 1928
All member banks..	-559	+1373	-850	+255	-422	-257	-869	-45	+158	+516
Member banks in New York District	-519	+670	-399	+167	-292	+71	-562	+130	+65	+135
Reporting member banks in New York City ²	-198	+374	...	...	+21	-131	-133	-137	+10	+124

(1) Periodic changes.

(2) Figures interpolated to call dates.

The figures for January and February strongly support what has been said above. All member banks lost demand deposits in amounts equal to the losses of net demand deposits, and their losses of both demand and net demand deposits were not only above the reduction of loans and investments but great even if we consider the appreciable increase in time deposits, a variable that should not be left out of consideration. Open market operations, losses of gold, and increases in capital funds probably explain the loss of deposits not accounted for by the reduction of loans and investments.

Member banks in the New York District gained deposits, as is apparent from the relatively small reduction of demand deposits (399) as compared to that in loans and investments (519). The loss of deposits was not so large as might be inferred from the reduction of net demand deposits; the difference between the reduction of demand (399) and net demand deposits (562) is easily explained by the reduction of net "due to banks" (292). We may conclude that a study of the figures for all member banks and those in the New York District confirms the results obtained by the study of net demand deposits: New York banks were in a strong position in the early months of 1928. A reduction of but 133 millions in net demand

deposits (loans and investments declined by 198 millions and "due to banks" increased by 21 millions), also indicates that the relative gain in deposits for New York City banks is not adequately revealed by the figures for net demand deposits. But on the other hand it is apparent from the figures for demand, net demand, and bankers' ("due to banks") deposits for all member banks that demand deposits were inflated by the increased activity of deposits more than net demand deposits were inflated; for the increase in net demand deposits resulting from the increase in checks outstanding is to be offset in large part by the increase in amounts deductible from "due to banks," contributing to a reduction in net balances and hence in net demand deposits. It may be noted that the loss of net demand deposits for the three groups is explained in part by the reduction of bankers' balances and the increase in time deposits.

In the months March-June, the evidence offered by a study of demand and time deposits is not so clearly corroboratory of the conclusions derived from an examination of net demand deposits as are the figures for the earlier months.

All member banks lost net demand deposits in quantities large in view of the movements in loans and investments; but a consideration of the increase in demand and time deposits necessitates a modification of this conclusion: the loss of deposits was much more moderate than is to be inferred from a study of net demand deposits. If we consider the movements of loans and investments and time and demand deposits for all member banks and those in the New York District, it seems that the losses were, relatively speaking, of equal dimensions; but the favorable position of New York is evident if we consider the unprecedented open market operations and losses of gold which first affect the volume of deposits in banks there.

New York City banks more than held their own in the last four months of this period, as is indicated by the relative movements of net demand deposits and bankers' balances. That is to say, the banks in the New York District were gaining deposits relative to other member banks, and New York City banks seemed to be in as strong a position as those in the New York District, as is evident from a comparison of net demand deposits, loans and investments, and bankers' balances of member banks in the New York District and reporting member banks in New York City. Higher money rates in New York and a policy of restraint probably explain the influx of deposits at the expense of other sections of the country.

An increase of almost 700 millions in loans on account of others and on account of outside banks as reported by member banks in New York City was both a reflection of the attraction of higher rates obtainable in New York and an explanation of New York's favorable balance. The increase in loans on account of others probably required some transfers of cash from other sections of the country, and these transfers were met only to a relatively small degree by reductions of balances in New York banks. Thus losses of deposits to be associated with an increase in banking capital, open market operations, and losses of gold are to be set against the influx of deposits to be associated with the strong position of New York banks; the result was that New York banks did not lose deposits consequent to the movement of loans and investments to a greater extent than did other banks, although they were peculiarly affected by open market operations and similar factors.

6. CONCLUSION

In the months January–March, the New York banks were able to put the burden of borrowing on outside banks; in large part the explanation of the success of the New York Bank is the restraint exercised by members in New York City.¹ The failure of reserve policy was in part the result of its feebleness: the influx of notes and the suspension of sales of securities in March, considered together with the reduction of reserve requirements that were a result at once of open market operations, of losses of gold, and of the exercise of some restraint on the part of banks — these considerations explain the failure of the reserve policy in the early months. By April, expansion was rampant once more, both in New York and outside, and a large increase in indebtedness failed to prevent the banks from increasing balances appreciably and expanding in a reckless manner. In truth, for the half year as a whole, expansion was adequate to offset any reduction of deposits to be associated with sales of securities and the loss of gold; the rate of growth from March to June in demand deposits and loans and investments was rapid enough to suggest failure of reserve policy. In part the explanation is that money rates, particularly for speculative purposes, did not rise quickly enough because the New York banks or borrowers from

¹ Cf. Chart II (p. 724) and also p. 726.

New York banks were not restrained adequately by the increase in rates; other banks were attracted by the increased returns offered to lenders on the security markets; and customers with wide connections borrowed more freely elsewhere. The result was that the increase of indebtedness was spread thin and the increase of market rates overran the country; the increase in rates in New York was not drastic enough to check speculation.

Reserve authorities have frequently commented on the decline of deposits during this period; but their explanations have not always been adequate.¹ Special attention has been given to open market operations and fluctuations in the monetary gold stock. Inadequate attention has been given to the distinction between demand and net demand deposits; losses of bankers' balances are not equally relevant to movements in both these series. Later, the fluctuations in deposits will be analyzed more carefully. In this period the movement of net deposits and demand deposits did not vary so much as in other periods, although the reduction was marked at this time. We shall see that open market operations and losses of gold played a relatively small part, and in this sense the reduction of deposits was not an important cause of stringency. But losses of deposits, reflected in losses of cash for the System as a whole or for different sections of the country, are of fundamental significance, and that type of loss is referred to when relative losses of deposits are discussed. In that sense open market operations were of first-rate importance.

¹ Thus in 1928 authorities of the New York Bank pointed out that the reduction in deposits was not fully offset by a reduction of loans and investments, and accounted for the discrepancy by the loss of gold and open market operations. *C.F.Chr.*, 1928 (127), p. 628; *N.Y.R.B.Ann.*, 1928, pp. 5-14; cf. *F.R.B.*, 1928, p. 619. Recently, the Board pointed out that an increase in capital and open market operations made possible an expansion of member-bank credit in a period in which deposits declined. *Ibid.*, 1931, pp. 183-184. The reserve authorities attributed the increase of demand deposits in the latter part of 1928 to an increase in member-bank credit and the reduction in the early part of 1929 to a reduction of member-bank credit and a withdrawal of bankers' balances. *Ibid.*, 1929, pp. 527-528. But we shall see that this is an inadequate explanation both because demand and net demand deposits should be distinguished in view of the very large discrepancies in their movements and because other considerations are at least of equal importance with the movement of member-bank credit.

CHAPTER XXXI

OPEN MARKET POLICY, SEPTEMBER-DECEMBER, 1928— A DISASTROUS REVERSAL OF POLICY

I. MARKET RATES AND THE CHANGE OF POLICY

BY THE end of August the dear money policy had been suspended. From September to November inclusive, rediscounts declined 164 millions, investments of reserve banks in securities and acceptances increased 28 and 293 millions respectively, balances of member banks with reserve banks increased by 78 millions, and loans, loans on securities, and net demand deposits of member banks in leading cities increased by 271, 266, and 467 millions respectively; their investments declined by 96 millions. Call rates (average for the month from daily figures) rose from 6.05 in July to 6.87 per cent in August, to 7.26 per cent in September, 6.98 per cent in October, and 6.67 per cent in November. From September to November inclusive, brokers' loans by New York banks reported by the New York Stock Exchange increased no less than 1,150 millions, common stock prices by 23 points (16 per cent).

It is difficult to defend the change of policy introduced in the late summer of 1928.¹ Undoubtedly reserve authorities were troubled by the effects of their restrictive policy on rates charged by banks to legitimate borrowers; the increase had been particularly marked in the months June-August. But they had no valid reason for assuming that additional cash thrust upon the market through the purchases of acceptances would be absorbed exclusively by legitimate borrowers.² In truth, the increase in speculative loans, the reduction in *other* loans, and the decline in call money rates in October and November while customer rates tended to increase, point to the conclusion that legitimate industry profited less than did

¹ In the light of the change in policy in the fall of 1928, Governor Young is not justified in saying that "the Federal Reserve System for its part pursued for two years a policy of firm money expressed in higher rates, in sales of open market securities and in exerting its influence against improper uses of Federal reserve facilities." "For the greater part of two years" would more accurately describe the history of the period. *Mim.L.S.*, 1930 (32), x-6585, p. 416.

² Cf. Hearings: *Branch Banking* (71: 2), 1930, p. 649, however.

speculation although the upward movement of rates was to some extent checked. An increase of loans on securities of 266 millions from September to November inclusive, for reporting member banks, while New York banks reduced their loans to brokers on their own account and on account of outside banks, is to be explained by the fact that customers were shifting their demands for accommodation from their brokers to their banks in order to escape the payment of high rates in the open market.

It is apparent from the table below that even by May, 1928, the call rate had increased in a spectacular manner, that on security loans to customers of New York City banks had soared, and large increases in rates on open market paper and to customers of New York City banks had occurred; by August the spectacular increase in call money rates had not effectively checked the demand for funds on the security markets; and the increases in other open market rates and in rates to customers in the northern and eastern cities may explain the reversal of policy. The relatively large increase in rates charged on security loans by New York banks indicates that customers were to some extent shifting their borrowing from brokers to banks, and that banks at this point were applying pressure because of their increased indebtedness. In view of the state of the money market by August and later months, authorities were not justified in contending that higher rates of threatening proportions were not paid by industry.

Higher rates for speculative loans had contributed to higher rates for industry. At first the reserve banks attempted to check the influx of money into speculation by selling securities and raising rates, and by June New York banks were beginning to reduce their open market loans on securities; but it was not until later in the year that outside banks began to reduce their loans on the Street. In the meanwhile, however, non-banking lenders had begun to advance funds freely, so that total advances on the Street tended to increase. All *security* loans of reporting banks on the whole tended upward, at a rapid rate as compared to the movement in *other* loans — a fact which reflects the diversion of banking funds from industry to speculation and which, therefore, brought higher rates. Also, the non-speculative open markets suffered early as a result of the larger profits to be made from call loans. Although banks in New York by June, and outside banks by November, apparently began to liquidate their loans on the market, the total of security loans con-

TABLE XVI
CHANGES IN RATES¹

	1928				1929		
	Jan.-May	Jan.-Aug.	Sept.-Nov.	Dec.	Jan.	Feb.-July	Aug.-Sept.
Call loan renewal	+1.32	+2.49	-.20	+1.93	-1.55	+2.18	-.73
N. Y. City prime commercial paper	+ $\frac{1}{2}$	+1 $\frac{1}{2}$ to 1 $\frac{1}{2}$	...	...	...	+ $\frac{1}{2}$ to $\frac{3}{4}$	+ $\frac{1}{2}$
N. Y. City prime bankers' acceptances	+ $\frac{3}{4}$	+1 $\frac{3}{4}$	-. $\frac{1}{2}$	...	+ $\frac{1}{2}$ to $\frac{3}{4}$	+ $\frac{1}{2}$ to $\frac{3}{4}$	...
Yield on U. S. Treasury Notes, etc.	+.73	+1.19	-.10	...	+.40	-.11	+.03
N. Y. City banks: security loans	+1.0	+1.0 to 1.5	...	...	...	+0 to $\frac{1}{2}$	...
Customer loans							
N. Y. City	+.47	+1.06	...	+.07	+.11	+.14	+.18
Northern and eastern cities	+.28	+.83	+.23	+.09	-.04	+.21	+.16
Southern and western cities	-.04	+.20	+.10	+.01	+.03	+.23	+.10

(1) In per cents. Calculated from tables in the *Annual Reports* of the Board. All periods inclusive: change from beginning to end of period.

tinued to increase. Banks, pressed by speculators, it is to be observed, will increase their charge to all customers, even though, in the long run, additional credit is not absorbed.

An inspection of the following tables reveals that the easy money policy of the reserve banks was unsuccessful. A tendency toward

TABLE XVII¹

(Millions of dollars)

	Reporting member banks							
	Loans and investments		Loans on securities		Other loans		Net demand deposits	
	Banks outside N. Y. City	Banks in N. Y. City	Banks outside N. Y. City	Banks in N. Y. City	Banks outside N. Y. City	Banks in N. Y. City	Banks outside N. Y. City	Banks in N. Y. City
1928								
July	-60	+4	-19	+13	+19	+9	-98	-106
August	+9	-208	-32	-108	+48	+24	-133	-212
September	+3	+60	-2	+26	+40	+10	+117	+31
October	+76	-9	+18	+15	+99	-28	+107	+60
November	+3	+43	+74	+135	-28	-88	+41	+112
December	+109	+96	+62	+53	+11	+30	-11	+41

(1) Changes in average monthly figures from preceding month.

TABLE XVIII¹

(Millions of dollars)

	Loans and investments		Loans		Net demand deposits	
	Change	Per cent	Change	Per cent	Change	Per cent
July 1-Oct. 3, 1928						
All member banks ...	-132	-0.3	+22	+0.1	-196	-1.0
Reporting member banks ¹						
Outside N. Y. City .	-15	...	+108	+1.0	+82	+1.0
In N. Y. City	-219	-3.0	-71	-1.4	-269	-5.0
Non-reporting banks .	+102	+0.8	-15	...	-9	...
Oct. 3-Dec. 31, 1928						
All member banks ...	+755	+2.2	+830	+3.0	+949	+5.0
Reporting member banks ¹						
Outside N. Y. City .	+173	+1.1	+191	+1.8	+151	+1.9
In N. Y. City	+501	+7.1	+453	+8.6	+445	+8.7
Non-reporting banks .	+80	+0.6	+186	+2.2	+353	+6.2

(1) Figures of reporting banks have been interpolated to call days.

liquidation, especially apparent in the figures for July and August and, in part, the result of restrictive measures taken by the reserve banks in the first half of 1928, was followed by excessive expansion especially evident in the last three months of the year in the large growth of security loans and peculiarly in their increase by reporting

TABLE XIX¹

	1928						Net chan
	July	Aug.	Sept.	Oct.	Nov.	Dec.	
(1) Acceptances and securities purchased by reserve banks	-78	-10	+78	+139	+104	+37	+270
Customer rates:							
(2) New York City	+29	+18	+07	...	-07	+07	+54
(3) North and East	+21	+02	+21	...	+02	+09	+55
(4) South and West	+10	+03	+02	+05	+03	+01	+24
(5) Call loan, renewal	-16	+82	+39	-28	-31	+1.93	+2.35
(6) Other open market, acceptances and commercial paper	large increase	large increase	small increase	small reduction	small reduction	no change	appreci increase
Indebtedness at reserve bank:							
(7) Reserve system	+71	-29	+3	-89	-78	+116	-6
Reporting banks:							
(8) In New York City	+3	-51	+43	-64	-45	+64	-50
(9) Outside New York City	+55	+3	-27	-22	-10	+54	+55
(10) Non-reporting banks ..	+13	+19	-13	-3	-23	-2	-5
Balances:							
Reporting banks:							
(11) In New York City	-19	-25	+11	+4	+1	+31	+1
(12) Outside New York City	+2	-26	+17	+3	+6	+3	+1
(13) Non-reporting banks ..	-14	+1	+12	+11	+13	-19	+1
Speculation:							
(14) Street loans through New York banks ²	-19	+110	+387	+347	+418	-11	+123
(15) Stock prices	-1.1	+4.1	+8.3	+2.5	+12	+0.3	+26.1

Note (1). (1), (7) to (14) incl., changes in millions of dollars. (2) to (5) incl., changes in per cents. (15) changes in in of common stock prices (Standard Statistics Company, republished by the Board). 1926 = 100; June, 1928 = 14
 (2). Stock market figures.

banks in New York City.¹ From July to September, higher call money rates attracted large sums of money from private sources; but it is apparent from these tables that the banks made very large contributions in the last three months of the year.

The easing policy introduced in August and September was no more successful if considered from the viewpoint of the movement of rates. The upward movement of rates was checked to some extent in the last three months of the year, but the call market especially profited from the reduction.² Perhaps the authorities were now anxious to prevent the maintenance of extremely high rates on the

TABLE XX
(Millions of dollars)

July-Dec., 1928	Loans and investments		Loans		Deposits (time and demand)	
	Change	Per cent	Change	Per cent	Change	Per cent
All banks.....	+1001	+1.8	+1299	+3.3	+3368	+6.3
Member banks	+623	+1.8	+852	+3.5	+2693	+8.4

call money market, which are generally followed by the influx of large funds from outside sources; but if lower rates discouraged non-banking lenders, the banks, now in possession of additional funds obtained through purchase of acceptances by the reserve banks and attracted by call rates that were still very high, made important contributions to the funds available for the call money market.

2. NEW YORK BANKS REMAIN IN A STRONG POSITION

Rediscounts were reduced in large amounts from July, when they were at a maximum, to the last weeks of the year, when the policy of easy money was once more suspended and a seasonal strain was felt by the money market. Rediscounts for the System declined from 1,077 on August 11 to 816 millions on November 27; the decline for New York reporting banks was from 244 on August 8 to 92 millions on November 21. Thus the rate of decline of New York banks was approximately three times as large as for the System and more than four times as large as for banks other than New York reporting banks.³

¹ The Board commented on the liquidation effected in the leading cities from May 15 to August 22, but apparently was disappointed that the improvement was largely restricted to New York City. *F.R.B.*, 1928, p. 617.

² Exclude from consideration the spectacular increase in December which was caused by the withdrawals of loans on the market by non-banking lenders.

³ Also consult Chart II (p. 724) and see p. 726.

Why were the New York banks able to retain the advantage of increased supplies of cash for themselves to the marked degree evident in the disproportionate reduction of rediscounts of the New York City banks? Undoubtedly the restraint exercised in the third quarter of 1928 was one important cause; the reduction of loans and investments of reporting banks in New York City in August is revealing on that point. For July the reduction of deposits of New York City banks, as compared to the movement of loans and investments, seems rather large; but the discrepancy is amply accounted for by the open market operations — reduction of securities and acceptances of the month of July. That the loss of deposits was not embarrassing to the New York banks is revealed by the fact that most of the borrowing in July was done by banks outside. In August the favorable balance for New York is apparent in a comparison of deposits and loans and investments of New York City banks on the one hand and reporting banks outside the city on the other, as well as by the large reduction of rediscounts of New York banks as compared to the increase in borrowing elsewhere. Thus in these early months, New York banks lost deposits more rapidly than did other banks; but the seemingly large losses obscured a favorable balance for New York, evident if we consider the movements of deposits and loans and investments and the loss of deposits resulting from open market operations. The movement of bankers' balances in these months accounted for a moderate reduction in net demand deposits of New York banks; but an increase in public deposits had the opposite effect.

A study of the figures for non-reporting banks for the third quarter of 1928 confirms the conclusions offered in the preceding paragraph. New York City banks were in a strong position in relation to reporting banks outside, and non-reporting banks, which on the whole are representative of the smaller banks, were in a less advantageous position than those reporting. They expanded somewhat while others were contracting; they lost deposits to some extent to reporting banks. Expansion was followed by more borrowing, relatively speaking, by non-reporting banks. It is to be observed that the movements in September obscure those for July and August if the third quarter is considered as a whole.

In October and November, the reporting banks in New York City seemed to be in a more advantageous position than reporting banks outside. This conclusion is based on the movement of loans

and investments and deposits and, also, the large reduction of indebtedness of New York City banks. But New York's favorable position is not so clearly envisaged if we allow for the fact that open market purchases are made in the New York market and thus increase deposits of New York banks in the first instance. The results for the entire quarter are to be accepted with qualifications, for unusual movements occurred in December: in particular, the large replacement of funds by New York City banks for funds withdrawn from the Street by outsiders. In view of the open market operations,

TABLE XXI¹
(Millions of dollars)

	All member banks	Member banks in New York District	Reporting member banks in New York City
Loans and investments			
July 1–October 3, 1928	–132	–272	–219
October 4–December 31, 1928	+755	+766	+501
Demand deposits			
July 1–October 3, 1928	+133	–58	...
October 4–December 31, 1928	+2541	+2113	...
Due to banks			
July 1–October 3, 1928	+110	–183	–27
October 4–December 31, 1928	+212	+281	+150
Net demand deposits			
July 1–October 3, 1928	–196	–456	–269
October 4–December 31, 1928	+949	+871	+445
Time deposits			
July 1–October 3, 1928	–29	+32	–21
October 4–December 31, 1928	+43	+76	+40

(1) Change for periods.

the relative movements of deposits and loans and advances indicate that the non-reporting banks, reporting banks outside of, and reporting banks in New York were in that order strong in their capacity to hold or attract deposits in December.

Nor need these conclusions be modified to any important extent by a study of demand deposits, although it is necessary to limit this discussion to the developments in New York and elsewhere.

In both periods it is apparent that a consideration of the figures for demand rather than net demand deposits would have aroused much greater fear in the minds of authorities concerning the development of the second half of 1928; demand deposits increased in July–September although net demand declined to a marked degree,

and the increase in the second period was of much larger dimensions for demand deposits.

From July to September, the banks in the New York District were in a more favorable position than is indicated in the foregoing discussion, for the gain of deposits is larger, as regards movements in loans and investments, for banks in the New York District than for all banks. The sharp decline in net demand deposits, against an increase in demand deposits and in "due to banks," is to be explained in part at least by an increase in the amounts deductible from "due to banks." Thus, it is possible for demand deposits to rise and net demand deposits to decline. The developments in New York City seem to parallel those in the District.

In the last three months all banks, including those in the New York District, increased their loans and investments appreciably, but the very large increase in demand deposits is especially striking, both absolutely and relative to the increase in loans and investments. The increase will be analyzed later. What is especially puzzling in this period, the preceding, and other periods, is the large part played by the banks in the New York District, only in part accounted for by movements in New York City, in any expansion or liquidation.

Large gains in demand deposits for the New York District seem to indicate that New York banks were in a more favorable position than was indicated by the movement in net demand deposits. That net demand increased but one third as much as demand deposits, while balances increased by more than 280 millions, is of significance for the problem of control. In obtaining additional credits on other banks (checks and balances in particular), members were relieved of part of the restraining influence of a large increase in reserves that would have been required if reserves were determined by demand deposits. An increase of the amounts deducted from "due to banks" explains, to a great extent, the economy of reserves thus made possible. The relatively small increase in net demand deposits for the New York City banks is probably to be explained by the fact that the increase in amounts deductible was confined largely to that place. New York's position was not so strong as is indicated by the large increase in demand deposits; it will be evident that it is to be associated with the increased volume of checks outstanding. In other words, an increase in deposits to be associated with increased activity of banking accounts cannot be held to be an indication that New York was gaining deposits.

Thus we can conclude that during this period New York was gaining deposits and that a not unimportant factor in its favorable position was an increase of almost 500 millions in loans on account of others and on account of outside banks on the stock market and an inflow of bankers' balances. But in view of all the considerations—the exaggerated rise in demand deposits to be analyzed later, the open market operations, and movements in loans and investments—it may be said that the New York banks no more than held their own in October–November and probably lost deposits to the rest of the country in December.¹

3. MARKET RATES

Customer rates continued to increase in New York during July and August, but in the last four months of the year the increase was more rapid elsewhere. Since customer rates move more sluggishly outside of New York, the increase in the light of the relative stability in New York is more significant than is to be inferred from a consideration of the movement of rates alone. New York gradually exhausted, either by driving nation-wide borrowers elsewhere or by attracting banking funds, its capacity to draw *additional* funds from other sections. Perhaps the strong position of New York in July and August is to be associated with the continued high rates there, and, possibly, a somewhat less favorable position after August is to be associated with the withdrawal of support, by outside banks as rates in their communities rose relatively, and in particular by non-reporting banks, inclined to withdraw funds from New York for seasonal purposes at this time of the year. New York was in a strong position in the last months of the year, but probably would have been in a position even stronger if the rates had not increased rapidly elsewhere.

Fluctuations in the volume of rediscounts do not consistently explain the movement of money rates; in truth the relation of fluctuations in the volume of rediscounts and market rates throughout this period are not so close as many authorities would have us believe. In July a large increase in indebtedness was accompanied by increases in customer rates and some open market rates, but the call money rate declined. In August rediscounts were reduced, but all rates rose, several in a rather spectacular manner. In September

¹ Seasonal movements are roughly of this pattern also.

rediscounts were stable, but rates rose appreciably. In later months the correlation was higher. At intervals it seems that the movements in rediscounts of the individual groups of banks considered in this study throw some light on fluctuations in market rates. Perhaps the smaller participation of New York banks in the total rediscounts explains the relative easing of customer rates in New York. In August the reduction of member-bank balances, especially in New York, probably is related to the higher rates in the open market and for customer loans in New York. Deposits of New York banks declined both because they were contracting and because reserve banks had reduced their investments. Market rates increased, although New York banks reduced their indebtedness for the two months and the System's indebtedness was reduced in August. On the other hand, it may be held that the increased level of indebtedness for the period as a whole brought contraction and higher rates.

CHAPTER XXXII

THE FAILURE OF MORAL SUASION, JANUARY- SEPTEMBER, 1929

I. OPEN MARKET OPERATIONS

IN JANUARY expansion continued at a disconcerting rate, as is evident in the increase of loans and investments of reporting banks; but more disconcerting was the very large increase in loans on securities and the reduction of *other* loans by reporting banks. The inflow of currency made possible a large reduction of indebtedness, particularly by reporting banks outside of New York City.¹ Developments in January, following the unhealthy trend of the preceding period, probably explain the introduction of the policy of moral suasion in February.²

Although the reserve banks had virtually exhausted their portfolio of securities in 1928, the reduction of open market investments was greater than in that year. The explanation is, of course, that the reserve banks were able now to liquidate the large volume of acceptances purchased in 1928, with the result that the portfolio of securities and acceptances was practically exhausted once more by July.³ In seven months the reserve banks had disposed of 524 millions of securities and acceptances; but it may be held that the operations were not effective. In June the indebtedness of members was at a lower level than in December, and even from January to July, inclusive, the increase in indebtedness was but 83 millions. So long as reserve authorities put the need of accommodating business during the latter part of each year above the requirements of control, postponing the introduction of restrictive measures to the early

¹ It was announced by the New York Bank on January 1 that member banks were expected to use the cash obtained as a result of the inflow of currency notes to reduce their indebtedness. *Mo. Rev. of N.Y.R.B.*, January, 1929.

² Hearings: *Branch Banking* (71: 2), 1930, p. 647. On February 1, the New York Bank pointed out that at the end of the year the resources of the banks had been severely taxed by the stock market, and it appealed to private lenders to cooperate. *Mo. Rev. of N.Y.R.B.*, February, 1929.

³ For a discussion of the policies of individual reserve banks, examine Chart V and also see p. 756.

months of the year, they will find the enforcement of a policy of restraint difficult; for the banks can convert several hundred millions of incoming currency notes into balances; and in 1929 the reserve banks faced once more the embarrassment of a large influx of gold.¹

2. LIQUIDATION IN NEW YORK AND MORAL SUASION, FEBRUARY-MAY

The first effects of the application of moral suasion apparently were liquidation by the New York banks of security loans; but the liquidation was followed by expansion in March, although *other* loans also increased. One cannot be sure that the expansion in *other* loans did not conceal advances for speculative purposes; in particular because the open market (call money) rates were rising so rapidly in February and March.² Borrowers repay brokers and obtain accommodation from their banks. In April and May, liquidation proceeded at a very rapid rate, both for New York and outside reporting banks.³ Apparently reserve policy was becoming effective.⁴ It will be noted that the upward movement of security prices was checked as well as the diversion of funds offered to the security markets through New York banks. Advances to members of the New York Stock Exchange declined in February, April, and May and increased only moderately in March.⁵

¹ In the period of restraint in 1928 reserve banks reduced their investments by 497 millions as compared to 524 millions in the corresponding period in 1929. The result of the policy of firm money was that member banks increased their indebtedness at reserve banks by 596 millions in 1928 as compared to 83 millions in 1929. Perhaps that is the explanation of the more moderate rise of money rates in 1929. In 1928 the failure to liquidate acceptances jeopardized the open market policy of the reserve banks, but the reserve banks were aided by the large outflow of gold; in 1929, the influx of gold and currency was embarrassing, but the liquidation of acceptances was the most potent weapon of control.

² As early as July, 1928, reserve authorities suggested that the proceeds of loans classified as "other" may be used to carry securities. *F.R.B.*, 1928, p. 448. Cf. Hearings: *Branch Banking* (71: 2), 1930, p. 741.

³ Reserve authorities seemed satisfied with the course of events from February to May. *Ibid.*, p. 648; *F.R.B.* 1929, p. 359.

⁴ National City Bank, *Economic Conditions*, June, 1929, pp. 76-77.

⁵ Advances on other speculative markets did not decline as much. For example, the Boston Bank comments on the reduction of loans to New York brokers by Boston banks from February to May; but loans to local brokers were increased. *Mo. Rev. of Boston R. B.*, June, 1929; *ibid.*, April, 1930. The record of the Boston banks was not so good as that of the System in the latter part of 1928 and the first half of 1929.

In the first five months of the year the policy of restraint was enforced. From February to April, inclusive, the indebtedness at reserve banks was increased by 145 millions; but reporting banks in New York City reduced their debts by 28 million. For the four months from February to May, the increase in indebtedness was

TABLE XXII
(Millions of dollars) ¹

1929	Reporting member banks							
	Loans and investments		Loans on securities		Other loans		Net demand deposits	
	Banks outside N. Y. City	Banks in N. Y. City	Banks outside N. Y. City	Banks in N. Y. City	Banks outside N. Y. City	Banks in N. Y. City	Banks outside N. Y. City	Banks in N. Y. City
January ...	+22	+110	+152	+157	-142	-119	+80	+114
February ..	+14	-72	+101	-84	-70	+13	-86	-116
March	+103	+106	+53	+3	+59	+115	-72	-31
April	-84	+1	-93	-94	+54	+107	-163	-49
May	-161	-115	-98	-76	+4	-17	-29	-55
June	+19	+99	+17	+96	+62	+28	-22	+32
July	+33	+215	+88	+296	+46	+39	+173	+69
August	+75	-89	+64	-200	+71	+85	-8	-115
September .	+81	+100	+28	+47	+85	+68	+23	+35

(1) Changes.

TABLE XXIII ¹

	Loans and investments				Loans				Net demand deposits			
	Jan. 1- Mar. 27	Mar. 28- June 29	June 30- Oct. 4	June 30- Oct. 4	Jan. 1- Mar. 27	Mar. 28- June 29	June 30- Oct. 4	June 30- Oct. 4	Jan. 1- Mar. 27	Mar. 28- June 29	June 30- Oct. 4	June 30- Oct. 4
	Jan. 1- Mar. 27	Mar. 28- June 29	June 30- Oct. 4	June 30- Oct. 4	Jan. 1- Mar. 27	Mar. 28- June 29	June 30- Oct. 4	June 30- Oct. 4	Jan. 1- Mar. 27	Mar. 28- June 29	June 30- Oct. 4	June 30- Oct. 4
All member banks	-291	+318	+203		-210	+713	+507		-1111	+144	-25	
Reporting member banks												
Outside N. Y. City	+116	-196	+269	+130	+1	+467			-297	-60	+140	
In N. Y. City ..	-174	+93	+75	-228	+226	+132			-317	+31	-53	
Non-reporting banks	-233	+421	-141	-112	+487	-92			-497	+173	-112	

(1) For reporting banks weekly figures have been interpolated to call days.

97 millions; New York City banks reduced their debts by 45 millions, reporting banks outside of New York increased theirs by 43, and non-reporting banks by 99 millions.¹ The increase for non-reporting banks was at a phenomenal rate. Apparently New York banks were cooperating (or perhaps were ordered to cooperate), as is especially evident in a reduction of their balances by 56 millions

¹ Also consult Chart II (p. 724) and p. 726.

TABLE XXIV¹

	1929									
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Net change
(1) Acceptances and securities held by reserve banks	-44	-133	-107	-141	-23	-20	-56	+57	+115	-352
(2) Monetary gold stock	-27	+28	+23	+60	+66	+19	+24	+16	+17	+226
Customer rates:										
(3) New York City	+11	-.01	+08	+04	+03	+05	-.05	+17	+01	+43
(4) North and East	-.04	-.01	+05	+09	+09	-.07	+06	+03	+13	+33
(5) South and West	+03	+02	+08	+03	+03	+06	+01	+05	+05	+36
Other rates:										
(6) Call loan, renewal	-1.55	+01	+2.04	-.21	+02	-1.21	+1.53	-1.00	+27	-.10
(7) Other open market, acceptances and commercial paper	appreciable increase	large increase	large increase	small increase	no change	no change	appreciable reduction	small increase	small increase	increase
Indebtedness at reserve bank:										
(8) Reserve system	-154	+30	+80	+35	-48	+22	+118	-53	-74	-44
Indebtedness:										
Reporting banks										
(9) In N. Y. City	-31	-59	+35	-4	-17	+20	+154	-123	-30	-55
(10) Outside N. Y. City	-105	+55	+46	-11	-47	-11	-23	+39	+19	-38
(11) Non-reporting banks	-18	+34	-1	+50	+16	+13	-13	+31	-63	+49
Balances:										
Reporting banks										
(12) In N. Y. City	+18	-27	-7	-21	-1	+6	+20	-38	+34	-16
(13) Outside N. Y. City	+11	-16	-12	-22	-5	0	+11	0	+4	-29
(14) Non-reporting banks	-9	+13	-1	+14	-6	+12	-11	+26	-25	+13
Speculation:										
(15) Street loans through New York banks ²	+263	-45	+94	-133	-98	+315	+357	+338	+585	+1676
(16) Stock prices	+13.8	+1.3	+2.6	-2.5	+1.2	+2.9	+16.6	+10.8	+7.1	+53.8

Note 1. (1), (2), (8) to (15) incl., changes in millions of dollars. (3) to (6), incl., changes in per cents. (16) changes in index of common stock prices (Standard Statistics Company, republished by the Board). 1926 = 100; December, 1928 = 171.4. For all items except (15) changes are average for month; (15) gives change from end of one month to end of next.

2. Stock market figures.

from February to May, in contrast with a reduction of 55 millions for other reporting banks and an *increase* of 20 millions for non-reporting banks. The reduction of balances was larger in percentage for New York banks than for others reporting. Pressure applied by reporting banks, while other banks were expanding, was apparently not so effective as it might have been.

A reduction of indebtedness for New York City was now a symptom of increasing stringency rather than of ease. The popular doctrine is that an increase in indebtedness brings higher rates; but a failure to rediscount and a reduction of balances that make liqui-

TABLE XXV
(Millions of dollars)

Jan.-June, 1929	Loans and investments		Loans		Deposits (time and demand)	
	Change	Per cent	Change	Per cent	Change	Per cent
All banks.....	+208	+0.3	+749	+1.8	-2914	-5.1
Member banks .	+27	+0.1	+503	+2.0	-2542	-7.3

dation necessary may well be more restraining than an increase in rediscounts. It may also be pointed out that during this period customer rates advanced less rapidly in New York than in other parts of the country; perhaps the varying rate of increase of rediscounts for the different groups of banks explains the more rapid increase of customers' rates elsewhere. The pressure in New York is especially evident in the increase in open market rates. Although the security markets were apparently being starved for funds, the call rate declined in April and changed little in May; but this decline is to be considered in the light of a very large advance in March.

In view of the developments from February to May, the policy of moral suasion may seem successful. The increase of loans on securities, both by banks and others, was apparently checked, as was the rapid rise of security prices. Relatively speaking, a larger proportion of bank funds was being applied to legitimate purposes. But even in these months customer rates, as well as open market rates on acceptances and commercial paper, continued to rise, and it may be held that the reserve authorities had failed to make money cheap for industry and expensive for speculation. Also, although the reserve policy seemed effective in the first three months of the year in the light of the lending policies of New York banks, other banks did not cooperate so readily, and apparently efforts emanating from

New York went for naught in part because other banks expanded; and the withdrawal of banking funds from the New York speculative exchanges was followed to some extent by an influx on other exchanges.¹

From January to May there undoubtedly was a display of restraint toward investments in security loans; and this was especially noticeable for New York banks. The weekly figures of security loans for reporting banks in New York and out-of-town banks, and the Street loans on account of New York banks or on account of out-of-town banks indicate a tendency to withhold accommodation from speculators both by New York and outside banks. Undoubtedly restraint in New York went for naught at times because other banks did not cooperate, particularly banks in the smaller (non-reporting) cities.

A study of movements between call days seems to give undeniable evidence that the New York banks were cooperating in the first quarter of the year while the outside reporting banks were not; but such figures are to be used with caution, for security loans by New York banks were at a very high level on December 31, and therefore the reduction from December 31 to March 27 is exaggerated. In truth, a study of average weekly figures for the first and second quarters yields results for reporting banks in New York and other reporting banks that are not widely different. But if the entire period from January to May is considered, there is little doubt that the record of New York banks was better.

Recently, detailed figures have become available for movements between call days; and although the exaggerated rise in the first quarter for New York banks and the exaggerated decline in the second quarter ought to be allowed for, these figures are not without interest and significance.

In the first three months of the year the reduction of Street loans of members in New York City was above the increase of all loans to customers on securities: there was a marked liquidation of security loans by all member banks. But security loans by members were at a high level on December 31, because other lenders withdrew funds. Also it is to be noted that Street loans on other speculative exchanges increased. Country banks apparently increased their cus-

¹ Diversity of policies and fluctuations in assets of reserve banks are amply revealed in Chart III (p. 729 — *cf.* pp. 730-731); also IVg, and pp. 745-747.

tomor security loans to a disproportionate degree — I refer to banks not in reserve or central reserve cities. (All customer loans on securities increased by .15 of a billion dollars, while those of banks in the larger cities increased only .04 billions.) In the second quarter of the year, with the exception of advances on outside security markets (Street loans), expansion is indicated by the series now under consideration. Figures for June 30, however, tend to exaggerate the contributions of banks to speculation in this quarter. Weekly and

TABLE XXVI

(Billions of dollars)

All member banks	Dec. 31, 1928— Mar. 27, 1929	Mar. 27— June, 29, 1929	June 29— Oct. 4, 1929
(1) Customer loans	+ .44	+ .62	+ .73
(2) Customer loans on securities (exclusive of loans to brokers outside of New York City)	+ .15	+ .28	+ .36
(3) Customer loans, reserve city and central reserve city banks ¹ (on securities)	+ .04	+ .12	+ .21
(4) New York City Street loans	— .68	+ .14	— .14
(5) New York City Street loans, central reserve and reserve city banks ...	— .66	+ .19	— .20
(6) New York City Street loans, member banks in New York City (central reserve only)	— .54	+ .26	— .26
(7) Street loans to brokers outside New York City	+ .04	— .09	+ .02

(1) Three fourths of all security loans by banks in these cities.

monthly figures point to a decline for the period considered as a number of weeks and months. In the third quarter liquidation of security loans to brokers was more than offset by an increase in security loans to others.

Consider Table XXVII on the following page.

The large reduction of Street loans by New York banks in the first quarter is to be explained for the most part by the high level on December 31, 1928, which reflects the position occupied by the New York banks in relation to the stock market: when other lenders withdraw, the New York banks fill the gap. Quarterly figures seem to indicate a better record for cooperation with reserve authorities for member banks in agricultural districts. On the other hand,

banks in the city of Chicago reduced their advances to brokers in New York by 57 and increased them by 30 millions respectively in the first and second quarters, as compared with a reduction of 50 and an increase of 24 millions for the entire Chicago District.

3. THE FAILURE OF MORAL SUASION

The developments from June to September — the crash occurred in October — provide even more convincing evidence of the failure of moral suasion.¹ Loans and investments, security loans, other

TABLE XXVII

(Millions of dollars)

Street loans, N. Y. City	Dec. 31, 1928— Mar. 27, 1929	Mar. 27, 1929— June 29, 1930
Member banks in reserve district		
New York	—554	+261
Boston	—20	—9
Philadelphia	—30	...
Chicago	—50	+24
San Francisco	—16	—37
Other security loans		
Member banks in reserve district		
New York	+74	+160
Boston	+22	+28
Philadelphia	+42	—6
Chicago	—88	—33
San Francisco	+31	+14

loans, especially those to brokers reported by the stock market — all increased. In particular, banks in reporting cities expanded their business. On the whole, call money rates continued to advance at a fairly rapid rate. As early as May, the System was able to reduce its debts at the reserve banks by 48 millions. An increase in the monetary gold stock of 126 millions in April and May also proved embarrassing. An increase in rediscounts in June and July was followed by reductions in August and September. Even more disconcerting, perhaps, was the marked upward tendency of balances of member banks in reporting cities. In June and July the increase in indebtedness for the System, particularly for New York City banks, was very large — other banks reduced their indebtedness to some

¹ Reserve authorities did not hesitate to comment on the unhealthy increase in member-bank credit after May. *F.R.B.*, 1929, pp. 525-528; *C.F.Chr.*, 1929 (129), p. 736.

extent — and all members increased their balances by 38 millions.¹ The New York banks especially felt the burden of the increased demands for new currency and speculative credit: the burden was shifted to New York as a result of the withdrawals of bankers' balances in New York.² In spite of these signs, as well as a phenomenal increase of 672 millions of stock market loans advanced through New York banks and an increase in the stock market index of 19.5 points (16.6 points in July alone), reserve banks increased their investments by 172 millions in August and September. Perhaps reserve authorities, now realizing that the crash was inevitable, were anxious to induce banks to reduce their rediscounts so that they would be prepared to meet the situation;³ but an easing policy at this time brought the most dangerous increase in security prices and influx of funds on the stock exchanges that had yet occurred.

It has been the almost universal opinion among experts that moral suasion was not successful.⁴ It will be recalled from the dis-

¹ The officials of the New York Bank were inclined to put much emphasis on the demands put upon banks in June and July resulting from very large payments required for the conversion of rights. *Mo. Rev. of N.Y.R.B.*, July, 1929.

² *Ibid.*, August, 1929.

³ Governor Young made the following remark in March, 1930: "The Federal Reserve System realized that while the hysteria might be somewhat restrained, it would nevertheless have to run its course and the principal thing the System could do during the interim was to attempt to keep the Reserve Banks in such order that when the inevitable collapse should come, the System would be in a position to minimize the effects of the crash and at the same time to use its influence towards inducing member banks also to keep in condition to act promptly and decisively when the need arose." *Mim.L.S.*, 1930 (32), x-6544, p. 367.

It is also apparent that Governor Young disapproved of the policy of moral suasion. He refers to the *Board's* satisfaction with the results, and he admits that the developments from May to August were embarrassing. Hearings: *Branch Banking* (71:2), 1930, pp. 647-648.

⁴ Cf. *L.E.*, February 9, 1929, p. 286; *ibid.*, March 16, 1929, p. 569; *ibid.*, April 20, 1929, pp. 852-853; *ibid.*, August 17, 1929, pp. 300-301; O. Morgenstern, "Developments in the Federal Reserve System," *Harvard Business Review*, 1930 (9), pp. 1-7; P. M. Warburg, *op. cit.*, I, 502-513; F. Schneider, Jr., "Some Observations on Recent Federal Reserve Policy," *American Economic Review, Supplement*, March, 1930, pp. 104-106. The opinions of observers, especially foreign observers, was that the policy of warnings, exhortations, and the like had proved ineffective; action was much to be preferred to words. It was also a current opinion that the reserve authorities had lost prestige as a result of their numerous warnings and sluggish action, and that they were unduly solicitous of the effects of their policy on business. Ohlin, however, takes the position that the Bank rate should not be increased to check speculation lest it have an unfavorable effect on business. B. Ohlin, "Central Bank Policy and Stock Exchange Prices," *Index* (Stockholm), No. 31, July, 1928. Hardy more recently argues that the policy was a failure if the aim was to check speculative activity; but the amount of reserve credit in speculative markets was kept at a low point. C. O. Hardy, *op. cit.*, pp. 141-142.

cussion in the first volume, however, that more is to be said for its use in the agricultural districts.

4. THE MOVEMENT IN DEPOSITS

From January to March, the three groups¹ of banks under consideration lost deposits, and this is true of both groups of reporting banks although those in New York City increased their loans and investments. (Interpolated figures from weekly data are to be distinguished from movements for loans and investments between call days.) The reduction of net demand deposits was especially large, relative to the movement in loans and investments, for reporting banks outside of New York. In the light of the open market transactions of the reserve banks, the losses in deposits suffered by New York banks were less than might be expected. The restraint exercised by them is apparent in their capacity to force outside banks to rediscount and in their reduction of balances.

From April to June reporting banks lost deposits to some extent while non-reporting banks gained; in relation to the movement of loans and investments, each of the three groups of banks lost deposits. In view of the open market operations and gold movements, however, it may be held that the New York banks *at least* maintained an even keel. Reporting banks outside of New York City liquidated in this period, and they were able to put upon non-reporting banks the burden of borrowing; the latter expanded, and their balances and deposits increased. The reduction of balances and rediscounts for reporting banks was to a great extent a symptom of restraint and liquidation. Thus in the first period, liquidation in New York forced banks outside to borrow in spite of the large open market operations in the city; in the second period both groups of reporting banks applied pressure and forced non-reporting banks to borrow.²

From July to September member banks *lost* deposits sharply in view of the *increase* of loans and investments; and absolute losses were suffered by reporting banks in spite of open market purchases by reserve banks and the influx of gold; and the deposits of reporting banks of New York City *declined* 53 millions, although their loans

¹ Reporting banks in New York, reporting banks outside of New York, and non-reporting member banks.

² Effects of the exercise of restraint are frequently unfortunate in neighboring districts. Consult Chart IVg and the discussion on pp. 745-747, and Chart IVh (and pp. 748-749).

and investments increased by 59 millions. It may be noted that New York banks lost cash to non-reporting member banks in July. The net demand deposits of New York banks increased but 69 millions although their loans and investments increased 215 millions, whereas the reporting banks outside of New York City gained 173 millions of deposits though their loans and investments increased but 33 millions. Perhaps the increase of rediscounts of 154 millions of New York City banks in July and the increase of the New York rate in August are thereby explained. At any rate, the increase in the Bank rate apparently had an immediate effect, for in August the New York banks reduced their rediscounts by 123 millions, whereas other reporting banks increased theirs by 39, non-reporting banks by 31, millions.¹ Also, customer rates in New York rose by .17 of 1 per cent in August, as compared to an average rise of .03 + of 1 per cent in the preceding six months; and in September customer rates in other northern and eastern cities rose .13 of 1 per cent as against .02 + in the preceding eight months.

A consideration of the movement of demand deposits confirms the conclusion that New York banks were in a favorable position in relation to the rest of the country in the first three months of the year; that their position was not so favorable in the next three months; but that it was not unfavorable in the months July-September, as has been indicated in the study of net demand deposits.

The magnitude of the loss of deposits in the first six months is not to be gauged by the movements in net demand deposits. The discrepancies between demand and net demand deposits may be explained in part by a reduction in checks outstanding in the first six months.² New York's strong position as compared with the rest of the country from January to March is revealed by the decline of demand deposits relative to the movements in loans and investments for all member banks, which was much more marked than

¹ The New York Bank emphasized an inflow of funds to New York resulting from a large increase in loans on account of others. *Mo. Rev. of N.Y.R.B.*, August, 1929.

² Thus in the first three months, demand deposits of member banks in the New York District declined by 909 millions and although bankers' balances were reduced by 385 millions, net demand deposits declined by but 639 millions. A large reduction in checks outstanding, clearing house exchange, and the like would be reflected in a corresponding reduction in demand deposits and only in part in a reduction of net demand deposits; for the reduction in net demand deposits resulting from the reduction in demand deposits is offset in part by an increase in net balances due to banks resulting from the decline of deductible items.

was that of banks in the New York District; but the advantageous position of New York banks is not so great if the important effects of a reduction of bank balances are now considered. An increase of 529 millions in loans on account of others and on account of outside banks probably contributed to the strong position of New York; and it will be noted that the reduction of bankers' balances was, for the most part, suffered by banks in other cities.

TABLE XXVIII¹

(Millions of dollars)

	Loans and investments	Demand deposits	Due to banks	Net demand deposits	Time deposits
January 1–March 27, 1929					
All member banks	–291	–1635	–665	–1111	–124
Member banks in New York					
District	–275	–909	–385	–639	+6
Reporting member banks in					
New York City ²	–174	...	–205	–317	–37
March 28–June 29					
All member banks	+318	–865	+24	+144	–4
Member banks in New York					
District	+458	–868	+102	+306	–46
Reporting member banks in					
New York City ²	+93	...	–36	+31	–64
June 30–October 4					
All member banks	+203	+760	+82	–25	–7
Member banks in New York					
District	–12	+568	–65	–276	+148
Reporting member banks in					
New York City ²	+76	...	+51	–53	+133

(1) Changes for periods.

(2) Weekly figures of reporting banks are interpolated to call days.

From April to June member banks in the New York District seem to have been in no very strong position if we compare loans and investments with demand deposits. A reduction of loans on account of others and on account of outside banks probably contributed to this less favorable situation. Yet the position of New York banks was probably not unfavorable in relation to outside banks if we allow for the open market operations of the period and the increase of banking capital.

In the last three months the banks in the New York District were in a more favorable position than the study of net demand deposits indicated. Perhaps New York City banks were less strongly situated than is indicated for the New York District, for they expanded

while other banks in the district contracted; and the increase in demand deposits was in part the result of the increase in checks in process of collection. On the other hand, an unprecedented increase of 1,004 millions in loans on account of others and outside banks probably contributed to any strength in the New York position. Purchases of investments by reserve banks ought to have contributed to the influx of deposits into New York banks, however. Undoubtedly, weakness in the first part of the period was followed by strength in the latter part; this is evident from the study of monthly figures.

5. DEBTS AND MARKET RATES

Once again the relationship between member-bank indebtedness and rates was not close. In three of the nine months, the call rate and the volume of indebtedness fluctuated in opposite directions. Customer rates rose steadily with rather minor interruptions; but the volume of indebtedness fluctuated with no clear trend either way. In months when the debts of member banks to reserve banks were reduced by 154, 48, 53, and 74 millions, the average increase of customer rates was .03, .05, .08, and .06 per cent respectively. The average for the nine months was .04 per cent.

It may also be pointed out that the developments for reporting banks were not always symptomatic of those for member banks, nor did non-member bank assets and liabilities fluctuate in the same manner as did those of member banks. In particular, non-reporting member banks liquidated in the first three months and expanded in the second three; the movements of reporting banks were in the reverse direction.

CHAPTER XXXIII

A SUMMARY OF THE DISCUSSION OF THE MOVEMENT OF DEPOSITS

1. THE GOLD SETTLEMENT FIGURES

THROUGH the courtesy of the Federal reserve authorities, I have been allowed to examine the monthly movements of the Gold Settlement Fund (G.S.F.) and of the variables that determine its level. In particular, movements in the various factors that influence the balance of each reserve bank in the G.S.F., and the monthly gains and losses of each reserve bank to every other bank on transit account, are of value for this study.

The movements of the total balances in the G.S.F. are not of great significance. Reserve banks may keep varying proportions of their reserves in the G.S.F. and at home. Fluctuations to be ascribed to transit clearing are of primary importance, for they are a measure of the balance of payments or the movement of deposits between the different reserve districts. Other variables that explain the net movements in the balances in the G.S.F. are government deposits to the account of reserve banks, government transfers, deposits and withdrawals from Agents' accounts for each reserve bank and Redemption Fund, note clearings, and withdrawals of gold coins and certificates. When notes are put into circulation, reserve banks may transfer cash from the G.S.F. to their Agents' balances in the G.S.F., for additional reserve and collateral against notes are required. Government transfers in particular are apparently a mechanism by which large losses or gains for individual reserve banks can be offset. The New York Bank seems to carry the burden of withdrawals and deposits of gold coins and certificates for the most part, although it is not always possible to find the explanation of the movements of gold coins and certificates.

2. STATEMENT OF THE PROBLEM

By way of summary, I present the following table in which movements from the end of one month to the end of the next are pre-

sented; and in order to obtain end-of-month figures, weekly figures have been interpolated wherever necessary. Fluctuations in the following variables in the indicated direction contribute to an increase in net demand deposits, whereas of course fluctuations in the opposite direction would contribute to a decline in such deposits.¹

The movements which contribute to an increase in net demand deposits are, then:

- An increase in loans and investments,
- An increase in due to banks,
- An increase in investments of reserve banks,
- An increase in monetary gold stock,
- A reduction in gold in circulation,
- A reduction in other forms of money in circulation,
- A reduction in banking capital, and

A reduction in deductible items (not compensated by a corresponding reduction of items from which they may be deducted).

It is evident that all these items are not considered in Table XXIX, but the most important are, and we thus obtain some indication of the movement of deposits as compared to what might be termed their "calculated" movement. When reporting banks in New York City or elsewhere accumulate deposits in excess of the amount calculated on the basis of the movements in the above variables, or when the loss of deposits is not equivalent to the calculated loss, the group of banks under consideration is held to *gain* deposits in the discussion that follows; and they lose deposits when their gains are not equivalent to estimated gains or their losses are in excess of those estimated.

When New York City banks seem to be losing deposits in this sense, a loss in transit clearing is also to be anticipated. Furthermore, New York banks should assume a large share of the increase in rediscounts or profit from a small share of the reduction of rediscounts, and the reserves of the New York Reserve Bank should decline in relation to the reserves of the System. In general, the results are along expected lines, although in a few instances the movement in transit clearings is not in the direction suggested by the movement in net demand deposits.

¹ Consider in this connection Charts XVI-XX and the discussion on pp. 782-792.

TABLE XXIX

(Millions of dollars)

	1928							
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.
(1) Acceptances and securities, reserve banks	-193	-64	-7	-92	-141	-60	-75	+34
Rediscounts:								
Reporting member banks								
(2) In New York City	-93	-34	+89	+48	+64	+42	-36	-34
(3) Outside New York City	-47	+96	-25	+108	+107	+93	0	-14
(4) Non-reporting member banks.	-19	+8	+42	+80	+14	-61	-28	+125
Loans and investments:								
Reporting member banks								
(5) In New York City	-97	-80	+196	+168	-18	+7	-138	-171
(6) Outside New York City	+2	-2	+266	+135	+65	+13	-25	-76
Net demand deposits:								
Reporting member banks								
(7) In New York City	-72	-28	-33	+126	-163	-101	-156	-181
(8) Outside New York City	-25	-119	-26	+92	-84	-135	-89	-60
Due to banks:								
Reporting member banks								
(9) In New York City	+66	-23	-55	-33	-105	+40	-3	-116
(10) Outside New York City	-30	-107	-31	-55	-167	+23	-61	-32
(11) Monetary gold stock, reserve system	-6	-11	-57	-39	-106	-51	+4	+10
Total reserves:								
(12) All reserve banks	+99	+8	-83	-37	-112	-47	+56	-14
(13) New York Reserve Bank	+125	+41	-87	-1	-80	-53	+62	-29
(14) Gold coin and certificates in circulation	-71	-15	+18	-7	-8	+3	-44	+4
(15) Reserves other than gold, all reserve banks	+35	-3	-4	-7	-7	-2	+8	-17
(16) Non-reserve cash, all reserve banks	+8	-15	-13	0	-1	-5	+7	-9
Reserve balances:								
Reporting member banks								
(17) In New York City	-30	-26	+15	+31	-44	+4	0	-62
(18) All member banks minus New York City	-64	+8	-24	+45	-27	-50	-58	+90
(19) Brokers' loans on account of outside banks and others ..	+219	+29	+136	+241	+342	-86	+130	+90

TABLE XXIX (Continued)

(Millions of dollars)

1928				1929								
Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
+116	+140	+56	-6	-75	-143	-127	-30	-82	+38	-76	+104	+129
+28	-84	+70	+135	-239	+17	+22	-5	-51	+184	-11	-102	-93
-35	-5	-3	+22	-101	+115	+32	-65	+24	-80	-1	+52	+53
-30	-50	+89	-189	+89	+36	+69	-93	+161	-134	+51	+20	-48
+71	+30	+134	+356	-381	+84	+145	-68	-181	+337	+99	-122	+85
+87	+91	-40	+122	-28	+69	+64	-180	-91	+82	+55	+1	+217
+37	+181	+93	+202	-231	+3	-46	+15	-161	+149	+60	-198	+77
+176	+47	+19	+139	-149	-25	-170	+22	-203	+193	+160	-127	+84
+72	+107	-92	+154	-231	+37	-12	-26	-117	+134	+107	-175	+95
+234	-116	+14	+144	-180	-46	-42	-103	-139	+174	-75	+17	+119
+2	+17	-14	+13	-14	+26	+35	+72	+41	+23	+17	+19	+12
+2	+34	-105	+41	+112	+9	+33	+102	-14	+79	+79	+11	+6
-87	+103	-70	-72	+225	+32	-35	+3	+37	-121	-8	+21	+129
-5	-18	+72	-19	-82	+9	-2	-33	+36	-11	-49	-2	-38
-6	+1	-20	+13	+39	-10	+8	+11	-36	+35	+13	-10	-20
-2	+10	-13	+36	+8	-14	-9	+7	-1	-14	+10	-16	+10
+23	+46	-19	+80	-55	-9	-21	+4	-50	+46	+8	-35	+41
+16	-9	+21	-64	+28	+9	+16	-79	+56	+22	-9	+17	-52
-230	+231	+188	-212	+618	-47	+124	-3	-58	+14	+244	+482	+498

3. AN ASPECT OF GOLD POLICY

A comparison of the movements in monetary gold, reserves, and gold in circulation reveals that the reserve authorities pursued a definite policy of withdrawing gold from circulation during this period, thus reducing the strain of losses of gold to an appreciable extent. In the first seven months of 1928, when exports of gold were embarrassing, the gold in circulation was reduced by 124 millions. The decline of gold in circulation for the entire period of twenty-one months was no less than 262 millions. That the reserve banks apparently were anxious to strengthen their reserves is also evident from the fact that reserves other than gold increased and non-reserve cash declined; this tendency was especially noticeable in the first half of 1928.

4. NEW YORK BANKS AND THEIR DEPOSITS, 1928-29

In view of the movements in net demand deposits (considered in relation to the fluctuations in variables that determine them) in relation to the movements in rediscounts, reserves, and transit clearings, it is clear that New York City banks were gaining deposits at the expense of other sections of the country in seven months in 1928—January, February, April, May, July, August, and October.¹ The effects of a policy of dear money are evident in the fact that

¹ All variables do not always point in the same direction, but the question of gain or loss is determined by a consideration of all the factors. Thus in April outside banks increased their rediscounts to a larger degree than New York banks and the New York Reserve Bank lost but one million of reserves while the reserve system lost 37 millions. Also, in view of the open market operations, losses of monetary gold, the increase in banking capital, the reduction of balances due to banks, the New York banks clearly gained deposits in spite of the larger increase in loans and investments than in net demand deposits. On transit account, however, New York banks lost 4 millions. It is evident that the gains of New York were not important, and the inconsistency of the movements in net demand deposits, reserves and rediscounts as against transit clearings may be explained by the failure of net demand deposits to reflect accurately the movement in demand deposits.

December, 1928, is also an interesting month. New York banks were clearly losing deposits. All reserve banks increased their reserves by 41 millions while the New York Bank lost 72 millions. New York City members increased their rediscounts by 135 millions while other banks borrowed but 25 millions additional from reserve banks. The loss in transit clearings of banks in the New York District was no less than 264 millions and suggests the point that demand deposits probably increased less than net demand deposits of New York banks. That is to say, the movements in net demand deposits in view of changes in loans and investments, due to banks, etc., do not suggest such large losses for New York banks.

New York banks gained in six of the first eight months. It is also worth observing that New York banks lost deposits in the last month of the quarter six out of seven times over the period as a whole (January, 1928–September, 1929). Perhaps a seasonal factor, such as quarterly payments of dividends, may in part explain this tendency. In June and December, 1928, the upward movements of brokers' loans were also checked; and perhaps the necessity of strengthening the position of banks and corporations for window-dressing purposes may in part account for this fact. Brokers' loans on account of outside banks and on account of others, as reported by the member banks of New York, are considered in this study because it is assumed that they involve to an important degree transfers of cash between different sections of the country.

In general the consideration of the movements in reserves, transit clearings, and rediscounts of the New York banks as contrasted with similar movements for the rest of the country, supports the conclusions reached at an earlier stage of this study. New York banks were in a strong position in the first eight months of 1928, and in a less strong position in the last three or four months; and, particularly in December, the New York banks tended to lose cash and deposits to the rest of the country.¹

New York banks did not so consistently maintain a strong position in the first nine months of 1929. In January, February, May, August, and September, the New York banks gained deposits, but in the other months they lost.

It is noteworthy that New York banks gain deposits when liquidation is enforced there at a more rapid rate than elsewhere. In January and February, the New York banks contracted at a rapid pace as compared to the rest of the country, but in March and April the movement spread to the other sections. Vigorous action in New York in May was followed by similar action elsewhere. An increase in rates in August was followed by marked contraction in New York and in September by expansion less rapid than elsewhere.

¹ Consider the distribution of rediscounts between banks in New York City, banks in other leading cities, and banks in other cities. *F.R.B.*, 1930, p. 9. The relative increase in 1928 was of larger proportions for banks in other leading cities than it was for banks in New York or for banks in other cities. Apparently the burden was borne especially by banks in leading cities outside of New York. The ultimate reduction in 1929 was especially large for New York banks. But note the very large fluctuations for rediscounts of New York banks as compared to all others. *Mo. Rev. of N.Y.R.B.*, December, 1929.

Note the results of liquidation in January. New York banks reduced their rediscounts by 239 millions as compared to 12 millions elsewhere; the reserves of the New York Bank increased by the very large sum of 225 millions, as compared to 112 millions for the entire System, and the banks in the New York District gained 233 millions in transit clearings. The decline in net demand deposits of New York banks was 231 millions — balances due to banks alone account for the reduction; in addition, a reduction of 381 millions of loans and investments is to be considered. The reduction of money in circulation in New York, which of course is reflected in an increase in deposits, was not nearly equal to the reduction in investments of the reserve banks and the decline in loans and investments. The decline in net demand deposits was small in view of the reduction in loans and investments, bankers' balances, and the reduction of open market investments of reserve banks; favorable clearings are evidence of the strong position of the New York banks.

June is also an interesting month. New York banks lost heavily — reserves of the New York Reserve Bank, transit clearings, and the movements in rediscounts point in that direction; but losses are not indicated by the figures for net demand deposits or the variables that account for their fluctuations; and, moreover, a similar conclusion holds for reporting banks outside of New York. The losses of New York, therefore, probably indicate that demand deposits there did not increase so much as is indicated by the figures for net demand deposits, and that, perhaps, demand deposits in other sections of the country increased more rapidly.

In September the New York Bank gained but 18 millions through transit clearings; yet its total reserves increased by 129 millions, although the reserve for the twelve banks increased by but 6 millions. The explanation of this discrepancy probably lies in the movement of other factors that influence the cash position of the reserve banks.

5. BROKERS' LOANS — DEPOSITS AND CASH

A word about the movement in brokers' loans, bank balances, and deposits. The movements in brokers' loans on account of outside banks and on account of others are not adequately explained by the fluctuations in bankers' balances. It is to be pointed out, however, that loans on account of others do not always involve transfers of deposits to New York, although in general it may be held that loans

on account of others involved transfers of deposits by corporations to New York at the time the loans were made, or at an earlier stage when securities had been issued.

In the months of January, September, and October, 1928, and of July and September, 1929, brokers' loans of the two classes under consideration increased, as did balances in New York banks. In two of these months, the increase of bankers' balances in New York banks was made possible by transfers of banking balances from other banks. It might be assumed that in these months, when New York had a favorable balance on account of movements in both brokers' loans and balances, the New York banks would gain cash or deposits. But although the New York banks clearly gained deposits or cash in January and October, 1928, and September, 1929, they lost cash in September, 1928, and July, 1929. The losses and gains were evident in the movements in clearings, rediscounts, and reserves; the gain or loss as evidenced by movements in deposits is not entirely satisfactory at this point, because the movements in bankers' balances in part explain the movement in net demand deposits. These results may merely confirm the fact that a large part of the funds used on the stock market had been transferred at an earlier stage or (and) that movements in the reverse direction obscured the movements to New York.

In March, August, and November, 1928, and in January and August, 1929, the influx of funds to the stock market is explained only partially by the withdrawal of balances held in New York banks. An improvement in the cash position of New York banks relative to others might therefore be expected; but in truth New York banks lost cash in two of these five months. In April, May, and July, 1928, and in January and March, 1929, banks partly financed their transfers to New York on speculative account by drawing on their balances in banks outside. In four of these five months, New York's cash position relative to the rest of the country improved.

The total invested in these two types of broker loans was reduced, and the bankers' balances increased in June and December, 1928, and June and September, 1929. In the first two months, New York's cash position was adversely affected because they lost more cash through the reduction of brokers' loans than they gained from the increase in balances; in the last two months, its cash position was strengthened. In May, 1929, balances were reduced drastically and

brokers' loans were relatively stable; but New York banks gained cash.

Thus it is evident that the movements in brokers' loans are not always reflected along expected lines in a movement in bankers' balances, or in fluctuations in bankers' balances as between New York and the rest of the country. Nor is the cash position of New York banks adequately explained by the net effects of movements in balances and brokers' loans on outside account. In a measure the difficulty is to be ascribed to the fact that transfers of cash are not always made at the time that brokers' loans increase; in part to the fact that loans on account of others do not always involve transfers of cash. But the main point is that other factors — open market operations, rates, relative liquidation, demands for currency, transfers on government account, and so on — also determine the cash position of the banks in different parts of the country. It may also be observed that an influx of funds resulting from an increase in brokers' loans by out-of-town lenders may be offset by an efflux to be associated with sales of securities by out-of-town speculators or investors.

CHAPTER XXXIV

DEPOSITS AND BANKING POLICY

I. THE SIGNIFICANCE OF MOVEMENTS IN DEPOSITS

THE history of net demand and time deposits is presented in the table on the following page.

It will be noted that for the period June, 1927-June, 1929, as a whole, each group of banks maintained approximately the same proportion of the total net demand deposits. The losses of the New York City banks were a somewhat larger percentage of total net demand deposits of reporting member banks in June, 1927. It will also be noted that the loss of net demand deposits for all member banks was but 273 millions, or more than 1 per cent; and even from January, 1928, to June, 1929, the loss was but 1,128 millions, or 5-6 per cent. Figures for net demand deposits are not available for non-member banks; but the increase of demand and time deposits was 1,015 millions, or $3\frac{1}{2}$ per cent, for members and 1,174 millions, or about 6 per cent, for non-members.

It may also be observed that the relatively larger loss of net demand deposits of New York banks was made up partly by an increase in time deposits. Unfortunately, a study of the demand deposits for each of the three groups of banks is not possible. The extent of the decline of net demand deposits has been exaggerated; on the other hand, the average increase for the five years 1922-27 (June-June) for members was 740 millions, and, compared to these movements, the reduction in net demand deposits was notable. It may be pointed out that in the years 1922-27 the average increase of time deposits of member banks was 1,007 millions while that from June, 1927, to June, 1928, was 1,229 millions. A decline of 114 millions in the next year is inconsistent with Keynes' theory that savings deposits increase with the introduction of the second stage of the security cycle.

Figures for net demand deposits rather than demand deposits have been used because the latter are not available for reporting banks; something has already been said of the significance of demand

TABLE XXX¹

(Millions of dollars)

		Reporting banks						Non-reporting banks	
		All member banks		Outside New York City		New York City		Absolute figures	Net change
Net demand deposits		Absolute figures	Net change	Absolute figures	Net change	Absolute figures	Net change	Absolute figures	Net change
1927	June 30	19250	...	7963	...	5408	...	5879	..
	Dec. 31	20105	+855	8274	+311	5662	+254	6169	+290
1928	June 30	19191	-914	7977	-297	5392	-270	5822	-34
	Oct. 3	18995	-196	8060	+83	5123	-269	5812	-11
	Dec. 31	19944	+949	8210	+150	5568	+445	6166	+35
1929	Mar. 27	18833	-1111	7913	-297	5251	-317	5669	-49
	June 29	18977	+144	7854	-59	5282	+31	5842	+17
	Oct. 4	18952	-25	7993	+139	5229	-53	5730	-11
Time deposits									
1927	June 30	12210	...	5179	...	1010	...	6021	..
	Dec. 31	12765	+555	5413	+234	1071	+61	6281	+26
1928	June 30	13439	+674	5712	+299	1205	+134	6522	+24
	Oct. 3	13410	-29	5640	-72	1184	-21	6586	+6
	Dec. 31	13453	+43	5674	+34	1224	+40	6555	-3
1929	Mar. 27	13329	-124	5640	-34	1187	-37	6502	-5
	June 29	13325	-4	5604	-36	1110	-77	6611	+10
	Oct. 4	13318	-7	5563	-41	1256	+146	6499	-11
Net demand deposits									
		Per cent of total	Net change ²	Per cent of total	Net change ²	Per cent of total	Net change ²	Per cent of total	Net change
1927	June 30	...	...	41.5	...	28.2	...	30.3	..
1929	June 29	...	-273	41.6	-110	27.8	-126	30.6	-3
Time deposits									
1927	June 30	...	...	42.4	...	8.2	...	49.4	..
1929	June 29	...	+1115	42.0	+425	8.4	+100	49.6	+55

(1) Figures are on call dates for all member banks; for reporting banks, figures are interpolated to call dates.

(2) June 30, 1927-June 29, 1929.

deposits, and the problem will be discussed more fully later. For the present it is adequate to note that an accurate picture is not to be had by a consideration merely of the movement of net demand deposits.

Demand deposits increased sensationally in certain periods, and the differences in the movement of net demand and demand deposits are explained in large part by the increase in amounts deductible from "due to banks," which made possible reductions in net balances of banks and hence in net demand deposits; the increase in demand deposits is therefore reflected in an increase in net demand deposits of much smaller proportions. The loss of bank balances also tended to depress the volume of net demand deposits; amounts due to banks are not included in demand deposits.

The movement of deposits plays an important part in banking policy. A loss of deposits has been the most popular explanation in official circles of the increase in rediscounts; it has also been held that when deposits do not increase so rapidly as loans and investments, banks are compelled to borrow. The usual explanations of the loss of deposits have been the increase in the loans on account of others and open market operations of reserve banks.

2. A STATISTICAL EXPLANATION

In the tables presented below, an attempt is made to study the fluctuations in the more important variables that bring about fluctuations in the volume of deposits.

3. THE PROBLEM OF THE ACTIVITY OF DEPOSIT ACCOUNTS

It will be observed that there are large discrepancies between the figures in (7) and (8); several considerations are relevant in a discussion of these discrepancies. In the first place, it has been assumed that the open market operations and movements of gold and currency affect the volume of deposits of member banks exclusively; but in truth the effects may be shifted in part to non-member banks, which hold approximately two fifths of the deposits of the country. The second consideration is that movements in deposits between member and non-member banks may occur. And, finally, the movements in deposits are to be considered in the light of the greater activity of deposit accounts, which was reflected in an increase in checks outstanding.

TABLE XXXI
(Millions of dollars) ¹

	All member banks									
	July- Dec. 1927	Jan.- Feb. 1928	Mar.- June 1928	July- Sept. 1928	Oct.- Dec. 1928	Jan.- Mar. 1929	Apr.- June 1929	July- Sept. 1929	Jan., 1928- Sept. 1929	
(1) Time deposits ..	+555	+158	+516	-29	+43	-124	-4	-7	+553	
(2) Demand deposits	+190	-850	+255	+133	+2541	-1635	-865	+760	+339	
(3) Loans and invest- ments	+1491	-559	+1373	-132	+755	-291	+318	+203	+1667	
(4) Open market in- vestments	+381	-218	-290	-10	+280	-284	-184	+116	-590	
(5) Gold and currency	-426	+316	-296	-60	-190	+322	+179	-54	+217	
(6) Banking capital, etc.	-194	-63	-221	-217	-57	-275	-171	-330	-1334	
(7) Net changes in de- posits on basis of (3) to (6) ..	+1252	-524	+566	-419	+788	-528	+142	-65	-40	
(8) Actual change of deposits (time, demand, and U. S.)	+794	-873	+942	+6	+2687	-1610	-932	+720	+940	
(1) Periodic changes.										

In (2) demand deposits are used rather than net demand deposits. More will be said later on the important question of the differences in the movements of the two variables. Net demand deposits include demand deposits — excluding government deposits, against which no reserves are held — and “due to banks,” from which various deductions are made, of which the most important are checks in process of collection, clearing house exchanges, and the like.

(3) An increase of loans and investments accounts for an increase in deposits. The increase is large for the period as a whole, and the net change is still large even if the study is restricted to the period beginning January, 1928, when restrictive measures were introduced; and of course loans on account of others are excluded from this calculation.

(4) A reduction of investments of reserve banks — securities and acceptances — also accounts for a loss of deposits, for in purchasing investments disposed of by the reserve banks, purchasers draw on their deposits. In so far as banks purchased these investments, they converted cash into investments; but such purchases are already accounted for in the movements in loans and investments.

(5) A loss of gold and an outflow of money (including Treasury currency, which includes more than mere movements of currency) reduce deposits; but apparently the inflow of currency more than offset the loss of monetary gold, with the result that the losses of deposits to be associated with open market operations were in part offset by the gains to be associated with the movements of gold and currency.

(6) Banking capital increased at an unusual rate during this period; an increase involves a transfer of deposits to capital, surplus, and undivided profits. It is evident that the increase in banking capital was a very important factor operating to reduce deposits.¹

In (7) and (8) the net change to be expected from a consideration of the movements in the more important factors influencing deposits are compared with the actual change in deposits (time and demand).

¹ It may be pointed out that the increase in banking capital is not amply revealed by a consideration of member banks exclusively. The increase in capital funds for the two years ending June 29, 1929, was 1,268 millions for all banks reporting to the Comptroller of the Currency, 1,237 millions for all commercial banks and trust companies, and 1,198 millions for all members. Comptroller of the Currency, *Report*, 1927, pp. 102-103; *ibid.*, 1928, pp. 92-93; *ibid.*, 1929, pp. 109-110; *ibid.*, 1930, pp. 752-753; *F.R.A.*, 1930, pp. 94-95.

4. MOVEMENTS OF DEPOSITS BETWEEN MEMBER AND NON-MEMBER BANKS

It is not easy to trace the movement of deposits from member to non-member banks or vice versa. A comparison of the movement of loans and investments and deposits for both groups of banks is of some significance:

TABLE XXXII¹

(Millions of dollars)

	Member banks		Non-member banks	
	Loans and investments	Deposits ²	Loans and investments	Deposits ²
(1) December, 1927	+1491	+794	+210	+453
(2) June, 1928.....	+814	+70	+1000	+419
(3) December, 1928	+623	+2693	+378	+675
(4) June, 1929.....	+27	-2542	+181	-373
(5) December, 1929	+223	+1581	-280	-143

(1) Net changes over periods of previous six months.

(2) Demand and time.

In period (1) non-members apparently obtained part of the deposits that members might be expected to have obtained — see (8) of Table XXXI. In period (2) both non-members and members lost deposits in view of the marked expansion. Perhaps one half to two thirds of the total losses are explained by movements of investments of reserve banks and increases of capital. If the increase in banking capital of non-members was at the same rate as for members, approximately 1,000 millions of the loss of 1,300 millions are thus explained. Member banks apparently assumed a disproportionate share of the burden of open market operations, as is evident in their larger losses of deposits. Perhaps the stronger position of non-member banks in the first half of 1928 is to be explained in part by the more rapid expansion of members in the second half of 1927. Also, the increase in banking capital was larger for members.

The dominating factor in period (3) seems to have been the increase in bank debits evident in the very large excess in the movement of deposits over loans and investments. The excess is explained only in very small part by open market operations and the increase of banking capital. It is not even clear that member banks absorbed deposits at the expense of non-members. Increased activity of banking deposits was especially evident in financial centers and particularly in New York, and it can therefore be assumed that non-members shared in this increased activity of deposits to a very small degree. In the next period (ending June, 1929), the movement was reversed. A very large loss of deposits by members and a much smaller loss for non-members are explained for the most part by the reduction in debits and checks in process of collection.

5. NEW YORK CITY BANKS

Similar figures for reporting banks in New York City are significant; there is no reason for expecting agreement in the last two columns, however. The increase in banking capital played an especially large part in New York; it will be observed that it was necessary to use the figures for banking capital for all member banks in the New York District. The advantage of this particular study is that the position of New York in relation to the rest of the country is clearly indicated. All important factors that should be reflected in movements of net demand deposits of New York banks are considered; and if the actual movement of deposits is favorable to New York, we may conclude that New York is gaining at the expense of the rest of the country. Consider, for example, the period March to June, 1928, when a reduction of deposits in excess of 500 millions was indicated by a consideration of these factors; but actually reporting banks in New York City increased their deposits. Restraint and higher rates in New York were effective in putting an increased burden on other member banks, and turned the balance in favor of New York. The strong position of New York banks is indicated by the fact that, in this period, the gains were larger or the losses smaller than those calculated, in spite of the fact that the effects of open market operations and losses of gold have been attributed entirely to New York banks. The gains are even larger if it is allowed that deposits of New York banks should, in view of the fact that speculative loans are supposedly reflected only in small part in an increase in deposits with banks making these advances, increase less in relation to the increase in loans and investments than elsewhere.

Net demand deposits have been used in the study of New York City banks because demand deposits are not available. The study is probably not so significant as that for all member banks; one advantage is that the disturbing effects of the increased activity of deposits are in part eliminated, for part of the increase in demand deposits thus explained is eliminated through increased deductions made possible when more checks are in process of collection. "Due to banks" are considered because fluctuations in that series are reflected in changes in net demand deposits.

The object of this analysis is to study the movements in the important variables that explain movements in deposits. A reduction of deposits, or stability when they might have increased, is an im-

TABLE XXXIII

(Millions of dollars) ¹

New York City reporting member banks									
	July- Dec., 1927	Jan.- Feb., 1928	Mar.- June, 1928	July- Sept., 1928	Oct.- Dec., 1928	Jan.- Mar., 1929	Apr.- June, 1929	July- Sept., 1929	Jan., 1928- Sept., 1929
(1) Time deposits ..	+24	+59	+117	-35	+23	-28	-25	+75	+188
(2) Net demand de- posits	+180	-99	-92	-287	+213	-33	-72	-11	-381
(3) Loans and invest- ments	+330	-35	+295	-144	+130	+144	-15	+226	+601
(4) Due to banks ...	+65	+52	-165	+1	+22	-40	-120	+91	-159
(5) Banking capital, etc. (New York District)	-100	-39	-122	-141	-59	-175	-129	-237	-902
(6) Reserve notes, (New York Dis- trict)	+25	+29	+15	-5	-25	+69	+13	-38	+58
(7) Monetary gold stock of System	-190	-43	-254	+6	+17	+24	+145	+57	-48
(8) Open market in- vestments (re- serve banks) ..	+381	-218	-290	-10	+280	-284	-184	+116	-590
(9) Change in depos- its indicated by (3) to (8)	+511	-254	-521	-293	+365	-262	-290	+215	
(10) Actual changes .	+204	-40	+25	-322	+236	-61	-97	+64	

(1) Changes from one period to the next—thus column 2 gives figures from December 31, 1927 to February 28, 1928.

portant consideration, for economies of reserves in periods of stringency are a means of maintaining greater independence of, or averting a greater degree of dependence on, reserve banks. It is important to distinguish between a reduction of deposits that makes possible a reduction of reserve-bank balances and a loss of deposits that involves more borrowing. Open market operations, losses of gold, withdrawals of notes — all involve losses of deposits, making increased borrowing necessary; but in so far as they account for a reduction of deposits, their restraining effects are offset to some extent by the reduction in reserve requirements. A reduction of loans and investments or an increase of banking capital makes possible a reduction of deposits without at the same time bringing the restraint that results from a loss of cash. In another sense the reduction of deposits to be associated with the increase of capital and the reduction of bankers' balances may involve some restraint. More rapid liquidation by one bank or a series of banks in one section of the country, withdrawals of bankers' balances, and even increases in banking capital, may involve disturbances and losses of cash for some sections of the country or for groups of banks, disturbances and losses that can be corrected only by increased borrowing somewhere; and the reduction of debts by banks in a favorable position may be tardy or never effected at all.

CHAPTER XXXV

SECURITY LOANS, AN INTERPRETATION OF THE FIGURES

I. SIGNIFICANCE

SECURITY loans are not *per se* undesirable; an increase in security loans is not necessarily an indication that speculators are obtaining additional supplies of bank credit to hold securities. Frequently the collateral is only incidental and the object of borrowing may be an approved commercial purpose; moreover, dealers in securities perform legitimate functions and are as clearly entitled to a fair share of the total bank credit as is any other element in the business world.¹ Robertson goes much further: he argues in a brilliant and convincing manner that the practice of American banks of putting a larger proportion of their resources in fixed capital in the years

¹ An official of the New York Bank goes so far as to contend that if loans to brokers by New York banks are left out of consideration, the total security loans of reporting banks fluctuated in the years 1927-30 in about the same manner as "all other loans," which fact seems to indicate that the proceeds of security loans are applied to industrial and commercial purposes. H. V. Roelse, "Security Loans in Recent Years," *Review of Economic Statistics*, 1930, pp. 110-111. The assumption is that New York banks merely filled gaps.

There is undoubtedly an element of truth in this statement. But "all other loans" included loans the proceeds of which were used for speculative purposes. Also consider the fluctuations in security loans to customers in relation to the security loans to brokers, in particular the important increases when loans on the open market were being called in, and we cannot be so certain of that conclusion. Such inverse movements in security loans to brokers and to customers for speculative purposes are concealed if security loans as a whole are considered. We might also consider the similarity in movements of loans on account of outside banks and for New York banks on their own account in the first nine months of 1929: it is difficult to avoid the conclusion that a large part of the loans by outside banks on the New York stock market ought to be included with loans by New York banks on their own account in order to arrive at any generalizations regarding security loans. And what of security loans to outside exchanges, and the financing of margins? Moreover, many might contend that Street loans of New York banks ought not to be left out of consideration.

Hawtrey also raises the question whether the increase in security loans is to be explained primarily by speculation, and his answer is "No." But I am not convinced. The failure of security loans to decline in 1930 as they had increased in 1927-29 is not proof that they were not speculative loans, as Hawtrey maintains, but rather that loans to non-professional speculators were substituted for loans to brokers, and loans by banks to brokers were substituted for loans on account of others. R. G. Hawtrey, *The Art of Central Banking*, p. 64.

1922-29, enabled them to stave off conditions in some way analogous to business depression.¹ Recently the Glass Subcommittee on Banking and Currency of the Senate obtained replies to questionnaires sent to large numbers of banks in New York and elsewhere, which throw light on this question.² In evaluating the investment policies of member banks during the years 1927-29, one ought to keep in mind the fact that security loans of all banks increased by 50 per cent or more from 1921 to 1930 — the movement had assumed large proportions even before 1927.³ Also, in one sense, the situation was sounder in 1928-29 than in 1931, for loans to brokers constituted a much larger part of the total of security loans, and of course brokers' loans are safer than security loans to customers.⁴

But even if adequate allowances are made for these considerations, the conclusion is drawn that the increase in security loans was excessive in the years 1927-29, and that the development is in large part to be associated with unhealthy speculation.⁵ That the loans on account of others increased more rapidly than other security loans does not absolve the banking system of its responsibility; something has been said on this point above. On the other hand, the Senate committee goes too far in suggesting that loans on account of others would not have been made if banks in New York had been unwilling to act as intermediary.⁶ The committee assumes,

¹ A. C. Pigou and D. H. Robertson, *Economic Essays and Addresses*, pp. 111, 118.

² Hearings: *Operation of Banking Systems* (71: 3), 1931, Pt. VII, especially pp. 1011-1012; cf. B. H. Beckhart, "Fluctuations in Brokers' Loans and Interest Rates," *Proceedings of the Academy of Political Science*, 1930 (13), pp. 460-463, for a statistical summary of the history of brokers' loans. He concludes that New York banks have not been responsible for the large expansion since the beginning of 1928.

³ Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 1007-1009.

⁴ *Ibid.*, pp. 1023, 1028.

⁵ Early in 1928 there was a disposition on the part of authorities to minimize the evil effects of brokers' loans: they constitute a small part of all loans, they make possible diversification of investments for outside banks, etc., etc. It was not until later that attention was directed to all security loans. More recently Governor Young has stated that banks rely too much on the adequacy of the collateral and the possibility of help from reserve banks; they ought to consider the banking situation, the possibility that reserve banks may be loaned up in an emergency, and that brokers' loans are safe only because a market exists for the collateral. Large sales of securities may result in a catastrophic decline. Professor Sprague also admits now in contrast with his attitude toward brokers' loans in 1928, that more speedy action will be taken in the future to check speculation. Hearings: *Brokers' Loans* (70: 1), 1928, pp. 39, 66-67; *Mim.L.S.*, 1930 (32), x-6585, pp. 418-421; O. M. W. Sprague, "The Working of the Gold Standard under Present Conditions," *Proceedings of the Academy of Political Science*, 1930 (13), pp. 527.

⁶ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 1025.

unjustifiably in my opinion, that outside lenders were willing to advance funds because they were aware that their loans were safe: the banks had a moral obligation to step in if the non-banking lenders withdrew their funds. But it is doubtful whether lenders were so provident; and moreover, in any event the banking community would have assumed some responsibility for the financial condition of brokers. Loans for non-banking lenders would, however, have been discouraged to some extent in the absence of assurance from banks.

2. A CRITICISM OF THE FIGURES OF THE GLASS COMMITTEE

The Senate subcommittee publishes the following table:¹

TABLE XXXIV. TOTAL BROKERS' LOANS

(Millions of dollars)

Date	By and through New York banks to brokers in New York		From private banks, etc., to brokers on New York Exchange	To brokers outside of New York City by out-of-town members	Total
	Bank acc't	Others ¹			
	(1)	(2)	(3)	(4)	(5)
October, 1928	1807	2835	866	805	6313
January, 1929	2008	3346	1071	922	7350
October, 1929	1860	4944	1472	893	9169

(1) Includes loans made by non-member banks.

The Senate committee ought not to include with loans for others those made by New York City banks for non-members. Members outside of New York City advanced approximately 3 per cent of their loans and investments on the New York Stock market; a similar proportion for out-of-town non-members would indicate a total

¹ *Ibid.*, pp. 1021-1022. It is pointed out by the committee that the total is not inclusive of all brokers' loans. Loans made by non-member banks to brokers outside of New York, all loans on account of others to brokers outside of New York, loans through other than member banks in New York to non-stock exchange members within New York City, are not included. The method used in compiling this table is not revealed. Apparently, the total advances through New York commercial banks (member and non-member) on the New York Stock Exchange account for the sum of the figures in columns 1 and 2. The advances by member banks are deducted from the total. (Column 1 gives advances by member banks and column 2 the remainder.) Cf. my table on next page.

Roelse, in his excellent survey, omits several items: loans through other than member banks in New York to non-stock exchange members in New York City and loans on account of others made by any banks elsewhere than on the New York Stock Exchange. H. V. Roelse, *op. cit.*, pp. 108-110. Cf. L. H. Haney, L. S. Logan, and H. S. Gavens, *Brokers' Loans*, pp. 3-5, 27-29.

TABLE XXXV

(Millions of dollars)

	1928		1929		
	Oct. 3 1899	Dec. 31 2556	Mar. 27 1879	June 29 2025	Oct. 4 1885
(1) Street loans in New York City by all members					
(2) Difference between all loans on Street made through New York members and those made through commercial banks and trust companies as reported by the Stock Exchange	102	139	101	158	285
(3) Street loans in New York City by member banks in New York City (central reserve city banks)	880	1639	1102	1359	1096
(4) Street loans in New York City by outside member banks	1019	917	777	666	789
(5) All loans (including those on account of non-banking lenders) on Street on account of outside banks through members in New York City ¹	1682	1652	1680	1555	1818
(6) Loans on account of non-members and "others" through outside banks (in New York City) ²	663	735	903	889	1029
(7) Loans on account of others through New York City banks ¹	1958	2208	2898	2954	3917
(8) Loans on account of member banks to outside brokers	850	975	1014	921	939
(9) Loans on account of private banks, etc., on New York Stock Exchange ³ (demand only)	751	913	979	1111	1289
(10) Total ⁴	6223	7526			9342

(1) Interpolated weekly figures to call date.

(2) Derived from the difference between (5) and (4).

(3) Sept. 29, 1928, Dec. 31, 1928, Mar. 30, 1928, June 29, 1929, Sept. 30, 1929 are days on which Stock Exchange reported figures.

(4) The sum of (1), (2), (6), (7), (8), and (9).

of 600-700 millions of loans on the New York Exchange by non-members. Even if it is allowed that non-members are smaller banks and more frequently in agricultural centers and, as is true of banks of this type, that their collateral loans are smaller proportionally than for large city banks, it is still probably true that a large part of the out-of-town advances other than by members were made for the account of non-members outside of New York City. A comparison of the movement of (6) — loans on account of outside non-members and "others" advanced through outside banks — and (7) — loans on account of others advanced through New York City banks — on the one hand and (4) — outside member banks — on the other, indicates, however, that an important part of the total (6) were loans on account of others. The movements of (6) and (7) were more nearly of similar proportions and in the same direction.

The totals in the two tables are not far apart. It is also possible to make an estimate for the loans to outside brokers by non-members. The assumption is made that non-members outside of New York advanced the same proportion of their loans and investments to brokers and dealers on exchanges outside of New York as member banks outside of New York; on that assumption, the total ought to be increased by an amount in excess of 700 millions, or to approximately 10,000 millions in October, 1929. Probably the actual addition for this item was not so large for non-members. A consideration of the division of loans on account of outside banks between members on the one hand and non-members and "others" on the other hand verifies the conclusion that the figure of 700 millions is too large. Non-members, however, were not subjected to the pressure in 1928-29 experienced by members.

It is possible to make an estimate for loans on account of others advanced on outside speculative markets on the following assumptions. All figures are given in round numbers because at best this can only be a rough estimate. Advances on the New York Stock Exchange on the account of banks are assumed to include all advances by members on the Street (Column 1) and one half of the loans on account of outside non-members and "others" advanced through all outside banks. On this assumption, loans on account of others advanced to New York brokers constituted 90 per cent of the loans advanced by banks to brokers in New York in October, 1928, and 160 per cent in October, 1929. Member bank loans to outside brokers are reported on call dates. It is assumed that non-members

contributed 33½ per cent additional to brokers on outside exchanges in October, 1928, and 50 per cent in October, 1929. This estimate is made on the basis of a study of movements in (5) and (6). All banks therefore advanced approximately 1,100 millions in October, 1928, and 1,400 millions in October, 1929, on outside exchanges. If the loans on account of others constituted the same proportion of bank loans as in New York, the total loans on account of others on outside exchanges would amount to 1,000 and 2,200 millions for the respective months. On this assumption the total brokers' loans would be approximately 8,000 millions in October, 1928, and 12,000 in October, 1929. (An allowance of 400 to 500 millions for both periods is made for loans to outside brokers by non-members.) Too much reliance ought not to be placed in this estimate for loans on account of others on outside exchanges, for its accuracy depends on the validity of the assumption that they constituted the same proportion of bank loans to brokers as in New York.

One possible explanation of the discrepancies between the author's and the Senate figures is that the author deemed interpolations necessary; large movements occur at the end of each quarter and it is therefore necessary to eliminate discrepancies to be attributed to the inability to obtain figures for identical days. Thus Street loans by members (1), (3), (4), and (8) are available for call days; figures for reporting members (2), (4), and (5) are available one day in each week; and figures reported by the Stock Exchange relate to a day near the end of the month or the last day of the month.

It seems from (3) and (4) that member banks outside of New York did not contribute to the orgy of speculation to the same extent that New York banks did in the latter part of 1928; but the end of the year figures give an exaggerated impression of the increased funds contributed by New York banks.¹ Also, on the basis of these figures,

¹ Weekly averages — net change of average of one period (covered by call days) to average of next.

(Millions of dollars)

	New York member banks	
	Loans on own account	Loans on account of out-of-town banks
July-Sept., 1928	-272	-6
Oct.-Dec., 1928	+161	+186
Jan.-Mar., 1929	+76	+52
April-June, 1929	-211	-165
July-Sept., 1929	+181	+131

it seems that liquidation was not so marked for outside members in 1929. Both of these conclusions are to be modified, however, in the light of the appreciable increase in advances in 1928 and the liquidation in 1929 on outside exchanges on the part of members; and the average of weekly figures given in the note below are to be considered. The advances on outside exchanges are made almost exclusively by banks outside of New York. It will be recalled from the discussion in Chapter XXVIII that banks in outside districts did not cooperate as much as New York banks in the first six months of 1929, if their advances on the New York Stock Exchange are considered in conjunction with their security loans to customers and on outside exchanges. But the decline in advances in New York by outside banks does not seem so small if the increase in loans on account of others made by them is considered. (The assumption is made that loans on account of others made through outside banks — included in loans on account of outside banks — increased at the same rate as loans on account of others made by New York banks.)

New York banks contribute a larger proportion of their resources to the security markets than do outside member banks. In October, 1928, and October, 1929, the former had $12\frac{1}{2}$ and 15 per cent of their loans and investments in brokers' loans; the latter but $3\frac{1}{2}$ and 3 per cent respectively.¹ Even if advances to brokers on outside exchanges are included in the advances by members outside of New York, their investments in brokers' loans were but 7 — and 6+ per cent of their loans and investments. More attention ought to be paid to the fact that New York banks play normally a larger part in the stock market, for brokers and banks are in a customer relationship as legitimate as that between any other trader and bank.² The increased participation of New York banks in the year ending October, 1929, may be condoned to some extent on the grounds that the New York banks were peculiarly interested in the condition of one of the large industries of New York.³

¹ Consider these figures, however. The percentage of collateral loans and investments to all loans and investments on June 19, 1929 was 62 for reporting banks in the New York District as compared to 62 for Cleveland, 64 for Philadelphia and 57 for the Boston District. In the Chicago, Dallas, and Atlanta Districts, however, the respective percentages were 58, 49, 44. *Mo. Rev. of Boston R. B.*, July, 1929.

² *Cf. Mo. Rev. of N.Y.R.B.*, September, 1928.

³ Roelse argues that the loans of New York banks on their own account represent adjustments between the demand for and supply of funds from other sources; and that loans on account of others met most of the increased demand for funds to finance the

Disturbances frequently occur at the end of the quarter, when non-banking lenders and, to some extent, outside banks withdraw funds. It has sometimes been maintained that in 1929 member banks in New York were instructed to refrain from replacing funds withdrawn; but no clear evidence of any disposition to follow these instructions is to be had from a study of loans of New York banks on the Street and rediscounts in the week preceding and following quarter days in 1928 and 1929. On the other hand, one or two other interesting points emerge from this study.

TABLE XXXVI. NEW YORK REPORTING MEMBER BANKS

		(Millions of dollars)				
		Loans on securities	Rediscounts	Loans on Street		
Net change for week				For own account	For account of out-of-town banks	For others
1928	Mar. 28-Apr. 4	+209	+54	+144	+73	-63
	June 27-July 3	+251	+60	+191	+11	-73
	Sept. 26-Oct. 3	+70	+27	+80	+8	-43
	Dec. 26-Jan. 2	+479	+118	+407	-12	-156
1929	Mar. 27-Apr. 3	-33	-69	-50	-28	-9
	June 26-July 3	+209	+113	+217	+44	-35

The following observations are made for the quarter movements in the first half of 1929:

1. The increase in loans on own account was much greater than was the reduction in loans on account of others, and the large advances by New York banks seem even less necessary if the upward tendencies in loans for out-of-town banks are considered. Perhaps non-banking lenders reinvested funds that had been temporarily withdrawn before the New York banks withdrew their additional funds. But this does not seem to be an adequate explanation. It

expanding volume of security trading at rapidly rising prices during the last four years. H. V. Roelse, *op. cit.*, p. 110.

Perhaps he lets the New York banks off a little too easily although on the whole they cooperated to a remarkable degree. Some attention ought to be paid to the increase in security loans to customers other than brokers which made possible the financing in large part of margins required as well as securities carried by customers without the intervention of brokers. Moreover, there were periods when additional loans to brokers made by New York banks could scarcely be classified as loans to "adjust the demand and supply of funds from other sources." I have in mind the latter part of 1927, the last few months of 1928, January, 1929, and the last three or four months preceding the crash. Also, more attention ought to be paid to advances made by foreign banks, private banks, member banks outside of New York, and all non-member commercial banks and trust companies.

may also be observed that loans by private banks, foreign banks, and non-member commercial banks both on their own account and for others probably declined to some extent at the end of the quarter.

2. Total security loans, which of course include Street loans, increased at a very rapid rate; but the increase is accounted for by that in open market loans.

3. AN INTERPRETATION OF THE NET MOVEMENTS

Loans to brokers as reported to the New York Stock Exchange rose from 3,569 millions in June, 1927, to 8,549 millions in September, 1929, an increase of 139 per cent. The increase in advances to brokers and dealers in securities as reported by member banks of New York City was but 117 per cent (3,118 to 6,761 millions). Perhaps the difference is to be explained by a larger increase in advances made by and through non-member banks and trust companies and advances made through foreign and private banks.

	(Millions of dollars)
1. Increase of brokers' loans reported by member banks in New York City	3643
2. Increase of loans reported to New York Stock Exchange	4980
3. Of which total (2), the increase in loans made through:	
(a) New York banks and trust companies	4012
(b) Private banks, foreign correspondents, etc.	968

The increase in (3a) was approximately 133 per cent; but the increase in (3b) was in excess of 190 per cent. The relatively larger increase in (3a) than in (1) would seem to indicate that the expansion of loans made on account of or through non-member banks and trust companies was more rapid than for loans made through member banks; and the very rapid increase in (3b) points to the same conclusion for loans through private and foreign banks. It is not to be inferred that a larger increase in loans by New York banks as reported by the Stock Exchange for each period necessarily implies a more rapid increase in loans by non-member banks or even in each period, although it is clear that for the entire period under consideration the increase was more rapid for loans through non-members, particularly in 1929; for discrepancies are frequently explained by the fact that the series published by the Stock Exchange relates to

TABLE XXXVII

	1927	1928				1929		
	July- Dec.	Jan.- Feb.	Mar.- June	July- Sept.	Oct.- Dec.	Jan.- Mar.	Apr.- June	July- Sept.
Stock Exchange figures								
(1) Total	+864	-110	+575	+616	+926	+364	+267	+1478
(2) New York banks ...	+747	-75	+432	+478	+754	+312	+84	+1280
(3) Others	+117	-36	+145	+136	+173	+52	+184	+197
Reporting member banks								
(4) Total (New York) ..	+600	+4	+456	+347	+566	+558	-107	+1219
(5) For own account ...	+242	-225	-208	-91	+259	-38	-33	-14
(6) For account of out- of-town banks....	+194	+86	+59	+191	-14	+20	-144	+340
(7) For account of others	+164	+143	+605	+247	+321	+576	+71	+891
(8) Net deposits, New York City	+125	+19	-292	-221	+233	-32	-13	-108
(9) Call rates, renewal ..	3.91	4.31	5.37	6.73	7.42	7.74	8.50	8.65
(10) Security loans, New York City	+353	-243	+56	-35	+278	+72	+56	-25
(11) Security loans, other reporting banks ..	+167	-2	+278	-42	+141	+290	-109	+206
(12) Security prices	+10.7	+7.2	+12.0	+4.4	+17.5	+19.7	+1.5	+28.5
Total Street loans								
(13) To brokers and dealers in New York City by all member banks	...	...	...	...	+657	-677	+146	-140
(14) By member banks in New York City (central reserve city banks, only)	...	...	...	...	+759	-537	+257	-263

NOTES: For all items, changes are from the end of one period to the end of the next in millions of dollar except for (9) and (12). In (1), (2), and (3) are presented figures by the New York Stock Exchange to loans to brokers. In (2) the fluctuations in the total loans made through New York banks and trust companies are given; in (3) those made to brokers by private banks, foreign banks, etc. Figures presented by the Stock Exchange are for the end of the month. (Thus in Column 1 from the end of June to the end of December.)

In (4)-(7) are presented the loans to brokers and dealers as reported by member banks in New York City, divided into loans on their own account, for outside banks, and for others. Figures are movements between last weeks of each period.

Call rates (renewal) are averages for each period of the monthly averages of daily figures. Security loans for New York City reporting member banks (10) and for reporting banks outside of New York City (11) include loans made on the Street by New York banks for their own account and for outside member banks, and also security loans to customers. Security prices (12) are taken from the series compiled by the Standard Statistics Company—(June, 1927 = 115.4 for common stock); these movements are for the average of one period to the average of the next.

Figures in (4)-(8), (10), and (11) are differences between the last week of one period and the last week of the next. In this manner all the series are put on a comparable basis; series based on average monthly figures differ appreciably from the series actually used; figures published by the Stock Exchange relate to the final day of the month as a rule. Unfortunately in the series reported by member banks the figures for the final week do not as a rule relate to the last day of the month. More on this later.

the last day of the month, while that based on figures of reporting member banks as a rule does not.¹

Recently, authorities have published information concerning security loans on call dates. (See Table XXXVII [13] and [14].) Discrepancies of rather large dimensions are evident between the series in (5) and (14) — loans on own account (member banks in New York City) and Street loans by New York City member banks, central reserve city banks only — and the series in (5) and (6) on the one hand and (13) on the other — Street loans by New York members on own account and for out-of-town banks. One plausible reason for discrepancies between (5) and (14) is that the latter covers central reserve city banks only in New York; but that is probably not an important consideration.² Loans on account of outside banks include loans made for non-members and for indi-

1 BROKERS' LOANS THROUGH NEW YORK BANKS		
	(Millions of dollars)	Reporting member banks
(1) July-Sept., 1928	The increase as reported by the Stock Exchange was 131 millions in excess of the increase of reporting members	Sept. 26 4525 Oct. 3 4570
(2) Oct.-Dec., 1928	The increase reported by the Exchange was 188 millions in excess of the increase of reporting members	Dec. 26 5091 Jan. 3 5330
(3) Jan.-Mar., 1929	Loans reported by member banks increased by 246 millions more than those reported by the Exchange	Mar. 27 5649 Apr. 3 5562
(4) Apr.-June, 1929	The increase reported by the Exchange was 191 millions more than that reported by member banks	June 26 5542 July 3 5769
(5) July-Sept., 1929	The increase reported by the Exchange was 61 millions in excess of the increase reported by member banks	Sept. 25 6761 Oct. 2 6804

The loans to brokers and dealers as reported by member banks in New York City are taken as of the day of the first week indicated in the last column. Figures for the following week are presented in each instance merely to point out that the increase for reporting banks would generally have been larger if the figures for the last day of the month were used. It is probable that the more rapid increase in loans through banks as reported by the Exchange may be thus explained in the second and fourth periods above. In the third period it seems probable that the expansion in Street loans was more rapid as reported by member banks. It is possible that measures taken to discourage loans on account of others by members of the New York Clearing House in 1928 may have driven non-banking lenders to non-members of the Clearing House.

² I am indebted to H. V. Roelse, manager of the Report Department of the New York Reserve Bank for information on this point. (Letter of February 20, 1932.) "The call date figures on Street loans of central reserve city banks in New York include practically all Street loans placed by New York City member banks."

viduals; hence discrepancies are to be expected between the totals of the figures in (5) and (6) on the one hand and those in (13) on the other.

The table presented below reveals that the discrepancies between (5) and (14) are not so large as they seem; they are explained in large part by the fact that the series do not relate to identical days.

TABLE XXXVIII

(Millions of dollars)¹

	Reporting members New York City own acc't	Members, New York City (central reserve city banks)	Reporting members out-of-town banks	Sum of (1) and (3)	Street loans in New York City for all members
	(1)	(2)	(3)	(4)	(5)
1928-29					
Oct. 3-Dec. 26	+179	...	(-102)	-22	+157
Dec. 31 ²	...	+759	...	...	+657
Oct. 3-Jan. 2	+586	...	-34	+552	...
Dec. 26-Mar. 27	-38	...	(-140)	+20	-18
Mar. 27 ²	...	-537	...	...	-677
Jan. 2-Mar. 27	-445	...	+32	-413	...
Mar. 27-June 26	-33	...	(-111)	-144	-177
June 29 ²	...	+257	...	...	+146
Mar. 27-July 3	+184	...	-100	+84	...
July 3-Oct. 2	-184	...	(+123)	+246	+62
Oct. 4 ²	...	-263	...	...	-140
July 3-Oct. 9	-282	...	+219	-63	...

(1). Based on weekly figures nearest call days — thus October 3 to December 26 and October 3 to January 2 — corresponds to (5) in XXXVII.

(2). One call day to next — corresponds to (14) in XXXVII.

(3). Similar to (2) for out-of-town banks. In parentheses are given movements in advances on Street by banks other than those covered in (2) — the difference between (13) and (14) in Table XXXVII.

(1) Net change.

(2) Call days.

The reader may well omit this crude table and its discussion; the object is merely to point out that discrepancies between (5) and (14) in Table XXXVII and (1) and (2) as well as (4) and (5) in the above table are explained by the large movements at the end of quarter fully revealed only by call day figures.

The discrepancies between (1) above and (5) in Table XXXVII are explained by the fact that in (1) the movements are between the last call date and a day in the week preceding and following the next call date; in the preceding Table (XXXVII) the figures are for the differences between the last week of each period.

New York City banks generally increased their advances to the stock market in the last few days of the quarter as other lenders withdrew their support; that is the explanation of the much larger increase in (2) over (1) in the first and third periods as well as the greater reduction in the second and fourth periods.¹ My purpose of including the figures for a second week in each period in (1) is to indicate the importance of the movements at the end of the quarter, partly revealed in this manner, and also to demonstrate that the discrepancies between (1) and (2) are not large. Call days are usually the last day of the quarter in June and December, and the movements both up and down are rather exaggerated if we consider fluctuations from one call day to the next; the increased participation of New York member banks is especially large at the end of June and December, and therefore the reduction is especially large in March and September.

4. ADVANCES BY NEW YORK BANKS, FOREIGN BANKS, AND OUTSIDE BANKS

Table XXXVIII considered in conjunction with the movements in Street loans (New York City) other than those advanced by member banks (central reserve city banks) in New York City reveals the attitude of out-of-town banks, both member and non-member, toward the use of their resources on Wall Street. In this table advances by member banks, other than those in New York classified as central reserve banks, are given in parentheses in (3). It is evident that outside members cooperated, at least to the extent of reducing their open market security loans in New York City, in each of the first three periods considered in Table XXXVIII;² but it is apparent that non-members and private lenders did not show such restraint.³ In the last period, members other than New York banks apparently increased their open market security loans in New York at least as rapidly as did non-members outside and non-banking lenders advancing through out-of-town banks. The contributions of non-members out-of-town can be gleaned by a comparison of the

¹ *Mo. Rev. of N.Y.R.B.*, August, 1928.

² Consider the figure in parentheses. (Column 3 in Table XXXVIII.)

³ The advances on account of non-member banks made through New York banks and of private lenders made through out-of-town banks are obtainable by deducting the figure in parentheses (Column 3) from the one figure or the mean of the 2 to the right in the same column. It is apparent that these advances (included in loans on account of outside banks) increased in the first two periods and were stable over the third.

figures in (3) and the figures in parentheses to the left of (3); but this statement is not exactly accurate, for the loans on account of out-of-town banks include loans on account of others made by non-members and members, as well as loans for member and non-member banks. Therefore what seems like non-cooperation on the part of non-members, may in truth be non-cooperation of non-banking lenders. That there is some justification for this suggestion is to be inferred from the fact that advances other than those made by out-of-town members for their own account, included in the total loans on account of outside banks, increased in the periods when loans on account of others by New York banks also increased.

It may perhaps be assumed that when loans by private and foreign banks [(3) in Table XXXVII] increase more rapidly than loans made through New York banks and trust companies [(2) in Table XXXVII], the difference is to be explained by large movements of foreign money. This interpretation would point to especially large influxes of foreign money for speculative use in March–September, 1928, and April–June, 1929; and it is possible that in July–December, 1927, October–December, 1928, and July–September, 1929, when both series, (2) and (3), rose rapidly, large amounts of foreign money were also being remitted to the stock market.

An inspection of the figures for loans of New York City banks on their own account will reveal that on the whole authorities have been disposed to give too much credit to the New York City banks for cooperating with reserve authorities; their loans on the open market to brokers are to be considered in the light of the fluctuations in all security loans made by them.¹ [See (10).] Loans of New York City banks to brokers and dealers on their own account in-

¹ Governor Young made the following statement in May, 1930: Brokers' loans and total security loans of New York City banks in the middle of last October were smaller than in the previous year. The New York banks were able to help when the crash came, in part because they had refrained from participation in the enormous growth of security loans that occurred in 1928 and 1929. *Mim.L.S.*, 1930 (32), x-6585, p. 416. This statement is not fully justified. Security loans in October, 1928, averaged 2,559 millions and in October, 1929, the average was 3,191 millions. Moreover, the amount was larger in each week in October, 1929, than in the corresponding week in October, 1928. The increase in other loans is also a consideration. Young more justifiably might have said that the New York bank cooperated to a greater extent than other banks and non-banking lenders. The increased proportion of brokers' loans to all loans and investments of reporting banks in New York for the year 1929 (October to October), is also relevant. Cf. H. V. Roelse, *op. cit.*, p. 110; B. H. Beckhart, "Fluctuations in Brokers' Loans and Interest Rates," *Proceedings of Academy of Political Science*, 1930 (13), p. 463.

creased to a marked degree from July to December, 1927, and from October to December, 1928.¹ (There was also an important increase in January, 1929.) In January and February, 1928, total security loans of New York reporting banks did not decline so much as loans on own account: a fact from which we conclude that security loans to customers increased and, thus, that New York City reporting banks did not cooperate to the extent indicated by the figures for loans on own account. Customers were shifting their demands for accommodation from brokers to banks, a movement that is especially strong when open market rates rise. More startling are the figures for March-June, 1928, when a reduction of 208 millions of loans on own account was accompanied by an increase of 56 millions in all security loans; in other words, the reporting banks increased their security loans to customers 264 and reduced their loans on the open market by 208 millions. Perhaps member banks were cooperating in one sense, for it was more profitable to continue to lend on the open market; but they were unable or unwilling to deny their customers. In July-September, a reduction of 91 millions of loans on their own account was accompanied by an increase of 56 millions of security loans to customers. Similar results are evident for the first six months of 1929. In the last quarter of 1928, security loans on both the open market and to customers increased in a spectacular fashion. It is easy to conclude that fluctuations in loans on own account do not give a convincing picture of cooperation by members in New York City, and a consideration of all security loans is even less convincing; but at least as compared to other banks in New York City (3), and member and non-member banks (included are loans by non-banking lenders) elsewhere (6), and non-banking lenders (6) and (7), New York banks cooperated.² Figures in (5) and

¹ Consult (5) in Table XXXVII, but the figures in (14) are to be used with caution. The explanation is that the fluctuations of Street loans by New York banks on their own account are exaggerated if figures for the end of each period alone are considered. For that reason the series presented in (5) gives a more accurate picture of the situation and perhaps the movements in the weekly average of each period would be even more satisfactory.

² Something has already been said of the drastic liquidation in the New York District as compared to other districts in the first three months of 1929 both of open market security loans and of all security loans. From April to June other large reserve districts give more evidence of cooperation; but in the third quarter, banks in the New York District were more courageous. These conclusions are subject to the reservation that they are based on information for call days and hence the liquidation in March and the expansion in June for New York banks are overdone. (See Tables 44 and 93, *F.R.A.*, 1929, and 46 in *ibid.*, 1930.)

(10), it may be noted, are for identical days in each instance. The relative spirit of cooperation, as between New York reporting banks and banks outside, is not indicated clearly by these figures; the more rapid increase of the latter may be explained by the growth in loans on account of others. Perhaps the unwillingness of non-members in New York to cooperate is indicated by the increase in advances through New York banks, relatively larger as reported by the Stock Exchange than those as reported by members.

The results are even more disappointing for banks outside of New York City. Member banks in New York City continued to increase advances made on behalf of outside banks throughout 1928; the out-of-town banks were of course not exclusively member banks, and part of the money advanced for them was on behalf of their customers. Figures for security loans are available only for reporting banks; hence it is necessary to compare security loans of reporting member banks outside of New York City with brokers' loans for outside banks, including loans made by member and non-member banks as well as those for non-banking lenders made by them. It is necessary to assume that security loans of all outside banks fluctuate as do security loans of reporting banks outside of New York City. In January and February, 1928, outside banks apparently were co-operating, for, in spite of an increase of 86 millions in loans on account of outside banks, security loans of reporting banks outside of New York were reduced by 2 millions; in other words, banks reduced their security loans to customers and increased their loans in the open market. But in the periods March-June, 1928, and January-March, 1929, expansion in security loans was much greater than the amount indicated by the fluctuations in loans on account of outside banks; and from July to September expansion was not so great as was indicated by the increase in such loans. In periods when banks were subjected to much pressure — March-June, 1928, January-March, 1929 — there was a tendency to withdraw money advanced on the open market, with the result that open market rates rose and customers repaid brokers and borrowed from their banks directly at customer rates less costly than open market rates.

CHAPTER XXXVI

BANKERS' BALANCES AND THE PROBLEMS OF SPECULATION AND RESERVES

I. THE MATERIAL ¹

MUCH confusion can be avoided if the statistical information on this subject is analyzed.² The Comptroller of the Currency obtains reports for call days on the following items included in "due to banks" and "due from banks."³

<i>Due from banks</i>	<i>Due to banks</i>
(1) Items with Federal reserve banks in process of collection	(1a) Due to Federal reserve banks (deferred credits)
(2) Due from banks and trust companies in the United States	(2a) Due to other banks in the United States
(3) Exchanges for clearing house and other checks on local banks	(3a) Certified and cashiers' checks and dividend checks
	(4) Due to banks abroad
	(5) Letters of credit and travellers' checks

The point to be stressed above all is that the weekly figures for reporting banks of balances due from and due to banks include only balances due from and due to other banks in the United States — items (3) and (3a) above — and hence are not strictly comparable with the Comptroller's figures.⁴

¹ The reader should inspect Charts XII-XV and the discussion on pages 771-781.

² The statistical material used in this chapter is obtained from the following sources: Comptroller of the Currency, *Report*, 1927, pp. 85-87; *ibid.*, 1928, pp. 75-77, 358-369, 377-378; *ibid.*, 1929, pp. 90-93, 352-367, 400-415; *ibid.*, 1930, pp. 753-754; *F.R.A.*, 1927, p. 116; *ibid.*, 1928, pp. 112-113, 128; *ibid.*, 1929, pp. 103-105, 118; *ibid.*, 1930, pp. 91-95, 124, 172. (Calculations are sometimes based on these figures.)

³ Treasury Department Form No. 2130 (Revised February, 1931); Federal Reserve Bank Form No. 105a (August, 1928). Amounts "due from bankers in foreign countries" are also compiled by the Comptroller; but they are not included in "due from banks" calculated for the purpose of arriving at reserve requirements because deposits in foreign banks (with two exceptions) are not deductible from amounts due to banks. In the Federal Reserve Bank Form amounts "due from foreign branches" are included in "other assets."

⁴ Computation of reserves is based on the information noted in the text. Each bank is allowed to deduct the total of (1) to (3) — including balances payable in dollars due

2. DUE FROM DOMESTIC BANKS AND THE LOSS OF CASH TO NON-MEMBERS

The series under consideration is not that published in the *Annual Reports* of the Board as *due from banks* (*F.R.A.*, 1930, pp. 91-95), for that series is more inclusive than the one now under consideration, which includes only the amounts due from domestic banks.

Annual figures, June to June, are available for state commercial banks and state loan and trust companies as well as for savings banks. From June 30, 1927, to June 30, 1928, the balances *due from* domestic banks of state commercial banks and savings banks dropped appreciably, while state trust companies and national banks maintained relatively stable balances in other banks at home. In part the large drop of state banks is to be associated with losses of business to trust companies; but in part the explanation is the withdrawal of cash to meet speculative demands. Savings banks of course were affected adversely by the speculative fever. In the corresponding year, 1928-29, the reduction in due from domestic banks was not so large, although national banks and savings banks apparently withdrew appreciable sums. It may also be noted that in 1927-28, reporting *member* banks expanded their balances while non-reporting members reduced theirs, an indication of the tendency of the smaller banks to pass the burden of dear money on to large city banks, and perhaps an indication of the large participation of banks outside of the financial centers in speculative activities.

In general, a comparison of movements in due from domestic banks between call days for national banks, reporting, non-reporting, and all member banks reveals that non-reporting banks withdrew and replenished their balances at a relatively furious pace. Perhaps the only important exception was in the third quarter of 1927, when monetary ease was reflected in a very large increase in bankers' balances of reporting banks. The only marked reductions in balances with other domestic banks of members occurred between the last call day of 1927 and the first of 1928, and the last call day of 1928 and the first of 1929. Apparently members were not as a rule inclined or forced to consume their balances as a result of specu-

from foreign branches of other American banks — from the total of (1a), (2a), (3a), (4), and (5). (Federal Reserve Board Form St. No. 6059 [January, 1929].)

See Rep. 3.3-1M-6-31 (Weekly Condition Report of Member Banks in New York City — pink sheet), for a description of the weekly series of due to and due from banks of reporting members published in the *Bulletin*.

lative tendencies. Even from March to June, 1928, the reduction of due from banks of all members was but 2 per cent, and in the second half of 1928 and in the second and third quarters of 1929, they actually increased their balances to an appreciable degree.

The differences between the movements in due to banks and due from banks of members give an indication of the extent to which member banks are receiving cash from non-members or losing cash to them. The table published by the Board, in its annual report of due to and due from banks for call days, is inadequate for this purpose, because many additional items are included in these series. Weekly figures of balances due to and due from other banks in the United States are available for reporting banks and New York reporting banks as well as for national banks. Figures for reporting banks are interpolated to make them correspond with those for national banks.

On the whole it seems that members lost cash to non-members through the withdrawal of balances in the periods of great monetary stringency, notably the first half of 1928 and of 1929. That is to say, the deposits of other banks with members (due to banks) declined more rapidly than did the balances of members with banks (due from banks). It is also significant that the losses of New York reporting banks — the larger reductions of their *due to* than of their *due from* banks — were relatively greater in the first few months of 1928 and of 1929 than those of the other groups of banks. Monetary stringency was first felt in New York, and pressure by New York banks resulted in the withdrawal of balances from them. In the second period of each of these two years (March–June), other reporting banks, national banks especially, felt the strain of the withdrawals of bankers' balances; undoubtedly the development of speculation had something to do with the withdrawals by outside banks. The stringency in New York in the third quarter of 1928 is also evident in a loss of balances (net), while all reporting banks appreciably gained.

The movements in the last three months of 1928 reflect the monetary ease and the attraction of funds to the stock market. Reporting New York banks quickly feel the effects of the stimulus of increased investments by reserve banks; but national banks suffered heavy losses of balances, probably to be explained by the movement of cash to the stock market. A similar interpretation may be made of the movements of the third quarter of 1929.

For the period June, 1927–October, 1929, as a whole, the striking fact is the extent to which all national banks lost balances (net) as compared to New York and all reporting banks. Whereas the loss for all reporting was approximately 223, or 12 per cent, and for New York banks 42, or 5 per cent, the loss for national banks was 800 millions, or 60 per cent. The loss for national banks not included in reporting banks — that is, smaller banks in reporting cities and all banks in non-reporting cities — may have been much larger. The movements in net balances (due to minus due from banks) is explained very largely by the fluctuations in *due to* rather than *due from* banks;¹ in other words, members maintained their balances at a fairly steady level; but non-members withdrew heavily, in particular from national banks. Monetary stringency and speculation apparently were reflected in large withdrawals by non-members, especially by non-members outside of New York and other large cities; and elasticity evident in the movements of balances, notably in those held with national banks, was surprisingly great. It is to be remarked that the decline of net balances of national banks was quite steady throughout 1928 and the first nine months of 1929, and was related to the speculative tendencies more closely than were the fluctuations of net balances of reporting or New York reporting banks. Perhaps the only important exception was the last call day, October 3, 1929, when net balances of national banks were probably at a minimum level. These figures seem to indicate that the movement of funds was putting a great strain on national banks in the smaller cities, and that speculative funds were being moved to New York through these banks. The downward tendency of net balances is a sign of the failure of non-members, and perhaps of non-banking lenders, to cooperate.

It is to be emphasized that balances due to and from *domestic* banks are considered in the discussion of the last few pages.

Figures for “exchanges for clearing houses and other cash items” are available for June 30 for all banks, and for call days for national banks. This series is of particular significance because in periods of speculation deposit accounts are more active, and therefore it might be expected that outstanding checks would increase in such periods.

¹ New York reporting banks increased their balances with other banks from 86 millions in June, 1927 to 126 millions early in October, 1929, a strikingly large increase which is explained perhaps by the uncertainty. All reporting banks increased their balances with other banks from 1,086 to 1,217 millions, and national banks reduced their balances from 1,471 to 1,409 millions.

It is to be recalled, however, that reserve requirements are not increased to a corresponding degree, for a bank is allowed to deduct checks on others from amounts due to banks; the practice of giving immediately credit for checks deposited is likely to result in an increase in demand deposits and hence in reserve requirements. It is revealed by a study of these figures that the total checks outstanding clearly tended upward during this period; but too much reliance must not be placed in these figures, for the total is determined in

TABLE XXXIX. MOVEMENT IN NET BALANCES

Due to minus due from banks

(Millions of dollars)

		National banks	All reporting banks	New York City reporting banks
1927	June 30	...	...	...
	to			
	December 31	+155	+267	+110
	to			
1928	February 28	-82	+8	+38
	to			
	June 30	-159	-350	-139
	to			
	October 4	+23	+137	-14
	to			
	December 31	-273	0	+113
	to			
1929	March 27	-126	-332	-203
	to			
	June 29	-286	-76	-32
	to			
	October 3	-31	+85	+57

part by the particular day of the week on which a call day happens to fall. That from June 30, 1927, to June 30, 1928, the decline for both member and non-member banks was 20 per cent, and for the following year 4 per cent, may be thus explained. But from December 31, 1927, to December 31, 1928, the increase for national banks was from 782 to 1,924 millions. On successive call days in 1928 the totals for national banks were 716, 863, 990, and 1,924 millions; and in 1929, 1,473, 715, 936, and 1,195 millions. Fluctuations are in large part accounted for by the fluctuations in the holdings of exchange and checks on other banks by New York City banks, indicating that fluctuations in speculative activity explain those in checks outstanding. The upward movement for national banks in

1928 and the third quarter of 1929 is easily explained by speculative tendencies, and the decline in the early part of 1929 to a point that may be considered high, may be explained by the temporary check to expansion.

The foregoing discussion of the movements in *net* balances covers most of the ground to be traversed in a discussion of the fluctuations in gross balances. In general, fluctuations in bankers' balances were in the same direction as in *net* bankers' balances. National banks in particular lost deposits of banks, and on the whole the loss of balances coincided with withdrawals by non-members. Probably until December, 1928, the deposits of foreign banks were included in the balances of national banks due to banks, and this fact may conceivably explain in part the losses suffered by national banks; but the losses of foreign deposits would not account for a large part of the withdrawals in 1928. Movements of foreign bank deposits with national banks are available in 1929 for call days; large withdrawals were made in the first half of 1929, and they were relatively stable in the third quarter.

3. STATE VERSUS NATIONAL BANKS

Now let us consider more inclusive series. *Due to banks* of all members (published by the Board) is to be contrasted with *due to banks* of national banks. Both series include due to Federal reserve banks (deferred credits) and foreign banks. Discrepancies in the rate of change in the two series may be explained in part by the failure to include certified checks in the figures for all members. For the last day of the year figures for certified, cashiers' checks, etc. outstanding of state members and national members are available, as well as the deposits of foreign banks. They explain *part* of the discrepancies in the movements for all members or state members as against national banks that are revealed by a study of the composite series now under consideration; for the volume of certified checks outstanding of state members increased more rapidly in 1928 and declined less in 1929, whereas their share of the deposits of foreign banks increased.¹ Thus may be explained the tendency of the amounts due to bankers of state banks to increase as compared to national banks. The explanation is not wholly the large withdrawals of domestic bank balances suffered by the national banks,

¹ See opposite page for note.

as explained above; but the greater loss in the comprehensive variable, "due to bankers of national banks," is to be ascribed in part to the reduced participation in the volume of certified checks and balances of foreign bankers.

4. CERTIFIED CHECKS AND SPECULATION

The total of certified checks and cashiers' checks outstanding is of significance because brokers' borrowings are supposedly reflected in an increase in certified checks outstanding; their advances are reflected *immediately* not in the creation of a deposit but by the increase in certified checks outstanding. In an hour or in several hours, however, certified checks will be cashed and demand deposits increase. Yet the period of speculation is not clearly marked by corresponding increases in certified checks outstanding. The movement in the last nine months of 1928 is about as might be expected; but the large decline in the second quarter of 1928 is not adequately explained by a temporary check to the rate of development of speculation. Undoubtedly the more rapid encashment of these checks may conceal the true increase in the volume of credits thus advanced. It may also be noted that the movements in certified and cashiers' checks outstanding are very largely explained by the fluctuations in the holdings of New York banks. Furthermore, the movements in this variable correspond rather closely to the movements in exchanges for clearing house and other cash items. In other words, the increase in the latter can be set against the increase in

¹ DUE TO DOMESTIC AND FOREIGN BANKS AND RESERVE BANKS; CERTIFIED CHECKS

(Millions of dollars)

	National banks		State member banks		All member banks *
	Amount	Per cent of change	Amount	Per cent of change	Amount
Dec. 31, 1927	3651	..	1789	..	4606
Dec. 31, 1928	4074	+11	2365	+32	4249
Dec. 31, 1929	3146	-23	2598	+10	4148

* Certified checks not included.

(Millions of dollars)

	Due to foreign banks, etc.		Certified checks, etc.	
	National banks	State member banks	National banks	State member banks
Dec. 31, 1927	429	317	456	383
Dec. 31, 1928	297	247	1134	1050
Dec. 31, 1929	258	319	687	917

the former, and, therefore, the increase in certified checks outstanding does not require additional reserves to any large extent. This point is valid, for the movements in both variables are concentrated largely in the New York banks, and fluctuations in both reflect the speculative tendencies. The fact that figures are available on call days only impairs, however, the usefulness of these figures: the movements are influenced to a large degree by the day and hour on which the call is made and the peculiar conditions current on that day.

5. DUE TO BANKS (NET) AND RESERVE REQUIREMENTS

The net movements between call days from March, 1928, to October, 1929, of the items that determine the *net* balances due to banks, are given in the table below. Figures were not available before March, 1928, for the *actual* movement in due to banks (net), as given in (9). The figures presented in this table are calculated from material presented in the Comptroller's reports.

First of all it will be noted that the movements in net balances (9) are not always of the same proportions as the calculated movements (8). The explanation is that the fluctuations in the different items do not result in the expected increase or decrease in net balances, because whether a deduction is allowed against due to banks depends upon whether the individual bank has an adequate volume of debts to others. Movements in exchanges on clearing houses and the like, and certified checks outstanding, it will be noted, are of appreciably similar proportions; and since the fluctuations are largely accounted for by the New York banks, it can be seen that an increase in certified checks outstanding would not result in a corresponding increase in reserves required but would be largely offset by an increase in exchanges or clearing houses and the like.

A word about large discrepancies. In the last quarter of 1928, a reduction of net balances against which reserves are required of 323 millions is to be contrasted with a calculated reduction of 692 millions. The explanation is that the increase in exchanges on clearing houses (934 millions) was much in excess of the increase in certified checks outstanding (533 millions); on the other hand, the reduction of balances of domestic banks was largely concentrated in non-reporting banks, and balances with New York banks tended upward. In other words, the increase in the deductible item, ex-

changes on clearing houses, was large as compared to the increase in items from which it could be deducted, certified checks outstanding in particular; and the discrepancy between actual and calculated movements would have been greater if the movements in balances of domestic banks with New York city banks had been in the same direction as those with non-reporting banks. Actually they tended upward and thus made possible larger deductions.

Another large discrepancy occurred in the first quarter of 1929. The explanation probably is the large increase in exchanges on clearing houses (451 millions) as compared to the small increase in certified checks outstanding and an appreciable reduction of bankers' balances with New York banks (200 millions). Besides, the increase of 293 millions in amounts due from domestic banks was for the most part for banks outside of New York; and outside banks thus increasing their balances are frequently not in a position to deduct the additional deposits from balances due to banks. In other words, a large increase in deductible items failed to bring a corresponding reduction in net balances because items from which deductions could be made tended to decline or not to increase so rapidly.

This history of the variables that determine the net balances against which reserves are required is for national banks only; and it explains only part of the differences in the movements of demand and net demand deposits. Even if we allow for the large movements for state member banks in New York, the discrepancies in the movements of demand and net demand deposits are not adequately explained.¹ Thus in the last period of 1928, demand deposits increased by 2,541 millions while net demand deposits increased by but 935 millions. The movement in net balances explains but 323 of this difference of 1,600 millions (see [9] in Table XL, and Table XLI), and even if a generous allowance were made for deductions for state members, only one half of the discrepancy would be explained. Moreover, in the second period of 1929 the net demand deposits increased by 144 while demand deposits declined by 865 millions; a *reduction* of net balances of 98 millions for national banks merely makes the explanation of a discrepancy of 1,000 millions more difficult.

¹ It may be noted that although the banks in the New York District hold only about 40 per cent of demand deposits of members, they accounted for 70 per cent of the fluctuations of demand deposits between call days in the period under consideration.

TABLE XL
(Millions of dollars)

National Banks	1928			1929			
	June 30 ¹	Oct. 3	Dec. 31	Mar. 27	June 29	Oct. 4	Dec. 3
Tends to reduce net due to							
(1) Checks in process of collection at reserve banks (+).....	...	120	9	...	...	115	25
(2) Due from domestic banks (+)	...	118	27	...	43	76	159
(3) Exchange on clearing house, etc. (+)	147	127	934	...	...	221	259
(4) Due to reserve banks (-)	...	...	9	1	3	...	...
(5) Due to domestic banks (-).....	207	...	246	418	243	...	...
(6) Due to foreign banks (-)	...	...	...	55	32	...	...
(7) Certified checks, etc. (-).....	39	...	...	102	679	...	...
(8) Calculated movement in net due to banks	-337	-23	-692	+218	-160	-124	-12
(9) Actual movement	-326	+60	-323	+25	-98	-94	-30
Tends to increase net due to:							
(1a) Checks in process of collection from reserve banks (-).....	6	...	...	51	82	...	...
(2a) Due from domestic banks (-)	48	...	...	293	...	...	...
(3a) Exchange on clearing house, etc. (-)	...	...	...	451	758	...	...
(4a) Due to reserve banks (+)	2	14	...	...	...	3	3
(5a) Due to domestic banks (+).....	...	141	...	...	...	45	187
(6a) Due to foreign banks (+)	...	...	...	...	...	...	35
(7a) Certified checks, etc. (+).....	...	187	533	...	...	240	93
(1) From Feb. 28, 1928.							

TABLE XLI

Date	All member banks				Member banks in New York District			
	Deposits		Bank debits, U. S.	Changes in averages of debits	Deposits		Bank debits, New York City	Change in average of debit
	Demand	Net demand			Demand	Net demand		
1927 July	...	...	...	...	...	...	...	...
to Dec.	+190 ¹	+855 ¹	57.6 ²	...	-206 ¹	+394 ¹	33.7 ²	...
1928 Feb.	-850	-869	58.7	+11.1 ²	-399	-562	35.3	+11.6 ¹
to June	+255	-45	70.4	+11.7	+167	+130	44.3	+9.0
to Sept.	+133	-196	60.2	-10.2	-58	-456	36.3	-8.0
to Dec.	+2541	+949	75.5	+15.3	+2113	+871	47.8	+11.5
1929 Mar.	-1635	-1111	79.0	+3.5	-909	-639	52.1	+4.3
to June	-865	+144	73.7	-5.3	-868	+306	47.1	-5.0
to Oct.	+760	-25	77.5	+3.8	+568	-276	49.5	+2.4

(1) Millions.

(2) Billions.

Movements in demand deposits are more violent than in net demand deposits, both upward and downward. In the latter part of 1928 and 1929, the rapid advance in the former failed to serve as a check to the speculative expansion, in part because it was not reflected in a corresponding increase in reserve requirements. The failure of net demand deposits to react more violently is only in part to be attributed to the increase in items deductible from due to banks. On the other hand, it may be held that the decline in demand deposits in the first half of 1929 did not serve to encourage speculation so much as it might have, because net demand deposits did not decline to the same extent.

In Table XLI movements in bank debits have been compared with movements in demand and net demand deposits. If the increased activity of banking accounts were the most important cause of the discrepancies in movements between demand and net demand deposits, demand deposits would increase relative to net demand deposits when banking debits increase, and demand deposits would decline relative to net demand deposits when debits decline. But the correlation is apparently not high.

A NOTE ON THE ABSORPTION OF CREDIT IN SPECULATIVE SECURITY LOANS

I. KEYNES AND ROGERS ON THE SUBJECT¹

IN THE last few years, acrimonious discussions have raged on the question of the absorption of credit by speculators; and this particular question has been raised in appraising reserve policy, for a policy of restraint is held by some authorities to have been unjustifiable if bank credit is not consumed in the increase of speculative loans.² It is pointed out elsewhere in this volume that another, and related, question is involved: did the increase in speculative loans bring higher rates? And the answer may be "yes" regardless of the response to the first question, for it may be contended that the assumption by authorities that speculators were depriving industry of credit, whether justified or not, brought a policy of firm money and higher rates.

At this point I may say that I am not sympathetic with those economists who argue that in view of the relative rate of appreciation of securities and the *practicable* increase in market rates and in view of the inelasticity of demand for funds by brokers to be traced to the relatively rapid appreciation in the prices of securities, that reserve policy, introduced to discourage speculation, was *necessarily* futile. They neglect the possibility of very large sales of securities carried through to satisfy the demand for securities to the saturation point and that of a decisive rate policy (an increase to 10 per cent within a short period of time) which would raise serious doubts

¹ In treating this subject, I have not attempted an exhaustive analysis of the literature; but it has seemed impossible to omit discussion of the problem entirely. I should particularly like to refer to Machlup's (F. Machlup, *Börsenkredit, Industriekredit und Kapitalbildung*, especially chapters 4, 5, 10) discussion of this and related problems. He discusses the effects of inflation in the security markets on the formation of real capital, on the different parts of the economic system, and on movements of prices in other markets.

² Thus Ohlin argues that an increase in rates to check speculation in securities is not justified. Transfers of shares do not deprive business of funds and although new issues absorb savings, these funds are available for productive purposes. B. Ohlin, "Central Bank Policy and Stock Exchange Prices," *Index* (Stockholm), No. 31, July, 1928.

concerning the anticipated income from securities and capital goods and also directly depress their prices.

In an essay published in 1926, Rogers plowed new ground in revealing the extent to which a very small volume of brokers' deposits could finance a vast volume of transfers of stocks, largely because the Stock Clearing Corporation makes possible economies and brokers withdraw their deposits immediately.¹ He estimated that one dollar deposited to the account of a broker could finance over the year approximately 1,000 dollars of transfers of stocks.² Although he realized that the purchases of stock by a broker might result in the acquisition of cash (deposits) by one who might not re-invest the money on the security market, he minimized the importance of this *particular* point in his conclusions, in spite of the fact that in his opinion 3 billions of brokers' loans' outstanding replaced cash withdrawn by corporations, banks, and individuals disposing of their investments.³ His most important conclusion, however, is that the speculative element cannot hold and absorb the vast volume of deposits put at its disposal since these deposits are soon transferred to other accounts, and speculation therefore absorbs a very small volume of deposits or bank credit.⁴

Keynes takes a position similar to this extent. He assumes that the deposits allocated to the Financial Circulation are used so rapidly that an almost infinite volume of security transactions can be financed without drawing on the Industrial Circulation.⁵ Keynes,

¹ Why the same analysis was not earlier applied to loans on account of others is in, comprehensible. Late in 1928 Anderson was still puzzled by the increase in loans on account of others in excess of the amount liquidated by banks and sought an answer in the disposal of investments and a reduction of deposits. "Brokers' Loans and Bank Credit," *Chase Economic Bulletin*, October, 1928, p. 8. Reserve authorities also commented on the reduction of deposits and economy of reserves resulting from an increase in loans on account of others, and did not seem to be aware that transfers to other accounts were involved. *F.R.B.*, 1928, pp. 168, 617. But by the latter part of 1928, the New York reserve authorities were aware that an increased activity of deposits was involved. *C.F.Chr.*, 1928 (127), p. 2629. Also see L. P. Ayres, "The Invisible Banking System," *American Bankers' Association Journal*, May, 1929, pp. 1073-1075; W. R. Burgess, "The Money Market in 1929," *Review of Economic Statistics*, 1930, p. 17.

² J. H. Rogers, "The Effect of Stock Speculation on the New York Money Market," *Quarterly Journal of Economics*, 1926 (40), pp. 444-445.

³ *Ibid.*, pp. 450-455.

⁴ *Ibid.*, p. 455. The speculator uses funds required for day to day transfers and until these funds leave the New York market, they cause neither an outflow of cash from banks nor significant additions to reserve requirements.

⁵ J. M. Keynes, *op. cit.*, I, especially pp. 244, 249, 256. The whole subject is discussed brilliantly in Volume I, chapter 15, and Volume II, pp. 195-196. Keynes

it is to be repeated, assumes the point made by Rogers, *i. e.* the extraordinary economies of cost in transferring securities, and as is evident from the quotation from Keynes in the note (5) above, he is interested in the absence of large *variations* in the volume of money so employed. But his main interest lies in another direction, as is evident particularly from the following:¹

The main variations in the total demand for money for financial purposes arises therefore in quite a different way, namely in the volume of Savings-deposits. . . .

The second category of Savings-deposits² comprise what, in language borrowed from the Stock Exchange, we will call the "bear" position — including, however, as bears not only those who have sold securities "short," that is have sold securities which they do not own, but also those who would normally be holders of securities but prefer for the time being to hold liquid claims on cash in the form of Savings-deposits. . . .

Now when bullish sentiment is on the increase, there will be a tendency for the Savings-deposits to fall. The amount of this fall will depend upon how completely the rise in security-prices relatively to the short-term rates of interest offsets the bullishness of sentiment. There will be a level of security-prices which on the average of opinion just balances the bullishness, so that the volume of Savings-deposits is unchanged. And if security-prices go still higher than this, then the volume of Savings-deposits will be actually increased. . . .³

. . . Nevertheless the fluctuations in the amount of Savings-deposits (B) — including in this fluctuations in the deposits of industrial firms which are carrying less or more working capital than usual on account of a distrust of or confidence in the prospects, and also of the deposits of institutions which have thought it wise to take advantage of the bull activity to raise funds by the sale of securities, new or old, in advance of their actual needs — are capable of being important. Thus the fluctuations in Savings-deposits (B) are probably the most important element of variability in the demand for money due to Finance. . . .

Since an increase in the Savings-deposits, not balanced by an increase in the total assets of the Banks of an amount equal to this increase, will diminish the

assumed that Industry requires the use of the Income Deposits and part of the Business-deposits (A), while Finance requires the use of Savings-deposits and of the remainder of Business-deposits (B).

"For the velocity of the Business-deposits (B) is so very high — as a result of the great development of devices for economising the use of cash by Stock Exchange clearings and the like — that the *absolute* amount of the variations in the volume of money so employed cannot ordinarily be very great." J. M. Keynes, *op. cit.*, p. 249.

¹ *Ibid.*, pp. 249–253.

² Second category of Savings-deposits is referred to as Savings-deposits (B). Savings-deposits (A) are held by those who *permanently* prefer to hold Savings-deposits in preference to securities.

³ Types (i) and (ii) referred to below are the successive stages in the Security cycle described in this paragraph.

amount of money available for the Industrial Circulation, it follows that, failing compensatory action by the Banking System, speculation of type (i) and type (iii.) both have the same effect on Industry as an increase in the supply of money, whilst those of type (ii) and type (iv) both have the same effect as a decrease in the supply of money.¹

2. CREDIT IS ABSORBED?

Williams discusses this subject brilliantly in a review of Keynes' book, *A Treatise on Money*.² His interpretation of Keynes is as follows:

The essential point in Keynes' proof is that security speculation cannot absorb credit, so that there is really nowhere else that credit can go except into savings or income deposits depending on the phase of the security cycle.

Williams has in mind here Keynes' statement concerning the small volume of Business-deposits (B) tied up in security speculation, a point to be explained largely by the very rapid circulation of these deposits, and also Keynes' emphasis on the transfer to savings deposits.³

Williams criticizes Keynes at this point, arguing that as a result of speculative activity, credit may be absorbed into Business-deposits (B), at least to a greater degree than Keynes and Rogers are willing to admit.⁴

While impressed by the apparent unanimity of opinion, I have felt that the economy of clearance and failure of deposits to be diverted to New York do not dispose of the question. A rise in security prices suggests that in some sense or other more aggregate spending upon securities is involved. The analogy with the ordinary money — goods equation is obviously indicated . . . this fact could

¹ Types (i) and (ii) already described. Cf. text, page 253 for a description of types (iii) and (iv).

² J. H. Williams, "The Monetary Doctrines of J. M. Keynes," *Quarterly Journal of Economics*, 1931 (45), especially pp. 561-573. The quotations below are from pp. 568-571.

³ The position taken by Williams is assumed by a German writer more recently. "Now an increased gross value of the turnover of shares on the stock market implies, *ipso facto*, an increased circulation of money, since only such an increase can allow the rise. Thus stock market transactions tie up means of payment in exactly the same way as do transactions in the commodity markets." He then adds that even if these deposits remain in the banking system they require a certain though not full reserve. H. Richter-Altschaeffer, "Theory of Stock-Market Speculation," *Journal of Political Economy*, 1932, pp. 232-234.

⁴ It is clear, of course, that the diversion of deposits to savings accounts (as described by Keynes) constitutes an absorption of credit.

be expressed as the "tying up" of money in goods, which would not be thought to mean that the money actually froze upon the first act of purchase, but only that, in the given period of time, the money was absorbed continuously in the exchange for goods. . . .

The greater spending would represent a greater use of deposits in the two trading centers, rather than in New York, and a greater use of deposits *by the traders*, not necessarily a shifting of deposits on balance from bank to bank between the trading centers. The spending by depositors would explain the rise of prices completely. Moreover, with banks loaned up, the total of deposits could not be increased (barring new money), and this particular use of deposits by their customer owners would prevent any alternative use to which the deposits might have been put.

The second contention of Williams is raised against the point that this speculative credit may be absorbed into Savings-deposits (B), or alternatively from the "bears" through the banking system into loans for account of others. Rogers is not concerned with this point, Keynes affirms it, and Williams denies it.

The point apparently is that such loans will not affect the *quantity of deposits as a whole*, since they are not loans made by banks, and that, therefore, the security sellers having established savings deposits, and deposits as a whole being unchanged, the proportion of savings deposits to demand deposits must be increased; so that commodity prices fall. But so far as I can yet see, the savings deposits were, in effect, never made if they were loaned out again by their holders: the holders cannot have them and not have them at the same time.¹

Hayek is also critical of Keynes at this point. He inquires (with some justice) why an increase in inactive deposits resulting from sales of securities by the bears should bring a corresponding reduction in active deposits if the bearish element lends its deposits as loans on account of others.² It is clear that this misunderstanding arises because Keynes has concentrated his attention on the growth of inactive deposits and has not paid sufficient attention (at this point) to the increased activity of the *active* deposits. A change of emphasis along the lines implied by Hayek raises the question whether credit was really absorbed in this manner. Hawtrey assails Keynes' position on another point: the former's position is that the

¹ It is to be noted that Williams assumes that the increase in savings deposits is *exactly* offset by an increase in loans on account of others; but it is possible that only part of these additional savings deposits were reinvested, and perhaps that is what happened, as we shall see.

² F. von Hayek, "Reflections on the Pure Theory of Money of J. M. Keynes," *Economica*, 1932, p. 38.

additional funds obtained by the bears are used to repay banks rather than for the purpose of accumulating savings deposits.¹ But no proof is offered by either Keynes or Hawtrey of the validity of their positions on this particular question.

3. THE POINT AT ISSUE

Rogers assumes that the deposits created for speculative use are transferred to non-speculative owners rapidly. Williams seems to assume that at least an important part of them remains at the disposal of the traders, and he apparently has in mind traders in securities. Keynes, on the other hand, fails to consider the effects of the creation of deposits by banks for speculative purposes and puts the emphasis on the transfer of deposits to savings accounts, although he points out that the banks have the whip hand if they care to create deposits for this purpose. He stresses the accumulation of savings deposits as a result of sales by the bear element; but in his system, an increase of deposits for speculative purposes may result in a large increase in Business-deposits, although he minimizes that possibility. Williams is probably right in his contention that more deposits are absorbed by traders in securities than Rogers admits; but the diversion of these deposits to non-speculative holders must be much greater than Williams seems to assume, and it appears that he does not allow for economy in deposits that results from the fact that speculators, as opposed to other borrowers, draw on their deposits immediately and hence put a minimum burden on the cash resources of the banks. Keynes' error, it seems to me, is his failure to consider, *at this point*, the effects of security loans by banks. An appreciable increase in Business-deposits might well result from increases in security loans of banks, although the increased strength of the bear position may be reflected in a growth of savings deposits large enough to obscure or divert attention from large additions to Business-deposits (A) — part of the Industrial Circulation, to be explained by activities of the banks.

Keynes, however, in discussing methods of coping with a bullish market (opinion divided), suggests that the banks replenish the Industrial Circulation as it is robbed by the Financial Circulation, which proposal clearly indicates that he is not unaware of the strategic position held by the banks. But his suggestion that the central

¹ R. G. Hawtrey, *The Art of Central Banking*, p. 376.

bank at one and the same time create additional money to meet this difficulty (which of course depresses rates) and increase rates in order to discourage excessive investment implies a nicety of control not possible in a practical world.

Evidently one difference between Keynes and Rogers on the one hand, and Williams on the other, is the question of the extent to which credit is actually consumed in speculation. Neither Rogers nor Keynes would deny that deposits are required to finance the speculative transactions directly; but the crucial question is, how much: the reply of Rogers and Keynes seems to be, very little. Rogers bases his reply on the fact that the money advanced to the speculator is redistributed and soon finds employment in other uses, and he assumes that brokers' loans encompass all security loans. Williams is justified in criticizing Keynes for underestimating the possibility of absorption in Business-deposits (B). On the other hand, Keynes actually comes to the conclusion that the Financial Circulation absorbs large quantities of credit in the second stage of his Security Cycle although Business-deposits (B) remain at a low level; savings deposits constitute part of the Financial Circulation and they increase with the strengthening of the bear position.

4. SECURITY VERSUS BROKERS' LOANS AND KEYNES' BEAR POSITION

In my opinion, much confusion would have been avoided if attention had not been concentrated entirely on brokers' loans. Security loans in very large quantities are also made by banks to their customers, and a large part of these loans is speculative; banks also purchase investments though the speculative securities do not form a large part. The point is that customers also hold large balances at banks that require reserves, and part of these deposits are the result of speculative loans; and it is unlikely that these speculative accounts are drawn down to the extent and speed with which brokers' accounts are reduced. All speculative loans are not encompassed by brokers' loans, and it is therefore important to consider security loans of banks which include security loans both to brokers and other customers; if Rogers had taken this point in consideration, he would not have arrived at so high a velocity for deposits of this type. This consideration would certainly strengthen Williams' position on the direct absorption of credit in speculation.

Now let us consider Keynes' position once more. He begins with the assumption that bears include those who ordinarily would hold securities but now have converted securities into savings deposits. He then says that the growth in brokers' loans was a measure in 1928-29 of the increase in strength of the bear element.¹ This is a doubtful point. Even loans on account of others are not merely the loans of those who have established accounts and ordinarily would hold securities; these loans are made in large part by corporations and individuals who ordinarily are not in a position or of a temperament to hold speculative securities or common stocks in general.² Moreover, by no dint of the imagination can the very large proportion of brokers' loans financed by banks be included in the bear position, even if they may, as Keynes contends, stimulate further the sale of securities on the part of potential bears.

Keynes' theory requires a reduction of savings deposits in the first stage of his security cycle, that is, when there is a consensus of bullish sentiment,³ and an increase in the second stage when the increase in the price of securities taken into consideration with the rate of interest is more than enough to offset the bullish sentiment. But in truth savings or time deposits in the United States were relatively stable in the year ending June 29, 1929 — the year of most hectic speculation — although they had increased at a rapid rate in each year ending June 30, from 1922 to 1928. Keynes might well consider a fertile suggestion of Professor Williams that the significant movements in deposits may be within the category of demand deposits rather than from demand to time deposits.⁴ That may explain in part the absence of verification for Keynes' theory.

¹ "Thus during the Wall Street boom of 1929 attention was rightly paid to increases and decreases in the volume of 'brokers' loans'; for an increase meant that the rise in security prices had gone still further beyond the point at which it would be just enough to offset the bullishness of average sentiment, in the sense that it had led to an increase in the 'bear' position." (See p. 251.)

² Hawtrey also assumes a position not easily defended when he argues that money thus advanced (loans on account of others) would otherwise have been invested *directly* in securities. He neglects the important part played by the rise in security prices in inducing the public to release hoards of cash in exchange for new issues, the proceeds of which were advanced as loans to others. R. G. Hawtrey, *The Art of Central Banking*, p. 60.

³ Perhaps this statement may be held to justify Hardy's point that there was not the slightest evidence, until well into 1929, of any serious locking up of deposits in speculation. C. O. Hardy, *op. cit.*, pp. 172-173. This, however, is an extreme statement and Hardy would find it rather difficult to prove.

⁴ J. H. Williams, *op. cit.*, p. 565.

5. ABSORPTION AND THE MOVEMENT OF DEPOSITS TO NEW YORK

Calvin Hoover and Reed contend that the inflow of cash into New York for speculative uses did not result in a loss of deposits by the remainder of the country, as is evident from the fact that New York's proportion of deposits did not increase during the period of frenzied speculation.¹ The inference is to be drawn that speculation did not absorb credit, although Hoover dodges this conclusion. Can one be satisfied with this type of analysis? One factor that may influence the proportion of deposits between New York and the rest of the country is studied, and, because the proportion of deposits of New York banks remains relatively constant, it is assumed that the deposits returned from whence they came. Perhaps New York banks do not retain these deposits at the expense of the rest of the country; but this type of analysis hardly proves the point. Thus it may be held that other forces were in operation in 1928 and 1929 tending to reduce New York's share of the country's deposits — I have in mind open market operations, losses of gold, very large increases in banking capital, and a policy of restraint, especially vigorous and first imposed in New York. Also, one is rather puzzled by the fact that the position of New York banks seemed rather strong in the years 1928-29; that is to say, in view of the movements of loans and investments and gold, and open market operations and the like, the New York banks seemed to gain deposits at the expense of the rest of the country and were able to put a disproportionate share of the burden of rediscounting on outside banks. Perhaps the movement of speculative loans played a part in the gains of New York.² (This type of analysis is used elsewhere in this volume in a study of the years 1928-29 over rather brief periods.) It is possible that a larger volume of deposits was tied up in New York in speculative transactions than is to be inferred from a consideration of brokers' accounts.

¹ C. B. Hoover, "Brokers' Loans and Bank Deposits," *Journal of Political Economy*, 1929, pp. 713-727; H. L. Reed, *Federal Reserve Policy*, 1921-30, p. 168.

² Cf. *Mo. Rev. of N.Y.R.B.*, August, 1929.

6. THE FAILURE TO DISTINGUISH DEMAND FROM
NET DEMAND DEPOSITS

An additional cause of confusion is the failure to distinguish between different types of deposits. Those who argue that speculation does not absorb credit, point to the small accounts of brokers, to the large transactions they finance, and to the fact that these deposits are soon transferred to non-speculative accounts. But at any given time a large volume of deposits is in circulation — a point peculiarly significant for New York banks when speculation is rampant. The very large increase of checks in process of collection in periods of speculative activity accounts for the spectacular increase in demand deposits as compared to net demand deposits. Also significant are the large increases in certified checks outstanding, which are largely used by brokers and which for all practical purposes are deposits. Undue emphasis has been given to the fluctuations in net demand deposits. That the checks in process of collection in the New York District were approximately twice as large at the end of 1928 as at the end of 1927 is undoubtedly to be explained in large part by the speculative activities.

If brokers' accounts at banks were as low as Rogers asserts they were — and I have no doubt of his accuracy — then, in view of the large increase in checks outstanding, some other explanation of the ultimate beneficiaries of the increase in deposits, to be associated with speculation, is to be found. Perhaps brokers' accounts were much larger in 1928-29 than they had been in 1923-24; the increased activity justifies such an assumption. But, in addition, the accounts of others who speculated in securities during this period were probably much larger, in particular those of customers borrowing from banks directly for speculative purposes. Temporary withdrawals from the stock market by speculators were probably common; therefore it is difficult indeed to avoid the conclusion that deposit accounts in New York were more inflated as a result of speculative transactions than is commonly assumed; and in part the additional deposits (and certified checks) were held by speculators.

If one concentrates attention on the movements of New York deposits and accepts the point that increased loans for speculative purposes either by banks or others result in a disproportionately small increase in deposit accounts in the community where the loans

are made, one finds an additional reason for inquiring why New York banks more than retained their share of the country's deposits in view of the fluctuations in loans and investments, open market operations, and the like; on the other hand, the relative gains in demand deposits (and certified checks) as compared to net demand deposits in New York indicate that the increases in deposits arising from speculative transactions may be of large proportions.

Another method of elaborating this point occurs. Why not consider weekly figures of New York City reporting banks with a view to explaining the movement of deposits? Figures for loans and investments, net demand deposits, loans on securities, brokers' loans on own account and on account of others, and balances due to banks — all are available. To what extent is it true that increases in loans on account of others and on account of New York banks to brokers, as well as loans on securities to other customers, are reflected in very small increases in deposits? In other words, when loans to brokers are especially large, is the loss of deposits in relation to the total movement of loans and investments peculiarly large? Of course, allowances are to be made for other factors influencing net demand deposits.

The problem has been investigated along these lines. Movements in net demand and time deposits — weekly — were analyzed for New York City reporting banks as well as weekly movements in due to banks, loans and investments, loans on securities, money in circulation, and investments (securities and acceptances) of reserve banks. In almost every week, one of two things happened. When loans on securities of New York City banks rose, their deposits either declined or rose much less rapidly; or when loans on securities declined, their deposits rose or declined less. The movement in deposits is, of course, in relation to all these other variables. A rise in deposits means a gain after allowance is made for the effects on net demand deposits of fluctuations in loans and investments, open market operations, and the other items mentioned above. Thus, in the second half of 1928, loans on securities increased in eleven weeks while banks lost demand deposits or gained amounts appreciably less than the increase in loans on securities. In nine weeks a reduction in loans on securities was accompanied by an increase in demand deposits or a much smaller decline. (Similar figures for the first nine months of 1929 are fifteen and sixteen weeks respectively.) Only in one week in each of these two periods was the increase in net demand

deposits as large or larger than was the increase in loans on securities, or the decline as large or larger than was the decline in loans on securities. In the remaining weeks, both variables were relatively stable. This study over a period of twenty-one months seems to verify the conclusion that the expansion of security loans did not result in a corresponding expansion of net demand deposits of New York banks, nor their contraction, a corresponding reduction of deposits. Apparently with the expansion of security loans by New York banks, deposits flowed out of New York and with contraction, they came back. Thus, New York seemed to lose deposits when loans on securities by New York reporting banks were expanding, and to gain them when these loans were being called in. But I do not attach any great significance to this analysis.

7. MARGINS AND THE ACCUMULATION OF DEPOSITS BY CORPORATIONS

It is unfortunate that so much attention has been paid to the volume of transactions financed by the relatively small volume of deposits held by the brokers, and so little to the effects of an increase in brokers' loans and security loans in general. The crucial point is who ultimately gets the cash put at the disposal of speculators by an increase in brokers' loans. For the most part, purchases of securities by brokers are offset by corresponding sales by them; but movements in the total brokers' or security loans may involve effects more important than mere transfers from one broker to another.¹ From this point of view, Keynes' analysis is most suggestive and fertile, because the increase in brokers' loans undoubtedly contributes to the inflation of the accounts (deposit) of the less venturesome investors and speculators who withdraw with increasing security prices; and it is not an adequate answer to say that the accumulation of savings deposits does not involve the absorption of credit by speculation: if speculation results in an increase in savings deposits (Financial Circulation) at the expense of the Industrial

¹ Hawtrey's analysis at this point is illuminating. Unfortunately, his book has appeared too recently to be of much use to me. His position is that an absorption of credit results from the creation of credit for speculative purposes if new issues of securities are induced or speculators treat speculative gains as income. He neglects, however, the important part played by an increase in security prices. R. G. Hawtrey, *The Art of Central Banking*, pp. 62-63, 70, 74.

Circulation, then it may be held that speculation absorbs credit.¹ Whether savings deposits or Business-deposits (B) or part of the Industrial Circulation (Savings-deposits [A]) profit, is not the only important point. On the other hand, it seems very doubtful that a very large proportion of the loans made to speculators were made with funds obtained by the sale of securities by the bearish, or less venturesome, elements unless funds obtained through new issues by corporations are included in this category; and there is much truth in the point raised by Hayek (or at least implied) that attention ought also to be paid to the movement of *active* deposits.

Fluctuations in brokers' loans do not give an accurate indication of the changing volume of securities held with funds obtained by brokers from banks. It may seem at first thought that an increase in brokers' loans outstanding of the same proportions as that in security prices means that the volume of securities thus held has remained relatively stable.² But it is at once apparent that if securities appreciate in the hands of the original speculators, no additional borrowings from banks are necessary. In other words, the available margin becomes much larger and may even be used to purchase additional stocks (with the contribution of additional loans by banks to brokers). Therefore, the situation of a particular speculator may be put thus:

		(Dollars)	
	Brokers' loans	Securities held (value)	Margin
1926	100	125	25
1929	100	250	150

But if a new borrower should enter the speculative field, he would have to borrow 200 dollars in order to hold in 1929 the security that required in 1926 an advance of but 100 dollars from a bank. It is also

¹ Cf. W. J. Eiteman, "Economies of Brokers' Loans," *American Economic Review*, 1932, pp. 69-71.

² From December, 1927, to September, 1929, security prices (Standard Statistics Company) increased 69 per cent while brokers' loans reported by the New York Stock Exchange increased by 94 per cent. But the use of an index based on more speculative securities would give an increase in security prices in excess of the increase in security loans. (See Barron's index, for example.) Perhaps a more speculative index might be appropriate here, for brokers' loans on the whole are probably used to hold the more speculative securities.

The volume of brokers' loans increased (New York Stock Exchange figures) at approximately the same rate as security prices (Standard Statistics Company figures) in periods of six months ending June, 1928, and June, 1929; but in the six months ending December, 1928, the former increased 32 per cent and the latter 18 per cent, and in the three months ending September, 1929, the respective percentages were 21 and 18.

probable that the margin required would be increased. Thus in all, an outlay of 275 dollars would be required (200 dollars of loans and 75 of margin) as against 125 dollars at the time of the original purchase. Therefore, it would seem that whether the increase in security prices will be reflected in a corresponding increase in brokers' loans (or whether the growth of brokers' loans does not entail an increase in securities held) will depend largely upon the extent to which new speculators appear. On the other hand, speculators now in possession of excessive margins are likely to purchase additional securities with additional funds obtained from brokers in so far as additional cash outlays (margins) are not necessary. Thus in 1929, the speculator holds a security formerly worth 100 dollars and now worth 250 dollars; but since his equity has increased from 25 to 150 dollars, he, by borrowing through his broker, can purchase additional securities to the extent of 200 dollars so that he will be financed to the extent of 300 dollars by brokers' loans and 150 dollars by margins.

Speculators probably played an increasing part with the rise of security prices; and, as Hardy argues, the major rise in the price of stock will be accompanied by an increased resort to the banks to carry them.¹ An increase in the number of shares bought on margin, or the average price of shares bought on margin, will tend to inflate the volume of brokers' loans.² What it all comes down to, is that brokers borrow more money when their disbursements exceed their receipts; and such developments are probable when speculators operating on margins increase their purchases.

It can readily be appreciated that 10 billions of brokers' loans would account for 15 billions (or thereabouts) of securities held by speculators in addition to those held by customers with funds obtained directly from banks. Moreover, the increase in security loans in 1928 and 1929 accounts in part for the large and liberal financing of corporations during this period.³ In this sense, it may be held

¹ C. O. Hardy, *op. cit.*, pp. 170-172. I am not, however, convinced by Hardy's argument at this point.

² L. H. Haney, L. S. Logan, and H. S. Gavens, *Brokers' Loans*, p. 18; cf. *Mo. Rev. of N.Y.R.B.*, July, 1929; *ibid.*, November, 1929.

³ Issues of domestic stocks exclusive of refunding issues came to 2,900 millions in 1928 and 5,200 millions in the first nine months of 1929. If we estimate roughly that the increase in brokers' loans was 5,000 millions — the problem is analyzed elsewhere in this volume — and allow for margins of (say) 40 per cent, it is apparent that the increase in brokers' loans alone may account for the financing of new domestic stock issues; and speculative security loans to customers other than those made for the pur-

that the "bears" in Keynes' sense were largely corporations issuing new stock. They received the deposits created as a result of the large increase in brokers' loans and other security loans, and for the most part hoarded them. They advanced part of the money thus received as loans on account of others, but in view of the fact that domestic corporations advanced but 60 per cent of the total loans on account of others advanced through New York reporting banks, and in view of the relatively moderate increase in loans on account of others as compared to the increased cash received through new issues, it may be held that corporations were inclined rather to hoard or build up savings deposits than to re-lend on the market.¹ This conclusion still holds even if we allow for loans on account of others advanced on exchanges outside of New York. Thus the

pose of providing margins are yet to be considered. How can we account for the absorption of 15 billions of securities or 8 billions of domestic stocks in a period of twenty-one months? (The banks were disposed to sell investments in 1929 at any rate.) Perhaps the contributions of the banks to the financing of securities through direct loans to customers in addition to loans for the purpose of providing margins and the increased speculative holdings made possible by the growth of brokers' loans are an important consideration. Also, large issues by investment trusts involved an element of duplication.

¹ Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 1024.

It is to be emphasized that loans on account of others reported by member banks in New York do not encompass all loans on account of others; and it is necessary to add appreciably to the figures published by the member banks in New York. (The problem is discussed more fully elsewhere.) Quarterly figures for new issues of domestic corporations and increases in loans on account of others of New York banks reveal a close correspondence in the first three quarters of 1928; but for the last quarter of 1928 and the first three quarters of 1929 the agreement is not close. Corporations apparently were accumulating large quantities of savings deposits from October, 1928 to June, 1929. From July to September, 1929, they evinced a stronger desire to lend their large accumulations of cash and behave in the manner demanded of "bears" in Keynes' analysis; but even in this period, their savings deposits accumulated at a disconcerting rate.

(Millions of dollars)

	Issues of domestic corporations	Changes for quarter, loans on account of others *
1928 First quarter.....	359	+272
Second quarter	770	+476
Third quarter	381	+247
Fourth quarter	1390	+321
1929 First quarter.....	1565	+576
Second quarter	1313	+71
Third quarter	2301	+891

* Last week of one quarter to last week of the next. — All loans on account of others reported by New York member banks.

growth in speculative advances involved a transfer of deposits to corporations, and thus speculation absorbed credit. Allowance is to be made, however, for expenditures on investment account.

8. CONCLUSION

The main question of doubt seems to be the manner in which speculation absorbs credit, although Cassel among others denies that there is any absorption at all. In an excellent discussion of the subject, Hardy points out that Cassel has neglected to consider the vital question of the use to which deposits created by the banking system for speculative purposes or deposits received by sellers of securities to speculators are put.¹ Keynes also has put very well the question of the importance of the withdrawal of deposits by bears, but he goes too far in arguing that the growth of brokers' loans is a measure of the increased strength of bear position. In general, also, there has been an agreement that unappreciable amounts of cash are used in transfers of securities. Williams, however, is inclined to put much emphasis on the absorption of credit *directly* in speculative transactions. On the whole, I am inclined to agree with Keynes and those who take a similar position although there may be a larger absorption in speculative accounts of non-professional speculators than is commonly assumed; but Williams has made a contribution in pointing out that the absence of *direct* absorption has been carried too far. On the question of absorption, Keynes and Hardy rightly stress the accumulation of deposits resulting from the sales of securities by the bearish element. It is only necessary that the accumulation be more rapid than are the withdrawals for the purpose of lending to brokers in order to establish this position; and statistically, there is some evidence of its validity. On the other hand, Hawtrey and Hayek have made some telling criticisms of Keynes' bear position.

¹ C. O. Hardy, *op. cit.*, especially pp. 162-169.

PART VIII

THE AFTERMATH, 1929-33

CHAPTER XXXVII

OBSTACLES TO THE FULFILLMENT OF OBJECTIVES OF OPEN MARKET OPERATIONS

I. MISGIVINGS

THE policy of easy money may be said to have been introduced in the autumn of 1929, when stock market values declined precipitously and the reserve system, the New York Bank in particular, purchased investments in order to facilitate the substitution of bank credit for non-banking credit being withdrawn from the security market. Since decisive action was necessary, the New York Bank purchased a large quantity of securities without consulting the Open Market Investment Committee, receiving in consequence the criticism of the Board.¹ In 1930 purchases on a large scale and on its own initiative were also undertaken by the Philadelphia Bank.²

Many authorities viewed an aggressive open market policy with misgivings, especially as it was accompanied by easier money rates.³ An easy money policy introduced so soon after the unprecedented speculative boom necessarily aroused hostility and distrust. Even within the System there was a conflict of views. It was rumored that the Board was hesitant in adopting an easy money policy, and it is known that several western reserve banks were opposed to an

¹ U. S. House Banking and Currency Committee, Subcommittee, Hearings: *Stabilization of Commodity Prices* (72: 1), 1932, p. 475 (hereafter abbreviated Hearings: *Stabilisation*). In September, 1929, the New York Bank held 2 millions of securities outside of the System account; in October its investments outside of the System account were 96 millions, and 122 millions in December; and they remained at a high level throughout 1930. Perhaps its disapproval of the modification in the administration of open market policy explains the increase in holdings on its own authority. Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 834. Cf. Chart II in this book (p. 724), and also p. 727.

² Hearings: *Operation of Banking Systems*, pp. 836-837.

³ Anderson criticized the reserve banks for holding securities equivalent to one quarter of the reserves of member banks. B. M. Anderson, Jr., "Free Gold of the Federal Reserve System and the Cheap Money Policy," *Chase Economic Bulletin*, September, 1930, p. 11.

In the *Journal of Commerce* low rates were held to be unjustifiable in view of the lack of liquidity and the excessive investments in security loans. *C. F. Chr.*, 1930 (131), p. 691; also see *ibid.*, 1930 (130), p. 2129.

easy money policy.¹ The Chicago Bank, for example, subscribed to the view that lower rates would not stimulate business; but lower rates elsewhere induced the Chicago Bank to reduce its rates in order to keep in line.² Other reserve authorities, on the other hand, announced that business recovery must not be retarded by high money rates.³ When the banks protested at the low money rates which were reflected in a diminution of profits, responsible authorities of the System replied that when they reduced their rates the reserve banks merely recognized existing conditions.⁴

2. POLICY AND THE BOND MARKET

Those who expect great immediate results from open market operations will find little consolation in the developments in the United States during the years 1930-33. Open market operations on an unparalleled scale have been accompanied by unprecedented liquidation and a decline in bond values.⁵ In the twenty months ending August, 1931, conditions remained relatively favorable. But even in this period a reduction in money rates on prime commercial

¹ *C.F.Chr.*, 1930 (130), p. 913. The New York Bank seems to perceive the need of operations earlier than does the Board. Thus more recently (1932), Governor Harrison of the New York Bank announced that he was in favor of a larger purchase than had been made in the early months of 1932. Hearings: *Stabilisation* (72: 1), 1932 (Goldsbrough Bill), p. 467.

² "In the meantime the Federal Reserve Bank of New York had reduced its rate to 2½ per cent and while it was the consensus of opinion that a reduction in our rate would not stimulate business, the disparity between our rate of 4 per cent and that of 2½ per cent in New York was too large a differential and for this reason a reduction was thought advisable." Hearings: *Operation of Banking Systems* (71: 3), 1931, p. 756. (Comments of the Chicago Bank.) Cf. Chart II, pp. 724, 727.

³ Early in 1930 (January 28-29), the Open Market Committee was groping in the dark. But it was pointed out that the panicky feeling had subsided; that the duration and extent of the depression was uncertain; that money rates for industry had been reduced; that the progress of liquidation had been orderly; and that rediscounts had been reduced. A policy of ease was therefore proposed. *Ibid.*, p. 759; also see p. 755. The Cleveland Bank affirmed that the object of open market operations in 1930 was to create a money condition which imposes no restriction upon a resumption of business activity; and the effects of this policy had been to bring about a marked decrease in the price of credit and to encourage a freer lending policy on the part of member banks. *Ibid.*, p. 801. Cf. *C.F.Chr.*, 1930 (130), p. 4536. (Address of Burgess.)

In reviewing the policy of the years 1930-31, the New York Bank commented as follows: "Throughout the past two years the open market and discount policy of the Federal Reserve Bank of New York has been directed to the end that, so far as lay within its power, there should be no lack of available credit at reasonable cost to encourage business recovery." *N.Y.R.B.Ann.*, 1931, p. 15.

⁴ Richmond Reserve Bank, *Proceedings*, 1931, p. 46.

⁵ Cf. League of Nations: *Course and Phases of World Economic Depression*, p. 177.

paper from 6 to 2 per cent was accompanied by a reduction in the yield of a selected group of bonds of but from $4\frac{3}{4}$ to $4\frac{1}{4}$ per cent.¹ Moreover, although purchases both by reserve and member banks were reflected in higher prices in high grade bonds, other bonds continued to decline even in 1930.² The advantages accruing to the bond market as a result of open market operations are to be considered in the light of the fact that the reserve banks purchase United States Government securities and the short-term money rates — in particular the rates on acceptances — decline to a marked degree in a period of depression. The supply of open market paper (acceptances and commercial paper), being severely limited, has tended to decline in recent years, and the demand by banks for paper of the highest quality is strong when fear is widespread. Thus, in periods of depression this paper competes with bonds as attractive investments. It may also be noted that any improvement in the bond market is to be associated with the substitution of investments for commercial loans by banks, as well as with open market policy. Investments replace commercial loans in a period of liquidation; this process continued into the spring of 1931. But purchases of bonds, acceptances and the like by banks were, in view of all the conditions, on a moderate scale, as attested by the New York Bank's comment on the conservatism of banks in purchasing investments.³ When bonds once began to decline sharply in the latter part of 1931, banks began to dispose of them. Not until May, 1932, was there once more evidence of a desire to support the bond market, in New York at any rate.⁴ For the years 1930 and 1931 increased investments in securities were equivalent only to approximately one sixth of the total of other assets liquidated.⁵

It may also be conceded that in general a full improvement in the bond market may be concealed by the fact that favorable conditions

¹ *Mo. Rev. of Boston R. B.*, October, 1931. Cf. T. E. Gregory, *The Gold Standard and Its Future* (pp. 31-32), for an explanation of the large span between long- and short-term money rates.

² *Mo. Rev. of N.Y.R.B.*, November, 1930.

³ *Ibid.*, July, 1930; *ibid.*, November, 1930. It may also be noted that banks in the larger centers evinced more interest in the purchase of securities than other banks. *Ibid.*

⁴ *F.R.B.*, 1932, p. 358.

⁵ The reduction in bank loans from the autumn of 1929 to the end of 1931 for all banks was 10.6 billions. They increased their holdings of securities by 1.85 billions. But from October to December, 1931, they liquidated in excess of one billion of securities. *F.R.A.*, 1931, p. 4.

— easier rates — bring increased issues; the additional issues in 1930 were rather large.¹ Thus an improvement in the bond market now (July, 1932), may be only ephemeral in that the Treasury may thereby be induced (and compelled) to finance itself more freely by issues of bonds; an improvement in the bond market is fundamentally advantageous only if enterprises are launched which will increase employment. A large program of public works financed at the expense of the tax-payer may stop a nascent revival in the bond market and, if the burden of additional taxation is likely to be heavy, reduce employment rather than increase it.²

3. THE MECHANISM

Many critics of reserve policy contend that operations of the reserve banks have not been on an adequate scale.³ Certainly such criticisms cannot apply to the *great* operations which were undertaken from March to July, 1932. Why have not operations been more effective in bringing expansion, and later in stemming the tide of liquidation? The easiest answer is the lack of confidence, evident in a failure of long-term rates to decline.⁴ Potential borrowers will

¹ In July, 1930, the New York Bank commented on the fact that the rise in the bond market had occurred earlier and had been of larger dimensions than under similar conditions in 1920-22. *Mo. Rev. of N.Y.R.B.*, July, 1930.

Early in 1931, Wiggin criticized the reserve banks for their easy money policy on the grounds that liquidation of security loans had been retarded and excessive issues of bonds had been encouraged. *C.F.Chr.*, 1931 (132), p. 429.

New financing was large in view of the conditions in 1930. *N.Y.R.B. Ann.*, 1931, p. 14.

New Issues (capital)			
(Billions of dollars)			
1927	7.5	1930.....	6.9
1928	8.0	1931.....	3.1
1929	10.1		

The new bond issues (net) in the first eight months of 1930 were 1,450 millions in excess of issues over the corresponding period in 1929.

² I am not unaware of the point raised by Keynes and Robertson that public works may be an effective manner of increasing employment when private entrepreneurs are unwilling to borrow. It is a question of the extent to which confidence has been impaired, costs reduced, and excessive taxes levied. Something additional is said on this point in the last chapter. A. C. Pigou and D. H. Robertson, *Economic Essays and Addresses*, pp. 124-125.

³ R. G. Hawtrey, *Trade Depression and the Way Out*, passim. For an extreme statement, J. H. Rogers, *op. cit.*, pp. 104, 207-208.

⁴ In commenting on the open market policy of 1932, Governor Meyer says that in addition to making funds available, reserve authorities are confronted with the problem

not borrow so long as prices continue to decline. If once the downward movement of prices is definitely checked, confidence may revive. But so long as prices decline, confidence remains at a low ebb; business men, instead of borrowing, will repay debts to their maximum capacity, and — under these circumstances — the decline of prices continues.¹ The decline of prices is damaging to business enterprise because necessary adjustments in costs are not made.

In the week ending March 5, 1932, securities held by the reserve banks were 754 millions. Five weeks later (April 9), the total had risen to 882 millions, or an average increase of 25 millions weekly. Seven weeks later, the total was 1,504 millions, or an average increase for the seven weeks of almost 90 millions. This has no parallel in the history of central banking.²

Purchases of securities by reserve banks in the United States are generally planned with a view, not only to reducing the indebtedness of members,³ but; ultimately, to increasing their balances and thus presumably their loans and investments. But reserve officials are frequently confronted with obstacles in their programs of expansion.

One difficulty is that the decline in indebtedness, rather rapid in the financial centers, is slower elsewhere. A result is that large surplus funds accumulate in the financial centers long before the country banks are out of debt. In other words, the surplus cash created as a result of open market operations may find its way neither to

of restoring confidence. U. S. Senate Banking and Currency Committee, Hearings: *Restoring and Maintaining the Average Purchasing Power of the Dollar* (72: 1), 1932, p. 208 (hereafter abbreviated: Hearings: *Maintaining the Purchasing Power of the Dollar*).

The New York Bank is disappointed: "That, despite this liberal program a severe contraction of bank credit should have taken place, bears witness to the inferior ability of a low rate schedule to bring credit into use when confidence is lacking." *N.Y.R.B. Ann.*, 1931, p. 18. Cf. *L.E.*, January 24, 1931, p. 157 (Comments of McKenna).

¹ Robertson describes well the difficulties to be faced by a banking system unaided in attempting to expand credit. A. C. Pigou and D. H. Robertson, *Economic Essays and Addresses*, pp. 121-122; also see the valuable testimony of Stewart before the Macmillan Committee. Committee on Finance and Industry, *Evidence*, especially 7692, 7779-7793, 7826-7827.

² *F.R.B.*, 1932, p. 352.

³ Thus Burgess writes that the retirement of 1,000 millions of bank indebtedness is required before stringency is removed. W. R. Burgess, "The Money Market in 1930," *Review of Economic Statistics*, 1931, p. 23. Thus stringency is postponed in a period of inflation and greater expansion is assured; but the process of removing stringent conditions is thereby lengthened.

banks heavily in debt nor to communities especially in need of the added stimulus.¹

Perhaps the uneven distribution of additional resources created by the reserve banks was not so great an obstacle at this time as it was in the past.² Liquidation of rediscounts in agricultural districts has been much more rapid lately than it was in the years 1920-22; but, on the other hand, we must not lose sight of the fact that even within each district there are banks in financial centers and banks in agricultural sections losing deposits in spite of the creation of additional deposits to be associated with reserve policy.³ It is only necessary to recall that banks in New York City were indebted to the New York Reserve Bank for 170 millions on October 30, 1929, and 33 millions on November 27; *total* borrowings from the New York Bank were 246 and 129 millions on these two days: the reduction in indebtedness for New York *City* banks (central reserve) was greater than the reduction for the whole district.⁴ Also, a consideration of the developments in the first half of 1932 offers evidence of the tendency of an uneven distribution of these additional funds.

It is worth while inspecting the movements of rediscounts for the first two periods, of three months each, after the policy of easy money had been introduced.

In the first three months, the reduction of rediscounts was approximately one half for each reserve bank but Chicago; it was considerably greater than one half for the New York, St. Louis, Minneapolis, Dallas, and San Francisco Banks. The marked reduction in these agricultural or semi-agricultural districts is somewhat perplexing; but an explanation probably is to be found in the movement of funds away from the speculative centers, the utilization of incom-

¹ Governor Harrison comments on this problem. Hearings: *Stabilization* (72: 1), 1932, p. 497; cf. *Mo. Rev. of Boston R. B.*, December, 1929.

² A relevant consideration is the uneven movements of assets between reserve banks. See Charts IVh and IVi and the discussion of them (pp. 749-752).

³ Member banks in numerous large cities were out of debt in the early months of 1931. Thus there are eight reporting cities other than Boston in the Boston District; the banks in six were out of debt to the Boston Reserve Bank. *Mo. Rev. of Boston R. B.*, February, 1931.

⁴ Perhaps the following figures are even more striking (figures are in millions of dollars):

	New York City Banks rediscounts	All rediscounts at New York Reserve Bank
1929		
July 10	341	439
November 27	33	129
	<u>308</u>	<u>310</u>

ing notes to repay rediscounts rather than to accumulate balances in financial centers, and the delay in accumulating balances in financial centers that generally occurs in periods of depression.¹

For the entire period of six months, the reduction was relatively small for the Atlanta Bank (more than one half) and especially large for the Minneapolis (nine tenths), the New York (five sixths), and the San Francisco and Chicago Banks (four fifths). The similarity in the degree of liquidation of rediscounts is rather striking. Perhaps

TABLE XLII. REDISCOUNTS

(Millions of dollars)

District	Oct. 30, 1929	Jan. 29, 1930	Apr. 30, 1930
Boston	46	26	14
New York	246	65	41
Philadelphia	100	50	30
Cleveland	123	58	21
Richmond	54	26	19
Atlanta	59	27	25
Chicago	106	78	23
St. Louis	54	15	16
Minneapolis	37	5	4
Kansas City	52	25	15
Dallas	31	12	8
San Francisco	83	19	17

it might also be noted that with the continuation of monetary ease, banks outside of the financial centers tended to accumulate deposits in financial centers rather than utilize their funds at home, thus accentuating *any* tendency toward an uneven distribution of the additional funds put out by the reserve banks.

Commercial banks in the financial centers, then, are inclined in times of depression to purchase open market investments — acceptances and Treasury bills in particular — with the result that the return on these investments drops drastically and opposition to the open market policy of the reserve system arises.² Moreover, the

¹ Cf. *Mo. Rev. of N.Y.R.B.*, January, 1930; *ibid.*, February, 1930; *Mo. Rev. of San Francisco R. B.*, January, 1930; *ibid.*, February, 1930.

Also consult Chart II (p. 724) and the discussion on page 727, and Charts XIV and XV.

² Thus in the latter part of 1931, member banks held 5 billions of United States securities, part of which yielded less than $\frac{1}{2}$ of 1 per cent, and in excess of 3 billions of loans eligible for rediscount, including 500 millions of acceptances yielding less than 1 per cent. *F.R.B.*, 1931, p. 497. In the week ending May 28, 1932, United States Treasury notes and certificates (three to six months) were yielding .08 of 1 per cent. *Ibid.*, 1932, p. 361.

advantages are bestowed to a disproportionate degree on favored borrowers. The government and industries financed by the use of prime paper have especially profited in the last two or three years: the profits have not been passed on in nearly the same degree to all classes of borrowers, both because the future of business has been uncertain and banks have been frightened.

If the reserve authorities are interested in expansion, they might attain their goal much earlier if members expanded immediately instead of repaying the reserve banks with the cash thus created.¹ A much smaller volume of operations would thus be necessary to attain a desired state of expansion. But members have been instructed in the past that sound banking policy normally requires a state of freedom of indebtedness; moreover, members are not tempted to stay in debt and expand their business unless the relative rates charged by reserve banks and obtainable on the open market offer inducements to those ends. Such opportunities were not available in 1930-32 as in 1928-29.

In 1930, reserve authorities seemed disposed to be satisfied with a reduction of indebtedness to a low level as the objective of their open market operations.² There was little attention paid to the possibility of creating excess reserves. Critics of the 1930 policy may find some ammunition at this point. Perhaps in the second half of 1930 attempts might have been made to inflate the balances of member banks. But the hesitation on the part of reserve authorities can easily be condoned. The incipient stock market boom, which set in in the spring of 1930, necessarily was followed by hesitation; and banking failures in the latter part of 1930 would have brought an end to an aggressive open market policy. Perhaps the same defense may be made for the failure of more aggressive purchases in the first eight months of 1931. Frequent banking disturb-

¹ Hearings: *Stabilisation* (72: 1), 1932, p. 462.

In May, 1931, the New York Bank pointed out that member banks had recently used incoming gold to repay their debts rather than to expand credit and hence the influx was not reflected in lower rates. *Mo. Rev. of N.Y.R.B.*, May, 1931. The Bank thus repudiated the favored principle of the System and indicated that it was aware that the repayment of debts was an obstacle to the reduction of money rates.

² Thus see W. R. Burgess, "The Money Market in 1930," *Review of Economic Statistics*, 1931, p. 23. Recently Governor Harrison admitted that the reduction of debts merely had a psychological influence: credits were not expanded. Hearings: *Stabilisation* (72: 1), 1932, p. 461. In February, 1930, it was announced that open market operations had been discontinued because member banks in New York were out of debt. *Mo. Rev. of N.Y.R.B.*, February, 1930.

ances in that year made the reserve banks rather cautious; and by May, discouraging reports were being received of conditions in Central Europe.¹

Although I believe that the reserve authorities did in 1930-31 all that could reasonably be expected of them, in view of their experience and the conditions current, I cannot avoid the conclusion that more aggressive operations might have been carried on if the reserve banks in the preceding decade had not put altogether too much emphasis on the relation of indebtedness to rates and altogether too little on the balances of member banks. More attention to the latter might have led the reserve authorities to attempt to increase the balances of member banks. On the other hand, in 1930 limited excess reserves were available which the New York banks seemed loath to use.

Since September, 1931, reserve authorities have paid much more attention to balances of member banks:² the drastic reduction of balances has made a strong impression on the authorities. Now (July, 1932) they are definitely operating with a view to increasing balances, although it is contended that securities cannot always be purchased in large quantities without disorganizing the market and that excess reserves are not to be created too rapidly if proper use of credit is to be assured.³ Governor Harrison seems to be of the opinion that the excess reserves will ultimately cause expansion.⁴ In truth, encouraging reports have been made by New York Reserve Bank officials.⁵ But Dr. Miller is not so optimistic concerning the

¹ In May, 1931, the officials of the New York Reserve Bank explained the failure of their policy: unfavorable developments at home and abroad had affected the security markets adversely. *C.F.Chr.*, 1931 (132), p. 3394.

² In a letter to the chairman of the Senate Banking and Currency Committee, Governor Meyer in May, 1932, discusses the expediency of planning reserve policy with a view to restoring member-bank balances to a normal level. A proposal along these lines had been made before the committee. Meyer's objections are tenable *so far as they go*: credit machinery is too delicate and responsive to too many influences to make it desirable to have one indicator. In 1925-26, member-bank credit was expanding rapidly and balances were unchanged; in 1930-31, the volume of credit was declining while the balances of member banks were relatively stable. Hearings: *Maintaining the Purchasing Power of the Dollar* (72: 1), 1932, p. 205. The argument does not convince the writer. Peculiarities in our reserve requirements make it necessary to interpret the fluctuations in balances in the light of these requirements; and if they are not to be the sole indicator of policy they ought to be the most important. They ought to receive the attention that *reserve credit* and *earning assets* have received in the preceding decade.

³ Hearings: *Stabilization* (72: 1), 1932, pp. 468, 495.

⁴ *Ibid.*, p. 504; Hearings: *Maintaining the Purchasing Power of the Dollar* (72: 1), 1932, p. 207.

⁵ *Ibid.*, p. 468; *Mo. Rev. of N.Y.R.B.*, June, 1932; Hearings: *Operation of Banking Systems* (72: 1), 1932 (Banking Act of 1932), p. 500.

possibility of the use of these balances.¹ For a month or two, early in 1932, there were encouraging signs; but then currency withdrawals and losses of gold reduced the excess reserves to a disappointingly low level in July. Moreover, the excess in part represents hoards by banks anticipating trouble rather than funds seeking investment as soon as a favorable opportunity appears.²

Reserve banks, it may be noted, in 1932 not only at last evinced a strong interest in balances, but went a step further in organizing business with a view to assuring the use of these balances.³ The New York Reserve Bank even expressed disappointment at the high standards maintained by banks in that year, and their excessive zeal in maintaining a liquid position.⁴

Subjected to much pressure, the reserve authorities were more willing in 1931 and 1932 to admit in public their interest in prices than in any period since 1920. But they were not in sympathy with any dictum to raise or stabilize prices; and Governor Harrison was cautious in pointing out that open market operations are justified when the contraction of credit is in excess of the decline in business.⁵

These are not the only alternatives, however. Reserve banks may purchase investments and the additional cash may be diverted in paying for gold or currency notes withdrawn or in building up surplus reserves and increasing till money. In the years 1930-32, the absorption of cash for these purposes was a serious threat to the ful-

¹ See his evidence before the Senate committee. Hearings: *Maintaining the Purchasing Power of the Dollar* (72: 1), 1932, p. 224.

² In the latter part of 1931, member banks used part of their excess reserves to meet the withdrawal of cash from the market following the monetary disturbances in Europe. Fear is reflected in an increase in excess reserves held to meet possible emergencies. See chart, *F.R.A.*, 1931, p. 8; cf. *Mo. Rev. of N.Y.R.B.*, January, 1931.

³ *Ibid.*, June, 1932; Hearings: *Maintaining the Purchasing Power of the Dollar* (72: 1), 1932, pp. 207-208. Professor Mills contends that in general it is true that reserve banks cannot control the use of their funds. The effect on prices is determined by the point where the credit is disseminated and the consumer's demand. His position is that open market operations that do not restore price relationships of 1929 at least in part are not effective; and there is no presumption that they will. Professor Mills, however, does not give sufficient attention to the fact that if prices are relatively stable, there is less likelihood of large divergences in the movements of different groups of prices. *Ibid.*, pp. 254-261.

⁴ *N.Y.R.B. Ann.*, 1931, pp. 7, 9; U. S. Senate Banking and Currency Committee, Subcommittee, Hearings: *Reconstruction Finance Corporation* (72: 1), 1931, p. 66. Secretary Mills also criticized the banks for being too much interested in liquidity: they borrow too little from reserve banks. *Ibid.*, pp. 42, 57.

⁵ Hearings: *Stabilisation* (72: 1), 1932, p. 473. But at another point he says that the charge of inflation is not justified when reserve authorities attempt to adjust the volume of credit to what the price level should be. *Ibid.*, p. 490.

fillment of the purpose of open market operations. Part of the funds put on the market by the Federal Reserve Bank open market operations were used by banks and their customers for the purchase of notes and gold; and securities (and bills) were purchased in part with a view to financing the export of gold and the withdrawal of notes. Open market operations, interpreted by foreigners as a prelude to an inflationary episode, were followed by sales of investments on account of foreigners and therefore contributed to further withdrawals of gold; and the frightened public now began to withdraw additional currency notes. The failures of many banks, which resulted in part from the withdrawal of deposits in the form of currency notes, made necessary increased hoarding of cash by the other banks and the accumulation by them of large surplus balances at the reserve banks.¹

Perhaps surplus reserves, as has been argued by reserve officials, will ultimately and necessarily bring expansion. But, unfortunately, in spite of the very large purchases of securities, excess reserves were not large in July, 1932, in the light of the magnitude of operations, especially if it is considered that a large part of the excess could scarcely be held to be available for expansion. The important explanation of the small increase in excess reserves is the large losses of gold and, more recently (May-June), a recurrence of fear on the part of the public. America has long been accused of not playing the game of the gold standard. But what is to be said of those central banks — the Bank of France in particular — that have withdrawn several hundred millions of gold by converting their investments and deposits in the United States into gold? Such withdrawals have contributed in some degree to the failure of the open market operations of 1932, which were planned to stop world-wide deflation and induce some inflation. France can scarcely justify its action, even if its losses when sterling depreciated in 1931 are considered and inflationary sentiment in the United States is allowed for. It may be said to England's credit that aggressive measures were taken to retard the flight from the dollar; though of course England was also interested in preventing an appreciation of sterling.

¹ *Ibid.*, p. 522; *Mo. Rev. of Cleveland R. B.*, September, 1931; *F.R.B.*, 1931, pp. 355-356.

CHAPTER XXXVIII

A SURVEY OF THE OPEN MARKET OPERATIONS FROM OCTOBER, 1929 TO JUNE, 1932

I. THE FIRST LARGE OPERATION, OCTOBER, 1929— MARCH, 1930

A CONCISE presentation of Federal reserve policy in the years since the stock market crash is to be found in the accompanying table.

TABLE XLIII. RESERVE BANK CREDIT

(Monthly averages of daily figures, in millions of dollars)

Date 1929	Public securities	Reserve credit	Redis- counts	Accept- ances	Monetary gold	Gold certificates ¹	Circu- lation	Reserve balances
October	154	1450	885	337	4381	846	4810	2386
November ...	315	1631	953	296	4734	889	4845	2521
December	446	1643	803	320	4324	880	4943	2395
1930								
March	540	1095	274	246	4394	873	4532	2330 ²
December	644	1273	338 ³	257 ⁴	4583	1118	4823	2415
1931								
July	674 ⁵	954 ⁶	169 ⁷	79	4958	976	4836	2407
September ...	736	1313	280	259	4948	1037	5133	2333
October	733	2088	613	692	4447	972	5478	2256
December	777	1950	774	340	4450 ⁸	877	5611	2069
1932								
February	743	1785	848	151	4384	820	5627	1907
April	1014 ⁹	1694	605	52	4381	758	5452	1996
June	1697	2262	495	50	3956	716	5530	2062

(1) End of month figures—certificates in circulation.

(2) Gradual increase to July = 2417.

(3) September = 189.

(4) Seasonal increase very small—Aug. = 153.

(5) June = 610.

(6) February = 936.

(7) April = 155.

(8) November = 4363.

(9) April 30 = 1186.

Member banks, particularly those in the New York District, obtained through open market operations of the reserve banks and, secondarily, through rediscounts, additional resources with which to finance the additional bank credit injected into the stock market in the autumn of 1929 in place of the funds withdrawn by non-banking lenders. The seasonal expansion of currency was small, and was not financed, as normally, through the purchase of acceptances.

The first active open market policy of this period may be said to have ended by March, 1930. In November-December, 1929, the reserve banks added 300 millions to their portfolio; by March they had increased their holdings by 100 millions; meanwhile, currency notes outstanding had declined 400 millions and the monetary gold stock had increased somewhat. After March there was a decided lull in open market activities, attributable undoubtedly to the revival of activities in the stock market, as well as to the fact that, with member banks in financial centers out of debt, authorities realized that open market operations had gone far enough. In the remaining nine months of the year the reserve banks increased their investments in securities by but 100 millions, and part of this increase was seasonal. It may be noted that the net effect of the policy in the half year ending March, 1930, was that rediscounts were reduced from a maximum (daily average) of 953 millions in November to 274 in March. Balances (reserves) were maintained at a relatively stable level in spite of the reduction of rediscounts; and the total reserve credit outstanding declined 500-600 millions in spite of the purchases of securities.

Many have criticized the reserve authorities for having vacillated in 1930 and for not having carried through open market operations on a more liberal scale. But a policy active enough to result in an increased portfolio of 400 millions over a period of five months is not to be scorned; an influx of gold and a large reduction of notes in circulation are also to be respected.¹ Are we to censure the reserve authorities for seeking cover when another stock market boom threatened so soon after the previous one for which many held them responsible? Certainly the decline in rates effected so soon after the crash of 1929, as compared with the reduction in the years 1920-21, contributed to the temporary revival of speculative activities in 1930; and the reduction of rates is to be explained in part by the reduction of indebtedness resulting from active purchases of securities and the failure to offset an inflow of several hundred millions of currency and gold through sales of securities. Banks would not have been so likely to maintain their balances and thus would have reduced their open market investments, applied pressure on their speculative borrowers — both customers and open market borrowers — if the reserve banks had not purchased securities freely. Liquidation, partial at the hands of commercial borrowers, wholesale

¹ *F.R.A.*, 1930, pp. 2-5.

on the part of speculative, forced member banks to seek an outlet promising a safe investment for their funds in the open markets: at first the acceptance and commercial markets profited, with the result that rates dropped sharply; whereupon, later, brokers began to borrow as a rise in security prices seemed probable.

It may be concluded that those who argue that open market operations, aimed to stimulate business, also stimulated a disastrous revival of speculative activities and perhaps a premature improvement in the bond market, are supported by at least as much reason as are those who argue that operations were spasmodic and overly cautious in 1929-30.

2. A LULL IN THE ACTIVITIES, 1930-31

In the fifteen months ending June, 1931, prices continued to decline; but there was relatively little liquidation of bank credit. Currency disorders in the latter part of 1930 and the first half of 1931 interrupted the steady decline of money in circulation consequent upon stagnation in business and the decline in prices.¹ In the first seven months of 1931, reserve credit outstanding declined by approximately 300 millions, equally divided between acceptances and rediscounts; this reduction may be accounted for by a gold influx of more than 350 millions. The seasonal influx of currency was much below normal. Money rates declined to an unusually low level as banks competed for all available open market investments in order to make full use of balances too large for business demands.² They also increased their holdings of securities, although the monetary disturbances and distrust were reflected in the diversion of a disproportionate amount of money to the acceptance and other markets for investments of short maturities. A buying rate of 1 per cent was not low enough to attract any large volume of acceptances to the reserve banks.

¹ Apparently early in 1931 the reserve authorities had given up any idea of further purchases of securities in the immediate future, for reserve banks were prepared to offset the inflow of currency notes, which never occurred. Dallas Reserve Bank, *Proceedings*, 1931, p. 18.

² The situation may be summed up thus (changes in millions of dollars, December, 1930-September, 1931):

Reserve bank credit	+40
Monetary gold stock	+365
Money in circulation	+310
Balances of member banks	-82

Monetary disturbances in Europe, in the second half of 1931, brought catastrophic changes in conditions here.¹ In the three months, August-October, the country lost more than 500 millions of gold, and the frightened public (including the banks) withdrew 650 millions of money, largely for hoards.² These unprecedented demands were financed by an increase in reserve credit of more than 1,100 millions, largely in the form of acceptances (613 millions) and rediscounts (444 millions). Banking failures, withdrawals of deposits, and wholesale liquidation of bank credit were reflected in a reduction of balances (reserves) of 151 millions; otherwise the increase in reserve credit would have been still larger. In November and December conditions did not improve. Currency in circulation increased by almost 150 millions (a seasonal increase was to be expected), and balances declined by almost 200 millions more. If the banks had not accumulated excess reserves of rather large proportions, their balances would have sunk yet lower. As a result of the additional loss of currency and a marked increase in the buying rate on acceptances, the proportion of all reserve credit existing in the form of rediscounts increased rapidly. From October to December, rediscounts rose from 613 to 774 while acceptances held by reserve banks declined from 692 to 340 millions.

Critics may question the wisdom of the policy of the reserve banks during the period August-December, in particular its last two months when the loss of gold was definitely checked. Were the reserve banks justified in forcing the banks to maintain their rediscounts at a high level of 600-800 millions during these months? What of the policy approved by reserve authorities, that losses of gold and notes were to be offset by purchases of investments by reserve banks? Was a policy of dear money, reflected in an increase in the Bank and buying rates and a failure to purchase securities in

¹ Space is not available to discuss the conditions that led to the world crisis. An excellent running account is to be found in the London *Economist* (June 6-September 26 — including the supplement of August 22 on the Basle Report). Monetary disturbances in Central Europe were followed by withdrawals of foreign deposits from the London money market. Large purchases of investments by the Bank of England did not prevent large losses of balances by the joint stock banks. An increase in the fiduciary issue and two large loan transactions did not effectively cope with the situation; the result was a suspension of gold payments in England in September.

² The movements are from the monthly figures (average of daily) for July to those for October. End of month figures diverge from the figures used to an appreciable degree. It may also be noted that although the loss of monetary gold from the end of July to October was 658 millions, in September and October the loss was 703 millions.

large quantities, justifiable? I am of the opinion that reserve policy was correct. A loss of 500-600 millions of gold and the withdrawal of 600 millions of notes in a period of a few months certainly justify the action of the reserve banks in requiring the market to obtain its reserve credit expensively: at first by acceptances and rediscounts, later very largely by the latter. It is to be said of the reserve banks that, regardless of the manner, reserve credit outstanding did increase from 954 millions in July to 2,088 millions in September. Also, they were hampered by the deficiency of paper eligible as collateral, with the result that purchases of securities were inexpedient; but this is not the whole explanation.¹ Banks by the hundreds were closing, and those in relatively safe condition wished to be on the safe side and hence borrowed more than they absolutely needed: the only possible way to conserve resources was to charge a higher price for credit advanced and to offer the credit in a form (rediscounts) that would assure maximum economy in its use. Borrowers with eligible paper were not denied credit.

The most important question is whether reserve bank policy contributed to a harmful liquidation of bank credit in any *important* degree. It did not. The maintenance of easy money conditions in the midst of the world-wide disturbances would have involved a shirking of the responsibility to maintain gold payments and led to more catastrophic conditions later. A suspension of reserve requirements would have heightened fear, the most important single cause of liquidation. We should not lose sight of the fact that liquidation of commercial advances had continued since the latter part of 1929. Loss of confidence in securities, the scramble for cash, the enforced sale of assets on the part of banks and others, now made inexpedient the substitution by banks of investments for other assets. In 1930 the purchase of bonds had proved to be a boomerang. Moreover, an aggressive open market policy (March-June, 1932) of dimensions never before attempted has, by July, not stopped the liquidation of bank credit. Prices decline as bank credit is reduced, and the latter shrinks because prices decline. Undoubtedly the extra pressure resulting from an increase in rediscounts and in the Bank rate contributed to the liquidation of securities of banks;² but liquidation

¹ If they had purchased securities freely, they would have tied up more gold as collateral. Reserve authorities have defended their policies of the latter part of 1931. Hearings: *Stabilization* (72: 1), 1932, pp. 467, 478, 555.

² *N.Y.R.B. Ann.*, 1931, p. 9.

would have been increased more by a failure of reserve banks to recognize the need for economizing their resources. Moreover, the decline in stock prices and in speculative advances accounted for large reductions in bank credit.

3. A SECOND ATTEMPT, 1932

Conditions did not improve in the first two months of 1932. Reserve credit outstanding declined while rediscounts increased, and the expected seasonal return of currency did not occur. Balances declined by 162 millions additional (8 per cent), and the country lost more gold. A heavy decline in acceptances (340 to 151 millions), together with a reduction in securities held (777 to 743 millions), indicated that the reserve authorities were not sufficiently assured to ease the situation.

But by March threats of inflation from many quarters, legislative action tending to increase the effectiveness of available gold supplies, a stoppage of bank failures attributable in large part to the activities of the Reconstruction Finance Corporation, and an inflow of currency — not to mention the danger inherent in the drastic decline of prices and liquidation — induced the reserve banks to enter upon their second vigorous campaign to pump reserve credit into use. By the end of April an increase of securities held by reserve banks of 400 millions and an inflow of currency of 200 millions were reflected in a reduction of rediscounts from 848 to 605 millions and of acceptances from 151 to 52 millions. Balances increased by almost 100 millions. (Liquidation of bank credit continued, however.) Policies which aim to ease the monetary situation, it is to be noted, cannot exert their full effects because the money market tends to use part of the cash obtained to purchase acceptances and depress the rates below the buying rate. In other words, the advantages being first concentrated on a few favored open markets, high-grade bonds, when fear is strong, feel the effects only tardily. Perhaps this explains the proposal of the Young (Rehabilitation) Committee to encourage the financing of trade by acceptances. In this manner the advantages of the low rate in acceptances can be spread more widely. In the first half of 1932 the reserve banks purchased about one billion of securities.

CHAPTER XXXIX

RATE POLICY AND OPEN MARKET OPERATIONS — A CONFLICT?

I. INTRODUCTION: POSSIBILITIES OF A CONFLICT

IN GENERAL, open market policy and that of the Bank rate should be consistent: an easy money policy is administered through purchases of investments and reductions in the Bank rate. But the two have not always been consistent in the years under discussion. Perhaps the reason is that the New York Reserve Bank has not always been in agreement with other reserve authorities on questions of policy. In reducing rates the New York Bank was always in the van; its rate structure remained low in comparison with those of other reserve banks. (To some extent, this may be explained by the greater sensitivity of the New York market.) On the other hand, the recent reorganization of the open market committee and revision in the methods of administration of open market operations deprived the New York Bank of its control of these operations. But, although the New York Reserve Bank is dissatisfied with open market policy, it still retains some important powers of initiative.

The possible course of action is as follows. It may set buying rates at a low level in relation to market rates, thus encouraging the use of reserve facilities through sales of acceptances to reserve banks. It need scarcely be added that the Board approves the buying rate. The New York Bank, however, has been unable to exercise much influence along these lines because of the excessive competition for acceptances on the part of banks during most of 1930-32; it was difficult enough to reduce the buying rate rapidly enough to keep it within a reasonable distance of the market rate. In June, 1932, the buying rate was $1\frac{1}{2}$ per cent higher than the market rate.¹ Also, the

¹ The Board is justified in asserting that the efforts of the System were directed toward the furtherance of easy money conditions in the first nine months of 1931 by the reduction of Bank rates. But its assertion that the buying rate and open market operations were directed with a similar object in mind may be questioned. The buying rate generally followed the market rate downward and the reserve banks were not as a rule an important factor in the market; and the purchases of securities in May-September were made to prevent a stringency resulting from the withdrawal of cash

experiences of 1928-29 made reserve authorities especially anxious to encourage the development of an acceptance market independent of the support of reserve banks.

Another alternative was for the New York Bank to purchase and sell securities outside of the investment account of the System; and it will be recalled that the investments of the New York Reserve Bank outside of the System account were large in the years 1930-32.

Finally, the New York Reserve Bank might recommend a reduction in rates; and, as a result of the usurpation of control over rates by the Board in 1927-29 and its dire effects, proposals of reserve banks are to-day more likely to be approved by the Board than before 1927-29. The fact that the New York Bank is necessarily more concerned with international developments than are other reserve banks explains in part its abnormally low rates during most of 1930-32. Rates may have been too low for domestic conditions; at intervals they may have stimulated speculation and contributed to excessively low open market rates as well as low returns on the assets held by banks; but during most of this period the rate was not low enough to prevent large amounts of gold from coming to the United States.¹

2. RATES AND OPEN MARKET POLICY

Purchases of securities in 1930 on a large scale ceased in March. (The increase in the average of securities held for March was not so large as it seems if Treasury financing of a temporary nature is considered.) As has been said, the operation from October to March was extensive. On the other hand, if it is considered that the average holdings of securities in October, 1929, were approximately 150 millions, the average in the years 1922-28 approximately 350 millions, and that the country was confronted with a depression, the increase to 528 millions late in March does not seem excessive. But the authorities had little experience to guide them; the fear of speculation was formidable; moreover, the large influx of currency and gold provided the banks with a large amount of additional cash.²

by foreign central banks. It is not, however, my contention that the reserve authorities should have directed their acceptance policy and open market operations toward easier conditions; but perhaps they erred somewhat on the side of caution. *F.R.A.*, 1931, p. 6.

¹ *F.R.B.*, 1931, p. 245.

² *Ibid.*, 1930, p. 141; *F.R.A.*, 1930, pp. 4-5.

What of rate policy? The New York Bank reduced its rate from 6 to 5 per cent on November 1 and to $4\frac{1}{2}$ per cent on November 15. By January 16, 1930, six other reserve banks had reduced their rates from 5 to $4\frac{1}{2}$ per cent. Reserve banks elsewhere were now adhering to a policy of non-uniformity of rates and seemed not too anxious to encourage expansion. On February 7, the New York Bank reduced its rate from $4\frac{1}{2}$ to 4 per cent; this was a signal for the remaining reserve banks to bring theirs down to $4\frac{1}{2}$ per cent, and the Boston, Chicago, and Kansas City Banks lowered their rates to 4 per cent within the next week. A further reduction to $3\frac{1}{2}$ by the New York Bank on March 14 was followed by reductions to 4 per cent by the eight reserve banks still operating with a $4\frac{1}{2}$ per cent rate. The last reduction was made by the Minneapolis Bank on April 15.

The stock market boom occurred in February–March, 1930, and its effects were evident in a greater disinclination of reserve banks to follow the policy of the New York Bank. By May 2 the New York Bank declared its intention of proceeding in spite of the recent speculative boom: the Bank rate was reduced from $3\frac{1}{2}$ to 3 per cent. When the New York Bank announced its next reduction — that of June 20 from 3 to $2\frac{1}{2}$ per cent — the Boston and Cleveland Banks had a rate of $3\frac{1}{2}$ and the nine remaining banks of 4 per cent. On December 24 the New York Bank announced its final reduction in 1930 — a reduction from $2\frac{1}{2}$ to 2 per cent. The year closed with a $3\frac{1}{2}$ per cent rate in force for nine banks and a 3 per cent rate for those at Cleveland and Boston.

Similar tendencies were current in 1931. The final reduction was approved in May. In the period of extreme ease from May to September the New York rate was $1\frac{1}{2}$ per cent, the Boston rate 2, that at the San Francisco, St. Louis, and Chicago Banks $2\frac{1}{2}$, at the Minneapolis Bank $3\frac{1}{2}$, and at the remaining banks 3 per cent. The disturbances in the latter part of 1931 were followed by large rate increases in New York, where the burden was borne to a disproportionate degree; the result was that uniformity became the rule once more. Thus, early in June, 1932, the Bank rate at all banks but New York was $3\frac{1}{2}$ per cent; the rate in New York was 3 per cent.

This minute discussion of rate structure has been offered because it is evidence of the conflict between rate and open market policy and perhaps of views between the New York Reserve Bank and the other authorities. When a reduction in rates is accompanied or followed directly by purchases of investments, it may be held that no

conflict of policy is involved. This is peculiarly true if the reduction in rates is quite general; but on the whole reserve banks have not been disposed to follow closely the rates of the New York Bank.

The reduction of rates in New York on November 1, 1929, was both preceded and followed by open market operations on a large scale. The reduction in rate by the New York Bank on November 15 was preceded and followed directly by rather small operations; but larger operations in December were accompanied by a reduction in rates in several other reserve banks. In February a further reduction was made although open market operations were negligible; and similar comments hold for the reduction in May. In March, however, the reduction was preceded and followed by open market operations; and it will be noted that there was a more general tendency to follow the lead of the New York Bank. The failure to indulge in open market operations in February and May is not to be explained by peculiarities in the movement of gold and currency in these months, as it was in March. The explanation seems to be rather that the New York Bank was more venturesome, more disposed to stimulate business, than were the other reserve authorities: the New York Bank reduced rates in a vigorous fashion; but open market operations neither preceded nor followed.

In June and December operations on a moderate scale were undertaken and the Bank rate was reduced in New York. Other reserve banks were still cautious in June. Moderate purchases for three weeks were followed by a reduction in the New York rate; but the reserve banks outside of the financial centers hesitated: it was several months before the reduction in rates became general. Perhaps the requirements for crop moving explain the delay. The reduction in December is to be associated with monetary disorders. Rather large purchases followed the reduction in rates in New York. In spite of the large increase of notes in circulation the securities held by the New York Bank declined for the week ending December 24 — Treasury financing is probably the explanation. A reduction in Bank rates and large purchases in the last week of December brought rediscounts down to a normal level. The movements in December were for the most part local. Both the reduction in rates and the open market operations were undertaken on the responsibility of the New York Bank.

Reductions in May, 1931, and February, 1932, were undertaken at the initiative of the New York Bank. They had no counterpart

in open market policy, and several of the other reserve banks followed hesitantly in 1931; but no reserve bank followed in 1932. Once more the New York Bank was in the van in an effort to bring ease.

A comparison of open market and Bank rate policies leaves us with the conclusion that, at least until 1932, the latter was bolder, more vigorous. For the aggressiveness exhibited by rate policy, unquestionably the New York Bank was responsible. Open market policy would doubtless have been more aggressive had the New York Bank retained its control over investment policy exercised in earlier years; and whatever vigor was displayed may certainly be ascribed in large part to the influence of that institution. More recently, of course, pressure has been applied from many sources to stimulate business.

3. THE PROBLEM OF UNIFORMITY ONCE MORE

Where reference is made to a bold rate policy, that of the New York Bank is under consideration.¹ Other reserve banks followed with hesitation and tardily; yet their rates are not wholly independent of the New York rate. If they are to maintain control of local banking conditions, they should not encourage unnecessarily the use of the funds of the New York Reserve Bank (indirectly), or those of the large New York banks, over the use, by their neighbors, of banking resources in their own districts.

In February, 1930, when the New York rate and that of six of the reserve banks were $4\frac{1}{2}$ per cent (the rate at other reserve banks being 5), the reserve banks held 480 millions of securities. In May, 1931, the New York rate dropped to $1\frac{1}{2}$ per cent; one bank had a rate of 2 per cent, four rates of $2\frac{1}{2}$ per cent, five rates of 3 per cent, and one a rate of $3\frac{1}{2}$ per cent. But securities held by the reserve banks were but 120 millions above the total of February, 1930. Rate policy contributed much more in the campaign to stimulate business than did open market policy in the eighteen months after February. Moderate purchases were made in June–August, 1931; but these were undertaken to offset the loss of cash resulting

¹ Undoubtedly the New York Reserve Bank is justified in making the following statement: "Throughout the past two years the open market and discount rate policy of the Federal Reserve Bank of New York has been directed to the end that, so far as lay within its power, there should be no lack of available credit at reasonable cost to encourage business recovery." *N.Y.R.B. Ann.*, 1931, p. 15.

from the sales of acceptances or the withdrawal of deposits from commercial banks by foreign central banks. Bank rate policy was more daring — particularly that of the New York Bank — even if the inflow of gold and currency are considered.¹

Movements in customer rates reflect changes in monetary conditions fairly well. The reduction of customer rates in New York City was at a more rapid rate than in the eight other northern and eastern cities and at a more rapid rate in the latter than in twenty-seven southern and western cities. It may be observed, however, that the

TABLE XLIV. CUSTOMER RATES: NET CHANGE

Period	(Per cent)		
	New York City	Eight other northern and eastern cities	Twenty-seven southern and western cities
Oct. 30, 1929.....	(6.08)	(6.25)	(6.29)
Apr. 30, 1930.....	-1.17	-1.03	-.43
Apr. 30, 1930—			
Dec. 31, 1930.....	-.75	-.54	-.44
Dec. 31, 1930—			
Sept. 30, 1931.....	-.23	-.20	-.10
Sept. 30, 1931—			
Mar. 31, 1932.....	+ .79	+ .66	+ .32
Mar. 31, 1932—			
May 31, 1932.....	-.17	no change	no change

relative reduction in New York and the Northeast as compared to other sections of the country was not unusual, in spite of the fact that for the period as a whole the non-uniformity in Bank rates, that is, the slower and less marked decline of Bank rates outside of New York and the northeastern reserve banks, was striking. In other words, the movements in the Bank rate in each district or for the twelve districts seems to be no decisive factor in the determination of customer rates; or, perhaps, it is the rate in New York that plays a predominant part in such determination.²

¹ Hawtrey's criticism of reserve authorities, *i. e.* that the reduction of rates in 1929-30 was tardy, is scarcely justified. R. G. Hawtrey, *The Art of Central Banking*, pp. 79, 81.

² The Board comments as follows on the low rates current in the middle of 1931: "... reflecting the combined effects of a limited demand for loans from borrowers of the highest credit rating, the prevalence of excess reserves at the larger and more active member banks and the low level of indebtedness by member banks at the reserve banks, accompanied by further reductions during the first five months of the

The decline of customer rates in the South and West as against the increase from November, 1927, to October, 1929, was appreciably larger than the decline as against the earlier increase for the

TABLE XLV. CUSTOMER RATES

	(1) Nov., 1927- Oct., 1929	(2) Oct., 1929- Sept., 1931	Per cent of (2) to (1)
New York City	+1.73	-2.15	123
North and East	+1.43	-1.77	124
South and West	+ .73	-.97	133

two other classes of banks. That this occurred despite the unfortunate conditions in agricultural communities and the failure of the market rate to rise in these communities as it had in the Northeast — for the most part the rise in Bank rates had been parallel — is evidence of the validity of the conclusion that local reserve bank rates are not decisive.

year in discount rates of the Federal reserve banks and in their buying rates for bankers' acceptances." *F.R.A.*, 1931, p. 6.

But in October, 1930, the emphasis had been placed on the rapid liquidation of security loans, open market and discount policies, and the low level of member-bank indebtedness. *F.R.B.*, 1930, p. 613.

CHAPTER XL

ACCEPTANCE POLICY AND RELATIONS WITH FOREIGN COUNTRIES

I. BUYING RATES AND THE DISTRIBUTION OF HOLDINGS

THE rate on open market paper declined more rapidly than did customer rates. The market rate on acceptances had been reduced from 5 per cent in October, 1929, to $2\frac{7}{8}$ per cent in April, 1930, and $1\frac{7}{8}$ per cent in July. Throughout the first half of 1930 the buying rate was generally appreciably above the market rate. In the second half of 1930 it remained at $1\frac{7}{8}$ per cent — very low in view of the fact that large seasonal sales to reserve banks are usually made in this period. Perhaps a buying rate of $1\frac{7}{8}$ per cent contributed to its stabilization at that level over such an extended period. In spite of the successive reductions in the first half and the low rate in the second half of 1930, the reserve banks were offered abnormally small amounts early in the year, and the increase in their holdings during its second half was much below the normal seasonal. In January, 1930, their holdings constituted 14 per cent of the total outstanding; in October and November, when their holdings are usually at a maximum, they held but 9 per cent. Their foreign correspondents disposed of approximately 100 millions in the course of the year (525 to 439 millions); the explanation is probably the decline in rates.¹ Accepting banks increased their holdings from 220 to 512 millions from May to November. In November disturbed conditions and a reduction in the buying rate made it possible for banks to finance themselves to an important degree by the sale of acceptances to reserve banks.

In 1931 the open market rate on acceptances moved parallel with customer rates; but the decline was sharper, considering other rates, than it had been in 1930. In June, July, and August the market

¹ Withdrawals of short-term money by foreigners in other markets in the United States were also made in 1930. The net short-term indebtedness of the United States declined 443 millions. In May, 1931, the Boston Reserve Bank commented on large withdrawals of foreign bank deposits in the first quarter of 1931. *Mo. Rev. of N.Y.R.B.*, April, 1931; *Mo. Rev. of Boston R. B.*, May, 1931. But the losses in the early part of 1931 do not seem to have been general.

rate was $\frac{1}{2}$ of 1 per cent. A buying rate at 1 per cent was high enough to discourage the sale of acceptances to reserve banks.¹ At this time the rate on Treasury certificates declined to .41 of 1 per cent; American banks seeking liquidity were largely responsible for this abnormal state of affairs. English authorities have been confronted with a somewhat similar condition in recent years, and it has been frequently urged that the Treasury profit from this experience by financing itself freely through the issue of short-term paper. But American experience with a rate as low as that in 1931 and a rate of .08 of 1 per cent for Treasury certificates during the last week of May, 1932, offers no parallel.

In February, 1931, reserve banks held but 5 per cent of the acceptances outstanding. Throughout that year foreign correspondents liquidated their holdings. We may thus explain the increase in the holdings of the reserve banks in March and April. Although foreign correspondents disposed of 166 millions during the months May to July, the reserve banks also reduced their holdings by 123 millions, to 39 millions or 3 per cent of the total outstanding. The money market suffered moderate disturbances as a result of the liquidation of bills; the reserve banks and their correspondents thus withdrew 289 millions from the market. (This leaves out of account the withdrawal of deposits by foreign correspondents.) But member banks did not find it necessary to increase their rediscounts because the reserve banks increased their holdings of securities by 64 millions in July, which, together with an increase in the monetary gold stock of 247 millions, was adequate to offset the loss of 189 millions of currency and the loss of cash resulting from the liquidation of acceptances.

What, it may be asked, is the explanation of the large losses of gold to the United States during these months when foreign banks were liquidating their assets here in such large quantities? Disturbances in Europe were on the horizon, and Europeans were therefore moving capital to this country. Moreover, the liquidation of acceptances by foreign investors here does not mean a net gain in cash even on acceptance account, for the financing of foreign trade by the use of dollar acceptances was reduced.

¹ The buying rate did not decline so rapidly as the market rate; the reserve banks contributed a declining proportion of the market's resources. It was observed by the New York Bank that the reduction of the buying rate merely gave the market facilities for disposing of their bills in the future. *F.R.B.*, 1931, p. 121; *Mo. Rev. of N.Y.R.B.*, June, 1931.

In the autumn of 1931 reserve banks became once more an important factor in the acceptance market. Buying rates were reduced below the market rates, and the market was encouraged to seek reserve credit by selling acceptances. The average holdings of reserve banks increased from 70 millions in August ($6\frac{1}{2}$ per cent of the total) to 647 millions in October (62 per cent of the total); and the autumn cessation of stringency was followed by increased purchases by foreign correspondents, the banks, and other elements in the market. Correspondents, once more an important factor in the market, were only to be frightened off again by the inflationary fear prevalent in the first half of 1932. Reserve banks held only 5 millions in May, however; low rates did not discourage domestic purchasers.¹ More recent sales by correspondents were made in order to obtain gold; and this loss of gold was financed by purchases of securities by reserve banks.

2. RELATIONS WITH FOREIGN COUNTRIES

The crowded events of the years 1931-32, in so far as the relations of the reserve system with foreign countries were involved, can be briefly presented in the following table:

TABLE XLVI

(End of month figures; changes in millions of dollars)

	Gold Reserves U. S.	Investments in foreign currency bills by reserve banks	Dollar bills held for foreign corre- spondents	Dollar bills held for own account by reserve banks	Foreign bank deposits	Financing of foreigners by use of dollar acceptances ¹
1931						
June	+158	+9	-39	-29	+26	-29
July	-7	+24	-98	-56	+80	-107
August	+46	+111	-15	+31	+48	-95
September ..	-254	-96	-128	+350	-67	-78
October	-448	-15	-1	+227	+55	-3
November ..	+122	no change	+27	-229	-7	-43
December ..	+46	no change	+125	-113	-64	-37
1932						
Jan.-Apr. ...	-93	-3	+41	-289	-32	-39
May	-214	no change	-109	-11	+27	-42

(1) Includes bills drawn to finance American export trade, storage of goods abroad and shipment between foreign countries, and dollar exchange.

¹ In spite of the lack of reinvestment demand on account of foreigners, few bills were traded on the market; the availability of surplus funds made banks in New York City purchase bills in large quantities. *Ibid.*, June, 1932.

June, 1931. Little positive action was taken by the reserve authorities to prevent the very large loss of gold to the United States. The liquidation of bills by correspondents continued, however, and the reserve authorities extended a modicum of aid to Europe by purchasing 9 millions of foreign currency bills. Large inward movements of gold made it unnecessary for the reserve banks to purchase bills.

July, 1931. Foreign central banks were able to retard the flow of gold to the United States by encashing 98 millions of dollar bills. Additional help was extended by the reserve banks through purchases of foreign currency bills. The loss of cash to the money market was not so large as is indicated by the liquidation of bills by foreign institutions; the increase in foreign deposits at reserve banks was not so large as the amount of bills sold by foreign correspondents, which fact seems to indicate that part of the cash accumulated by foreign central banks was later disbursed on the money market — to meet demands for dollar exchange. Reserve banks also reduced their holdings of acceptances; but increased their holdings of public securities. In fact, foreign central banks may have used the deposits to withdraw gold; but it is to be noted that the loss of gold in July was negligible.

August, 1931. In this month the reserve banks took heroic measures to stop the inflow of gold. It may be noted that the very large increase in the foreign bank deposits is accounted for by the additional reserve credit put at the disposal of foreigners through the purchase of foreign currency bills. If the reserve banks had not taken such measures, member banks would have obtained additional supplies of cash as a result of additional imports of gold.

September, 1931. The loss of gold by the United States was of dangerous proportions. In so far as the gold was obtained by drawing on deposits at the reserve banks, the money market did not lose cash. But the important question is: how did the foreign central banks obtain deposits at the reserve banks? If the central banks obtained them by transferring cash (deposits) from commercial to reserve banks or selling assets in the United States (including acceptances), or by exchanging their domestic currency (or deposits) for dollars obtained by others through the sale of assets in the United States, the American money market lost cash — not by the withdrawal of the deposit at the reserve banks, but through the antecedent transactions that involved a transfer of cash at the re-

serve banks from the money market to foreign banks. Thus the accumulation of deposits was at the expense of the American money market; but gold obtained by the conversion of these deposits cannot *also* be at the expense of the balances of member banks.¹

It may also be noted that the reserve banks liquidated a large part of their foreign currency bills; otherwise losses of gold would have been larger. But the cash used to repay this debt was obtained on the American money market; the repayment by foreign central banks followed a loss of cash by American banks. Deposits accumulated by foreign central banks were thus consumed. But it is to be recalled that the purchases of the foreign bills by the reserve banks had put at the disposal of the foreign central banks deposits at the reserve banks which were consumed in the withdrawal of gold. The American banks or money market lost no cash through this withdrawal of gold; but perhaps they lost cash when these bills were liquidated.

Losses of gold were also reduced as a result of the reduction in financing of foreigners by the use of American acceptance credits. The reduction had been steady throughout the year; and for the entire period under consideration the withdrawal of funds invested in the American acceptance market by foreign central banks was more than offset by the liquidation of short-term acceptance credits to foreigners.

October, 1931. The loss of gold was almost twice as large as in the preceding month; and, to a much larger extent than in the preceding month, the loss is to be explained by the liquidation of assets on the American market by foreign interests other than central banks. No defensive measures were available other than those taken in the domestic market. In this month as in the previous month the reserve banks purchased acceptances in large quantities. Foreign central banks cooperated to the extent that they refrained from selling additional acceptances.

November and December, 1931. Conditions improved. Foreign central banks once more increased their holdings of acceptances and used their deposits at the reserve banks to reduce their losses of gold to the United States. The money market also evinced more interest in acceptances.

January-April, 1932. A normal situation emerged. Foreign deposits at reserve banks were at a normal level once more; the re-

¹ Cf. *Mo. Rev. of N.Y.R.B.*, September, 1931; *F.R.B.*, 1931, p. 555.

duction corresponded to the withdrawal of gold. The reserve banks once more were out of the acceptance market.

May-June, 1932. The situation was not unlike that of October, 1931. Foreign banks disposed of dollar acceptances, accumulated deposits at the reserve banks, and gradually took the proceeds in gold.¹

¹ In July, 1932, the New York Bank announced that the repatriation of foreign funds had been virtually completed. *Mo. Rev. of N.Y.R.B.*, July, 1932.

CHAPTER XLI

THE PROCESS OF LIQUIDATION, 1929-31

I. ALL BANKS IN THE UNITED STATES

LOANS and investments of all banks in the United States declined from 58.8 billions on October 4, 1929, to 50.1 billions on December 31, 1931. The decline in deposits (excluding inter-bank), from 55.2 to 46.3 billions, was relatively as large as that of loans and investments.¹ But it will be noted that the reduction in loans and investments from October, 1929, to March, 1930, was 1.4 billions, while deposits declined by approximately 2,000 millions. Open mar-

TABLE XLVII

(Billions of dollars)

Call Date	All Banks			
	Loans and investments	Loans	Investments	Deposits
Oct. 4, 1929	58.8	42.2	16.6	55.2
Mar. 27, 1930	57.4	40.7	16.7	53.2
June 30, 1930	58.1	40.6	17.5	54.9
June 30, 1931	55.0	35.4	19.6	51.8
Sept. 29, 1931	53.4	33.7	19.6	49.2
Dec. 31, 1931	49.7	31.3	18.4	45.8

ket operations and the inflow of currency notes are hardly adequate to account for these divergences in the movements of deposits and loans and investments. In the second half of 1931, particularly in the third quarter, the decline in deposits was sharper than that of loans and investments: withdrawals of currency notes and losses of gold explain the more rapid decline of deposits. The *excessive* loss of deposits was partially met by using excess reserves and borrowing from reserve banks.²

The rate of liquidation was especially rapid in the second half of 1931, particularly in the third quarter. In the second half of 1931

¹ It need scarcely be added that the reduction in bank debits was much in excess of the reduction of deposits in 1930. Hearings: *Stabilization* (72: 1), 1932, pp. 569-571.

² *F.R.B.*, 1931, p. 655.

the decline in assets was about 5 billions (9 per cent), as compared to 3.8 billions (6 per cent) in the preceding twenty-one months. But if we concentrate our attention on loans, the liquidation of the first twenty-one months will appear to be even more precipitate. The reduction in loans was 6.8 billions (16 per cent) in the first twenty-one months and 4.1 billions (12 per cent) in the last six. In the fifteen months from March, 1930, to June, 1931, the banks increased their investments by 2.9 billions (18 per cent); but in the last three months of 1931 they disposed of 1.2 billions.

2. MEMBER VERSUS NON-MEMBER BANKS

Member banks did not suffer from liquidation so consistently as did non-members, although the reduction of loans and investments and deposits was approximately equal for both groups — 15-16 per

TABLE XLVIII

(Billions of dollars)

Call Date	Loans and investments		Investments		Deposits	
	Member banks	Non-member banks	Member banks	Non-member banks	Member banks	Non-member banks
Oct., 1929	35.9	22.9	9.7	6.9	33.0	22.2
Dec., 1930	34.9	21.3	11.0	7.1	32.6	20.5
June, 1931	33.9	21.1	12.2	7.5	31.6	20.2
Dec., 1931	30.6	19.1	11.3	7.1	27.4	18.4

cent for the period as a whole. From October, 1929, to December, 1930, the decline in loans and investments for member banks was but 3 per cent; for non-members 8 per cent; and for the same period the respective declines in deposits were 1 and 8 per cent. In part the divergences in movements may be explained by the more numerous failures of non-member banks;¹ in part by the fact that non-members are more generally situated in agricultural communities, which have been especially affected by the decline of prices.

¹ Space does not permit a discussion of the problem of bank failures. Professor Sprague has pointed out that excessive competition and poor management have been important factors; and Comptroller Pole has emphasized the non-diversification of assets resulting from the unpopularity of branch banking. More recently the depreciation of all classes of assets held by banks has made depositors panicky. *N.Y.R.B. Ann.*, 1931, pp. 5-7. Undoubtedly the tendency to purchase inferior securities, especially by country banks, has been an important factor. Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 1031-1034. Also country banks tie up too large a proportion of their resources in customer loans and too small a proportion in relatively liquid assets. (See the memorandum by Warren, *ibid.*, p. 657.)

A reduction of deposits more rapid than that of loans and investments for the period of 15 months ending December 31, 1930, seems to indicate that non-members were losing deposits to member banks. Thus the reduction in loans and investments for members was 3 per cent and that in deposits 1 per cent; similar figures for non-members were 8 and 8 per cent. Whereas for members the decline in deposits was less rapid than that of loans and investments, for non-members it was more rapid. Undoubtedly the open market operations and the influx of gold, contributing to an increase in deposits, affected members more than non-members; and the withdrawals of notes, contributing to a reduction of deposits, especially affected the non-member banks. It is also probable that there was some shifting of deposits from weak to strong banks and from areas especially affected by economic distress to areas not so much affected. Perhaps the relatively unsatisfactory condition of non-member banks and the larger concentration of members in financial centers where surplus cash accumulates, explain the fact that investments of member banks had increased by 25 per cent by June, 1931, as compared to 9 per cent for non-members. It may also be noticed that as the rest of the country began to feel the effects of the distress, member banks began to lose deposits to non-member banks, especially in the second half of 1931; or at least, the relative movements of deposits relatively to loans and investments invite that conclusion.

3. MEMBER BANKS: CLASSIFICATION OF LOANS AND INVESTMENTS

The following points require emphasis:

Real estate loans have remained relatively stable in spite of a liquidation in *loans otherwise secured and not secured* of 31 per cent. Perhaps the full extent of the ordinary commercial liquidation is nowhere brought out so effectively as by this reduction in *loans otherwise secured and not secured*. That banks have been excessively involved in real estate financing is apparent in these figures: they have been unable to liquidate these loans to an appreciable extent. They constitute approximately 17 per cent of all loans of members.

The liquidation of loans secured by stocks and bonds has been neither so rapid nor so large as that of all loans. In particular there was virtually no liquidation for the fifteen months ending December 31, 1930, as a whole, although there was a large reduction from high points in December, 1929, and June, 1930. Undoubtedly the

failure to liquidate to a greater extent in 1930 is explained by the fact that the banks not only carried customers who had been driven away from the open market by high rates and calls for margins, but financed brokers deserted by non-banking lenders. In the earlier part of 1930 there had been a tendency to shift borrowings from banks to the open market, as is evident from the fact that loans to brokers in New York on the call days in March, June, and September were 2,300-2,400 millions; and there was a distinct tendency downward for security loans from December, 1929, to March, 1930.

TABLE XLIX. CLASSIFICATION OF LOANS AND INVESTMENTS

(Millions of dollars)

	October, 1929	December, 1930	June, 1931	December, 1931
Loans to banks	640	631	457	790
Loans to other customers, total	23249	21007	19257	17570
Secured by stocks and bonds	8109	7942	7117	6290
Secured by real estate	3152	3234	3218	3038
Otherwise secured and not secured	11988	9831	8922	8242
Open market loans	2276	2233	2103	901
Acceptances payable in the U. S.	93	315	389	146
Commercial paper	228	366	384	140
Loans to brokers in New York City ..	1885	1498	1217	575
U. S. Government securities	4022	4125	5343	5319
Other securities	5727	6864	6763	5996

Open market loans increased at a rapid rate in 1930, in spite of the catastrophic decline in security values both in that and the preceding year. Open market loans reached a maximum in September, 1930, at 3,262 millions; a reduction in the next three months of approximately 1,000 millions is explained by the liquidation of brokers' loans. Banks continued to hold unusually large portfolios of acceptances and commercial paper, however. Only in the second half of 1931 did they find it necessary to desert these markets; and in this period Street loans in New York by members were reduced by 50 per cent.

Investment policies of member banks seem to have been no more profitable than those of most private investors. Members accumulated large additional securities other than United States in the second and third quarters of 1930, only to dump them at a loss in the latter part of 1931. In 1931, however, they were content to purchase United States Government securities almost exclusively. On them, losses have not been large, relatively speaking.

4. MEMBER BANKS: NEW YORK CITY, RESERVE CITIES, AND COUNTRY BANKS

Perhaps the most striking contrast is to be found in the history of the fifteen months ending December 31, 1930. Loans and investments of the New York City banks increased by 5 per cent while those of reserve cities declined by 2, those of country banks by 10, per cent.¹ Differences in economic conditions furnish a part of the explanation; but these divergences also reflect the failure of open market operations, gold movements, and other similar factors to affect the different sections of the country equally: the fluctuations

TABLE L. LOANS AND INVESTMENTS

(Millions of dollars)

Call Date	New York City banks	Reserve City banks (including Chicago)	Country banks
Oct. 4, 1929	8150	13983	13780
Dec. 31, 1930	8582	13758	12519
June 30, 1931	8287	13567	12068
Sept. 30, 1931	8253	13016	11805
Dec. 31, 1931	7460	12115	10999

in deposits were uneven. Depression in agricultural sections accentuated the differences, as cash was moved to New York rather than invested in unprofitable enterprises at home.

In the six months ending June, 1931, the relative movements were similar. Unfavorable conditions were beginning to be felt in the larger cities and liquidation was in evidence in New York. In the next three months, reserve cities especially reduced their earning assets (4 per cent), while liquidation for country banks was less rapid (2 per cent), and there was little change for New York banks. But in the last three months of the year the world-wide crisis was reflected in an unparalleled rate of liquidation in New York (10 per cent), a rapid liquidation both in reserve cities (7 per cent) and in country banks (7 per cent).²

¹ Country reporting banks in twenty-one agricultural states suffered a decline of 20 per cent in demand deposits for the year ending September, 1930; but all reporting banks gained deposits in excess of 1,100 millions. *F.R.B.*, 1930, p. 613.

² It is pointed out in the *Monthly Review* of the Boston Bank of November 1, 1931, that whereas the contraction in all country member banks in the preceding two years had been twice as large as in all other member banks, contraction in the Boston District was equally divided between Boston and country banks. *Mo. Rev. of Boston R. B.*,

It is apparent from Table LI that the New York banks advanced additional sums to brokers when outside banks and others withdrew accommodation.¹ That security loans declined in spite of the boom of the first half of 1930 is evidence of a large liquidation of security loans direct to customers other than brokers. Consult the figures for loans to brokers in New York City: the large part played by banks in other reserve cities in financing the second stock market

TABLE LI. LOANS TO CUSTOMERS SECURED BY
STOCKS AND BONDS

(Millions of dollars)

Call Date	New York City banks	Reserve city banks	Country banks
Oct. 4, 1929	1944	3869	2295
Dec. 31, 1929	2200	3975	2314
June 30, 1930	2022	3811	2227
Dec. 31, 1931	1728	2806	1756

LOANS TO BROKERS IN NEW YORK CITY

Call Date	New York City banks	Reserve city banks	Country banks
Oct. 4, 1929	1096	413	376
Dec. 31, 1929	1202	250	208
June 30, 1930	1883	353	129
Dec. 31, 1930	1281	167	49
Dec. 31, 1931	542	16	16

boom (1930) is revealed by the fact that their loans to brokers were more than 600 millions both in March and September, 1930. It seems that the banks in reserve cities deserted both in the second quarter and in the fourth quarter. The decline from 643 millions in September, 1930, to 167 millions in December is of very large proportions. The corresponding decline for New York banks was but 32 per cent. It is also to be observed that the country banks did not contribute to the financing of the second stock market boom through

November, 1931. Also the contraction in deposits of all country banks had been at a much more rapid rate than for country banks in New England. Undoubtedly the extreme agricultural depression explains the more rapid liquidation for country banks outside of New England.

¹ The New York Bank was apologetic for the large increase of its brokers' loans in the year preceding October, 1930: non-banking lenders (including private banks) had withdrawn 4 billions of funds and outside banks had withdrawn 1.2 billions; the New York Bank had to support the market at intervals. *Mo. Rev. of N.Y.R.B.*, October, 1930.

advances on the open market. The desertion by non-banking lenders and outside banks was responsible for the relatively small decline of all security loans of New York banks: the reduction was but 15 per cent from June, 1930, to December, 1931, as compared to 27 per cent for banks in reserve cities and 21 per cent for country banks. If the amount of brokers' loans of New York banks is deducted from the total of their security loans, the totals of other security loans are obtained. These increased from 139 to 1,186 millions from June, 1930, to December, 1931, indicating that in this period the New York banks increased their security loans direct to customers by almost as much as brokers repaid them. The reduction in their security loans was moderate indeed, if the large liquidation of brokers' loans is considered.¹ One might suspect that some of these loans were under-collateraled.²

New York City member banks increased their holdings of open market paper in 1930 and the first half of 1931. On October 4, 1929, they held 66 millions of acceptances payable in the United States; on June 30, 1931, the total was 390 millions. But on December 31, 1931, the total had shrunk to 136 millions. Banks liquidate their open market paper when they are confronted with large losses of deposits. Reserve city banks held a maximum volume of acceptances payable in the United States in March, 1931 (the increase was from 8 millions in October, 1929) and their maximum portfolio of commercial paper was 337 millions held in September, 1930. Thus disturbances in the latter part of 1930 and after the first quarter of 1931 were revealed in the liquidation of open market paper.³ Country banks began to dispose of such paper even earlier than did re-

¹ The following table is reproduced from the Senate investigation. Hearings: *Operation of Banking Systems* (71:3), 1931, p. 1028. It is to be noted that the advances by others have been curtailed much more than security loans by banks, and loans to brokers and dealers have been curtailed more than other security loans to customers.

	PERCENTAGE CHANGE		
	Oct. 4, 1929- Dec. 31, 1929	Dec. 31, 1929- Dec. 31, 1930	Dec. 31, 1930- June 30, 1931
Member bank loans to brokers and dealers	-13	-12	-20
Bank security loans to other customers	+7	-5	-9
Loans to brokers and dealers by others	-62	-76	-38
Total	-19	-22	-13

² An official of the New York Bank is reassuring on this point. H. V. Roelse, "Security Loans in Recent Years," *Review of Economic Statistics*, 1930, p. 111.

³ *Cf. Mo. Rev. of Boston R. B.*, February, 1931.

serve city banks, evincing the early date at which the former suffered from unfavorable economic conditions.

Another index of the relatively favorable condition of New York banks is to be found in the small proportion of their loans and investments placed in real estate. In October, 1929, the percentage was 2 as compared to 11 per cent for each of the two other groups of banks; in December, 1931, the percentages were 2, 13, and 12 per cent.

Table LII reveals that for the first fifteen months liquidation of ordinary commercial loans was proceeding as rapidly in New York as elsewhere, and that the expansion of all loans and investments is

TABLE LII. LOANS UNSECURED OR OTHERWISE SECURED

(Millions of dollars)			
Call Date	New York City banks	Reserve city banks	Country banks
Oct. 4, 1929	2726	4415	4847
Dec. 31, 1930	2054	3620	4158
Dec. 31, 1931	1813	3063	3367

to be contrasted to liquidation elsewhere (especially for country banks). The condition is to be explained largely by the peculiar relation of New York banks to the speculative and other open markets, and by their investment policies. Furthermore, the New York banks, obtaining a disproportionate part of the additional funds made available in periods of depression, find it easier than other groups of banks to maintain the level of their loans and investments. In 1931, however, the decline in *loans unsecured or otherwise secured* was much smaller than for the other two groups of banks. The figures for all loans and investments are misleading if the divergences in the movements for the different groups of assets are not considered. The decline in all loans and investments was of approximately equal proportions in 1931 for the three groups. But the decline in New York is accounted for largely by the reduction in advances to brokers and other open markets. New York did not contribute much to the commercial liquidation.

Country banks were not disposed to increase their investments. New York City banks increased their holdings more rapidly than did banks in reserve cities; but they were forced to dispose of correspondingly larger quantities in the last three months of 1931. It may be noted, moreover, that the New York banks not only in-

creased their holdings of United States Government securities more than did reserve cities, but in the second half of the year 1931 were more inclined than were banks in reserve cities to liquidate securities other than United States Government. The New York banks probably suffered smaller losses.

TABLE LIII. INVESTMENTS

(Millions of dollars)

Call Date	New York City banks	Reserve city banks	Country banks
Oct. 4, 1929	1807	3387	4554
Dec. 31, 1930	2435	4135	4519
June 30, 1931	2801	4749	4555
Sept. 29, 1931	3032	4561	4606
Dec. 31, 1931	2697	4226	4392

5. INTER-BANKING RELATIONSHIPS ¹

Easy monetary conditions caused a large increase in the balances accumulating in financial centers during the year ending June 30, 1930. Bankers' balances had been at a low level in June, 1929, however, and the increase must be gauged in the light of that fact. In 1930 the increase was of small proportions. The increase of *balances due from* was not so large in 1929-30 as was the increase in *balances due to banks* — a fact suggesting that non-members increased their balances with member banks by several hundred millions. Unfavorable economic conditions did not prevent non-member banks from investing a larger proportion of their funds elsewhere.

TABLE LIV. BANKERS' BALANCES OF MEMBER BANKS

(Millions of dollars)

	Due to domestic banks	Due from domestic banks
June 29, 1929	3092	1885
June 30, 1930	3832	2360
June 30, 1931	4004	2517

National banks in New York City attracted additional balances in 1929-30 in approximately the same proportion as other national banks; in 1930-31, however, balances in outside cities increased while those in national banks in New York City declined slightly. The net movement of balances to national banks in 1929-30 had

¹ Consult Charts XII-XV and the discussion of them on pp. 771-781.

not been so large as to all members. This conclusion holds in spite of the truth that the *gross* increase for national banks in New York City is for the most part a *net* increase. Returning to the year 1930-31, perhaps the low money rates in those years explain the *relative* decline in net balances in *New York City* banks. Movements for national banks are not always representative of all member banks, however. Unfortunately, figures for reporting member banks are not yet available for 1931. But in the year ending June 30, the increase in balances at reporting banks in New York City was approximately 260 millions as compared to 150 millions for other reporting

TABLE LV. BANKERS' BALANCES OF NATIONAL BANKS

(Millions of dollars)

	Due to banks		Due from banks
	In N. Y. City	Outside N. Y. City	Outside N. Y. City
June 29, 1929	472	1463	1308
June 30, 1930	583	1784	1678
June 30, 1931	567	1868	1776

banks; the increase in *balances due from banks* for all reporting banks was 160 millions. The net movement of bankers' balances in this year to reporting banks from members not reporting and non-member banks was approximately 250, as against a loss of 30 millions for national banks, and an unimportant change for all members. Also, interpolations are necessary for reporting banks.

Quarterly figures for national banks are presented because they throw more light on these problems. Bankers' balances, reaching a maximum in the first quarter of 1931, were then reduced by a large amount in the second quarter and by an even larger amount in the third quarter. Disturbed conditions are usually accompanied by a withdrawal of balances.

Certified and cashiers' checks outstanding tend to increase in periods of speculation, although to some extent they appear sensitive to business activity. Brokers receive their advances from banks in the form of a certified check, rather than a deposit. In computing reserve requirements, these items are included with amounts due to banks. In general the fluctuations for the country are for the most part accounted for by the fluctuations in New York, although the net changes for the last quarters of 1929 and 1930 are not accounted for in that manner. Even considering the speculative activities in

the June, 1930, quarter, June and December figures seem to be seasonally high.

Similar considerations explain such movements as those of clearing house exchanges. With speculation and business active, banks accumulate large credits on other banks on account of checks not yet collected. Such items are included in balances due from banks for the purpose of computing reserve requirements. (Balances due from banks are deducted from balances due to banks.)

TABLE LVI. NATIONAL BANKS

(Millions of dollars)

Date	Due to domestic banks		Certified checks, etc.		Exchanges for clearing house		Due to foreign banks	Due from domestic banks
	N. Y. City	Total	N. Y. City	Total	N. Y. City	Total	Total	Total
1929								
Oct. 4.....	409	1980	429	594	639	936	204	1409
Dec. 31 ...	508	2167	388	687	711	1195	239	1568
1930								
Mar. 27 ..	405	2000	379	516	408	609	196	1395
June 30 ...	582	2367	546	721	897	1226	281	1748
Sept. 24 ..	524	2463	264	393	339	523	286	1823
Dec. 31 ...	571	2362	383	634	679	1011	305	1781
1931								
Mar. 25 ..	609	2645	191	332	342	497	262	2004
June 30 ...	567	2436	354	517	552	793	279	1815
Sept. 30 ..	457	1918	185	296	275	436	271	1342
Dec. 31 ...	414	1721	163	353	404	672	183	1179

TABLE LVII. LOANS TO BANKS BY MEMBER BANKS

(Millions of dollars)

1929		1930		1931	
		Mar. 27.....	527	Mar. 25.....	446
		June 30	535	June 30	457
Oct. 4.....	640	Sept. 29	466	Sept. 29	599
Dec. 31	714	Dec. 31	631	Dec. 31	700

Balances due to foreign banks declined in the first quarter of 1930 and then increased, especially in the second quarter. A decline in the first quarter of 1931 was followed by a small increase in the second and a slight reduction in the third.

Inter-bank loans were large when monetary conditions were not satisfactory; the increase in the last quarter of 1930 and the second half of 1931 may thus be explained. In such periods banks are also disposed to reduce their balances. It may also be observed that

the fluctuations in the volume of inter-bank loans from quarter to quarter were for the most part accounted for by fluctuations in advances by New York banks.

6. LIQUIDATION OF SECURITY LOANS IN OCTOBER- NOVEMBER, 1929

A word about this interesting episode. The crash occurred late in October, 1929. Non-banking lenders withdrew their support, and the New York banks had to fill the gap:

TABLE LVIII. BROKERS' LOANS ON THE NEW YORK
STOCK EXCHANGE

(Net change in millions of dollars)

Period	By New York banks		
	On own account	On account of outside banks	On account of others
Week ending Oct. 30, 1929	+992	-728	-1359
Four weeks ending Nov. 27, 1929..	-1238	-367	-482

It is to be noted that the additional advances to brokers by New York banks were not so large as those repaid to outside banks and others. The reduction of security prices is a relevant consideration, as is the increase in security loans to customers. It is evident from Table LIX that New York and outside banks together increased their security loans to a point above the increase in loans to brokers, and in the second period reduced them less than the reduction to brokers. (Figures are in millions of dollars.)

It has been stated in official quarters that the withdrawal of loans on account of others was reflected in an increase in deposits of New York banks and hence increased reserve requirements. These figures (for the week ending October 30) do not support this conclusion; the increase in net demand deposits is explained by the increase in loans and investments and open market operations. A withdrawal of 1,400 millions, largely by outside lenders, was reflected in an increase in bankers' balances in New York of but 500 millions. If allowance is made for the increases in bankers' balances and in deposits resulting from the open market operations of the New York Bank, then the increase in net demand deposits seems small and suggests the conclusion that the New York banks were losing cash (deposits) to the rest of the country. Thus the withdrawal of loans on account of others (during the week ending October 30) resulted in an increase

in balances in New York banks and a loss of cash to outside banks. Perhaps that loss would have been larger if the marked decline in security values had not required increased margins, which in turn required the movement of funds to New York. But of this more will be said when movements in the Gold Settlement Fund are discussed.

In the four weeks ending November 28, 1929, loans advanced through New York banks to brokers on the Stock Exchange declined

TABLE LIX

Period	Security loans	All loans and in- vestments	Net demand deposits	Due to banks	Due from banks	Reserve balances	Rediscounts with reserve banks
Week ending Octo- ber 30							
New York report- ing banks	+1200	+1391	+1553	+512	-3	+243	+129
Other reporting banks	+59	+145	+243	+93	+116	+22	+46
Four weeks ending Nov. 27							
New York report- ing banks	-1128	-823	-881	-355	-26	-201	-137
Other reporting banks	-162	-255	-339	-133	-141	-46	+11

by 2 billions; the security loans of reporting banks declined by 1,300 millions. (The advances of reporting banks to brokers in *New York* declined 1,500 millions, indicating that security loans to customers declined.) It may also be noted that the decline of net demand deposits of both New York and outside reporting banks was small in view of the movements of loans and investments and *net* bankers' balances (Due to minus Due from). In the first three weeks of November, the New York Reserve Bank gained cash reserves of more than 100 millions while other reserve banks lost approximately the same amount. This fact, together with the withdrawal of balances from New York banks, seems to indicate that in spite of the large reduction in loans on account of others and out-of-town banks, the latter were forced to draw heavily on their balances (note, moreover, the relative movement of rediscounts for the two groups of banks). The explanation may be in part the requirements of additional margins. The explanation of the delay in reducing rates outside of New York may perhaps be explained in part by the losses, by out-of-town banks, of cash to the city.

CHAPTER XLII

OCTOBER, 1929-MAY, 1932. AN INTERPRETATION OF MONTHLY FIGURES

I. INTRODUCTION

IN ORDER to improve our understanding of reserve policy during this period, an attempt has been made at this point to study the monthly figures. The study has been facilitated by the kindness of reserve authorities in allowing me to observe the monthly transactions effected through the Gold Settlement Fund (G. S. F.). Conclusions reached in this chapter are based on (1) a minute analysis of these figures and of (2) monthly figures for the most important assets and liabilities of each reserve bank and the System, and (3) a study of loans and investments, net demand and time deposits of New York reporting as well as of outside reporting banks, and other important variables determining the movements of deposits — this last in order to discover whether New York or outside banks gained or lost deposits (cash) in the period under scrutiny. That is to say, in the discussion that follows banks are held to be gaining deposits when their deposits increase more or decline less than might be expected in view of the movements of loans and investments, bankers' balances, open market operations, and movements of gold and currency.

What are the interesting and significant facts to be gleaned from this study of monthly figures? In October, 1929, open market operations were undertaken, for the most part by the New York Bank; and the lack of uniformity in policy is evidenced in a reduction of earning assets of the Boston and Chicago reserve banks in this panicky month. A favorable balance on transit account of the New York District may be explained by a large influx of bankers' balances, transfers of cash to satisfy demands for increased margins, and seasonal factors. In the following month open market operations were once more the concern of the New York Bank; and perhaps the loss of cash on transit may be explained by the transfer of funds on speculative account. The New York District lost deposits in December, and the New York Reserve Bank lost cash. Further

withdrawals of speculative funds and of bankers' balances, seasonal influences, and perhaps the check to liquidation explicable by the more rapid decline of rates in New York may account for the large losses of the district. The extent to which outside districts profited from a favorable balance is revealed by a reduction of rediscounts for banks in all districts of 280 millions, as contrasted to an increase of 43 millions for those in the New York District. When outside districts gain cash in such large quantities, reserve banks thereof are under little temptation to purchase assets in order to stimulate business.

The threat of speculation resulted in the adoption of stringent measures by the New York Reserve Bank in March, 1930. A loss of cash was offset only *in part* by an increase in earning assets; but several other reserve banks increased their assets and the balances of their members. Serious threats of speculation justified strong measures in April; but the measures were not vigorous enough to prevent appreciable increases in balances and very large increases in speculative advances. That the New York Bank was still concerned over the danger of speculation in May is evident in the sales of securities in order to offset an influx of gold. It is clear that by March the threat of speculation had put an end to any aggressive policy of expansion. An increase of gold in circulation, of 230 millions in a period of seven months, also seems to indicate some misgivings concerning the possibility of pressure for inflation.

Restoratives in the form of purchases of securities were used once more in June, but on a moderate scale. A loss of 170 millions of cash (more than 30 per cent) for the Chicago Reserve Bank over a period of eight months (May-December) is testimony of the unsatisfactory banking conditions there. The losses can be explained only in part by seasonal influences.

Signs of impending difficulties were visible in July, 1931, particularly in an 80-million increase of deposits of foreign central banks at the reserve banks. Despite unsatisfactory conditions, reflected in a very large reduction of members' balances in the San Francisco District, the reserve bank there did not attempt to pump credit into the market.

Panicky conditions prevailed in September-October, 1931. The most significant development was the capacity of the New York Bank to disclaim and shift the responsibility for dealing with these unusual conditions. In spite of a loss in monetary gold of approxi-

mately 700 millions, the New York Reserve Bank purchased a relatively small proportion of the assets purchased by the System and lost a relatively small part of the cash reserves lost by it. The New York Bank was aided by a favorable balance of payments with the rest of the country, due in large part to an inward movement of bankers' balances, and Treasury transfers to its district. Also of much importance were the large purchases of assets by other reserve banks, which of course required transfers of cash to New York in payment for the assets purchased; and outside reserve banks were, besides, especially affected by the withdrawals of notes. In a similar manner the advantages accruing from a reversal of gold movements in November were spread thin rather than concentrated in New York as had been usual. Outside reserve banks were reimbursed for a large volume of acceptances in their possession that matured in this month.

New York suffered unusual disturbances in December, for a very large adverse balance on transit account was not offset by Treasury transfers usual under these conditions. The explanation of the failure to receive the customary aid from the Treasury is in part monetary disturbances elsewhere. For example, consider the unusually favorable transit balance of the Boston District and the unprecedented increase in cash reserves of the Boston Reserve Bank. As a result of the unusual situation the cash reserves of the New York Bank declined 194 while those of the System increased 78 millions; its earning assets rose by 140 as against a decline of 78 millions for the System. The net result of the inter-regional balance of payments and large purchases of assets by the New York Bank was a tendency to hoard balances outside of New York and liquidate at a dangerous rate; New York banks reduced their assets in small proportion, in spite of very large losses of deposits. The New York Bank cannot be blamed for refraining from purchasing assets more freely.

A failure to reduce notes as usual in January was reflected in stern measures by reserve banks: securities were sold and rediscounts increased rapidly.

Open market operations were introduced on a very large scale once more in March, 1932. In that month the purchases were made for the most part by the New York Bank. They contributed to ease rather by a reduction of rediscounts than by an increase in balances. The reduction of rediscounts was especially large outside of New

York, slightest in the city. Large purchases of assets in New York relieve outside banks of the burden of transferring cash to pay for assets purchased; and Treasury transfers offset the favorable balance of New York on transit account. In April the New York Bank also purchased most of the additional assets accumulated by the System; but the reduction of rediscounts was disappointing. Outside banks preferred to accumulate balances with correspondents rather than accumulate excessive reserves or repay the reserve banks; and New York banks preferred to add 200 millions to their balances rather than reduce their rediscounts appreciably, although rediscounts for the district stood above 100 millions. Open market operations and those of the Treasury (in particular the Reconstruction Finance Corporation [R. F. C.]) enabled outside banks to reduce their assets to a point considerably above that of the reduction in their deposits.

In May the New York Bank participated to a limited extent in large purchases of securities which went for naught because foreigners once more began to withdraw large amounts of gold. The Treasury also helped the New York Bank shift to other reserve banks the responsibility of financing this outflow by not offsetting New York's favorable balance in the manner of previous months.

2. THE IMMEDIATE RESULTS OF THE CRASH: OCTOBER-DECEMBER, 1929

In October, 1929, the New York Reserve Bank purchased assets freely in order to provide the city's banks with cash required to fill the gap resulting from withdrawals from the stock market by outside lenders, both banking and non-banking, following the crash. Federal reserve policy in this month was largely the policy of the New York Bank. Of an increase in bills and securities of 272 millions for the System,¹ the New York Bank purchased 200; and of an increase in balances of members of 340 millions, that for New York member banks was 213. In spite of the very large withdrawals of cash from the stock market, the New York banks gained 121 millions on transit account and the reserves of the New York Bank in-

¹ Movements for the System are from the last day of the month to the last day of the following month; movements for individual reserve banks are from the last week of one month to the last week of the next month. Throughout this chapter similar figures are used for the System and for individual reserve banks. The comparison (above) for the New York Bank applies to the period October 2 to October 30, however.

creased by 41 millions. Several reserve banks lost heavily on transit account — Cleveland, Kansas City, and San Francisco in particular. The concentration of activities in New York is especially striking if it is considered that the Chicago and Boston Banks reduced their earning assets. It is not clear why the New York banks were able to gain on transit account.¹ The relative increase in loans and investments and deposits of reporting banks in New York does not point clearly to a gain of deposits, and the very large increase in bankers' balances is to be explained largely by the withdrawal of funds from the stock exchange. But it is probable that calls on margins, an accumulation of balances, and the seasonal movements of funds toward New York explain the influx of cash, although the deposit figures are not convincing. It may also be noted that a large part of the additional balances with reserve banks was acquired by banks outside of New York; and the accumulation of reserves by outside member banks is to be explained by fear rather than increased needs.

Open market operations may have been an important cause behind the movements of cash to New York in October. Purchases of assets in New York on behalf of other reserve banks probably involve a loss of cash by outside reserve banks on transit account.

In November, bills and securities of the System were reduced by 70 millions as contrasted with a reduction of 150 millions for the New York Bank. On transit account the New York District lost a negligible amount, whereas the losses of the Chicago District were more than 70 millions. Philadelphia and Cleveland were the largest creditors on transit account. An inspection of the movements of deposits and loans and investments points to losses of deposits by the New York banks; but they were not large if allowances are made for the open market operations of the reserve banks and all the other factors that influence the movement of deposits. The cash reserves of the New York Bank in fact declined approximately as much as the cash reserves of the System; other reserve banks also lost cash, the Chicago Bank in particular. Losses of cash by reserve banks, individually or as a system, are usually followed by an increase in earning assets: member banks losing deposits as a result of currency or gold withdrawals or losses to the rest of the country require support from the reserve banks. In this month, however, the New York Bank was able to reduce its earning assets because balances of its

¹ Consider the discussion in the last section of the preceding chapter.

members declined by 212 millions.¹ But the Chicago and Kansas City Banks were not so fortunate. (Also note the movements for the Philadelphia Bank.)

TABLE LX. RESERVES AND EARNING ASSETS

(Millions of dollars)

November, 1929	Chicago	Kansas City	Philadelphia
Cash reserves	-78	-13	+30
Bills and securities ¹	+65	+10	-7

(1) I am using the terminology of the Federal Reserve Board. *Bills and Securities* include acceptances purchased on the open market, bills rediscounted and other advances to member banks (not really bills), and securities purchased. It is evident that this is an unfortunate term. Federal reserve credit also includes other reserve credit, e. g. investment in float.

Perhaps the losses suffered by the New York and Chicago banks are to be explained by the outward movements of speculative funds.

A word on the Agent's Account. (Reserves held by the Agent are available for the notes account only.) In this month 163 millions were transferred from the G. S. F. to the Agent's Account. In the same month the total cash reserves of the System declined by 66, balances of member banks by 208 millions. Notes in circulation increased by 51 millions. Apparently an increase in reserve requirements against notes does not explain the large transfer to the Agent's Account. It is also apparent that reserve banks do not hold all surplus reserves with the Agent (as reserves against notes) as is frequently assumed; for 163 millions would not then have been available for transfer. The reduction in reserves, it may be added, was equal to the reduction in requirements resulting from the reduction in deposits. Perhaps the explanation of this difficulty is that a part of the reserves held by reserve banks at home or in the G. S. F. is considered also as reserve against notes.

December was a troublesome month for New York banks. Losses of cash by the New York District to the remainder of the country are ordinarily large in December; but they were unusually large in this month. On transit account the New York Reserve Bank lost 158 millions; of reserves, despite large transfers by the government, it lost 276 millions, as against a loss of only 79 millions for the Sys-

¹ The New York Bank commented on the liquidation and monetary ease of October and November, which were largely restricted to New York; funds were sent to New York for investment purposes and additional margins were required. *Mo. Rev. of N.Y.R.B.*, December, 1929; cf. *Mo. Rev. of Boston R. B.*, December, 1929.

tem. A transfer of 245 millions from the Agent's Account of the New York Bank to its account at the G. S. F. is easily accounted for by the loss of reserves in the G. S. F. held against deposits. All other banks, on the other hand, were able to transfer funds from the G. S. F. to their Agent's Accounts. What is the reason for the large losses suffered by the New York banks? Balances there were reduced as is usual at this time of the year. Perhaps the continued outward movements of speculative funds were also a factor. Also the rapid decline of rates in New York had not been paralleled by a similar reduction elsewhere and hence may have contributed to a retardation of liquidation in New York.

TABLE LXI

(Millions of dollars)

December, 1929	System	New York	San Francisco	Kansas City	Chicago	Atlanta	Philadelphia
Cash.....	-124	-276	+55	+42	-3	+20	+21
Bills and securities ¹	+34	+238	-53	-43	-27	-29	-12
United States securities	+185	+80	..	..	+26	+1	+15
Member bank balances	-21	..	+3	+2	-15	+1	..
Transit	..	-158	+45	+24	+47	+17	+39

(1) See note to Table LX.

That New York's difficulties were primarily a question of relations with the rest of the country is evident in the table above. It will be noted that purchases of securities were largely made by the New York Bank and that other reserve banks gained cash and reduced earning assets while the reserves of the New York Bank declined and its earning assets increased. The reserve banks that acquired additional reserves also gained on transit account.

It is striking that rediscounts for the System declined by 280 millions whereas those for New York banks increased by 43 millions. The easing policy, temporarily checked in New York, began to make itself felt elsewhere. Several reserve banks refrained from purchasing securities when the inflow of cash enabled banks to reduce rediscounts rapidly while maintaining balances.

3. SECOND STOCK MARKET BOOM AND COLLAPSE:
JANUARY-JUNE, 1930

In January the New York Reserve Bank gained 93 millions on transit account and 144 millions of reserves. Agricultural districts especially lost cash on transit account, and the increase in reserves for the System was 146 millions. A large influx of gold and notes enabled member banks all over the country to reduce their earning assets; but the banks in the New York District accounted for two thirds of the total reduction, in spite of the fact that the reduction of notes in circulation of the New York Bank was equal to but one quarter of the total redeemed. Liquidation in this month was much more rapid for New York reporting banks than for others reporting, and the decline in deposits was rather small in view of the large reduction of earning assets of the New York Bank and the large reduction in balances. New York banks seemed to be gaining deposits.

Movements in February require little comment. A recurrence of the use of banking funds for speculative purposes by outside banks began to be evident in January; now New York banks also were beginning to contribute. Movements on transit account and in reserves were small; as is usual during this month agricultural districts lost cash. Fluctuations in cash, earning assets, and the like of the New York Bank, curiously enough, were not much larger than for several other banks.

March was a month of large speculative activities. In spite of an increase in the monetary gold supply and a reduction of notes, earning assets *and balances* were increased. The increase in loans on the Street was especially large for New York banks on their own account; and perhaps this is the explanation of the firm measures taken by the New York Bank. Although the New York Bank lost 48 millions of reserves (the System gained 55 millions), its portfolio of bills and securities increased by but 4 millions (the Bank increased its public securities by one million), with the result that balances declined by 30 millions. Several reserve banks, in spite of the threat of speculation, failed to reduce their assets adequately to prevent an increase in balances of their members. (Consider the figures for the Philadelphia and Chicago banks.) The relevant figures will be found on the following page.

The large losses of the New York banks on transit account were more than offset by Government transfers and deposits. Why should the New York Bank have transferred 20 millions from the G. S. F. to the Agent's Account when it lost 48 millions of cash, and notes in circulation were reduced by 24 millions? Perhaps the transfer was from the part of the G. S. F. allocated to notes.

Speculation continued at a rapid pace in April. Banks in agricultural districts generally lose cash on transit account in this month, and they lost in April, 1930; but Government deposits and transfers replenish their coffers. Banks in New York City were apparently

TABLE LXII

(Millions of dollars)

March, 1930	System	New York	San Francisco	Phila- delphia	Boston	Richmond	Chicago
Cash.....	+55	-48	-13	+19	+8	..	+26
Bills and securities ¹	-131 ²	+4	+1	-21	-9	-7	-36
United States securities.....	+46	+1	+25	+3	+3	+3	-1
Member bank balances.....	-6	-30	-3	+3	..	..	+7
Transit.....	..	-72	-59	+30	+23	+17	+21

(1) See note to Table LX.

(2) Reserve credit.

gaining deposits, and the New York District gained 88 millions on transit account. The strong position of the New York banks may be explained by seasonal influences and the movement of speculative funds. In contrast to the events of the preceding month the New York banks now increased their balances at the reserve banks by 36 millions, in spite of a reduction in public securities of 24, and of all bills and securities of 75 millions. Moreover, the banks in the Chicago District increased their balances by 23 millions. Liquidation of securities was apparently justified, for in the months March-April the New York banks increased Street loans by 742 millions on their own account and 203 on account of outside banks; loans on account of others through New York reporting banks were reduced by 159 millions. One might well have criticized the reserve banks for allowing balances to increase during these months; and the defense of a reduction of earning assets would be inadequate. Several of the agricultural reserve banks, to be sure, allowed their balances to decline.

In May liquidation was in process on the speculative markets. New York banks had to increase somewhat their advances to brokers as other lenders withdrew their funds. The System lost reserves although this loss is largely explained by an increase of 67 millions of gold in circulation. In the seven months February–August, this increase was 236 millions; but in no month was it nearly so large as in May. The practice of putting gold into circulation may conceivably be interpreted as due to a desire to anticipate any pressure for inflation and thus obscure the level of reserves; but undoubtedly a demand for gold on the part of the public played a part.

Agricultural districts particularly lost cash on transit account; but the government transferred funds to these districts. The losses on transit account of the New York banks were negligible, and the reserves of the New York Bank increased. Although the New York Bank expressed its concern at disposing of public securities, balances there were maintained. The Chicago Bank suffered from an unusually large loss of cash, and that fact, together with heavy withdrawals of gold from the G. S. F., indicates troubled monetary conditions.

Losses on transit account were especially severe in western districts during June, 1930. The Chicago District in particular seemed to suffer from an adverse balance; its cash reserve was reduced for eight successive months, May to December, from 545 to 375 millions, a drop of 170 millions or 31 per cent. The reduction for the System over this period was but 170 millions, or 5-6 per cent, and is wholly accounted for by the reduction for the Chicago Bank. In part the reduction is explained by seasonal factors; but unsatisfactory conditions in the Chicago District are also relevant. The New York Bank, on the other hand, increased its reserves by 145 millions in three months. Balances with New York correspondent banks increased in June, contributing to the favorable balance of the New York banks. It is to be noted that in April, a month of excessive speculation, as well as in May–June, months in which outside lenders were withdrawing funds from the stock market at a very rapid rate, the New York Reserve Bank was improving its cash position. In June the reserve banks were more disposed to apply artificial restoratives, for the System increased its portfolio of public securities by 63 millions — the first increase since March. The New York Bank did not indulge in open market operations, for members increased their balances by 11 millions in spite of a reduction of earning assets of 52 millions.

4. THE SECOND HALF OF 1930: LIQUIDATION AND MONETARY DISTURBANCES

In July agricultural districts continued to lose funds on transit account to the large eastern institutions. The reserves of the New York Bank did not increase, in spite of a favorable balance of payments on transit account. Reserve policy was rather apathetic: a reduction in earning assets was balanced by a reduction in notes. In correspondent banks outside of New York balances accumulated in large volume. Perhaps the failure to bring rates down more rapidly outside of New York may help to explain the loss of cash by the New York Reserve Bank. On the other hand, banks outside of New York seemed to be losing deposits; their rate of expansion was rapid.

In August conditions were similar to July. The New York banks gained on transit account and also seemed to be gaining deposits. Yet, in spite of continued liquidation of security loans by outside lenders, balances with correspondents in New York were further reduced. An increase in earning assets of almost 100 millions for the System is explained by losses of gold at home and abroad and an increase in money in circulation. A small increase in public securities was not adequate to maintain balances of members, in particular those of New York banks. Do the low rates in New York explain the loss of cash?

In September the New York Bank lost on transit account; but government operations more than offset these losses. New York banks seemed to be losing deposits; but the reserves of the New York Bank increased by 66 millions. (The System's reserves increased by 39 millions.) Large inward movements of bankers' balances undoubtedly contributed to the improved position of the New York Reserve Bank. Speculation threatened once more, as is evident in the increase in balances of member banks of 89 millions, made possible for the most part by an increase in rediscounts. Reserve banks in the financial centers gained cash at the expense of agricultural districts. The Chicago banks seemed to be in an unsatisfactory condition if we are to judge from the withdrawal of gold from the G. S. F., the loss of balances at the Chicago Reserve Bank, and the loss of cash it suffered.

In October the most interesting development was the contrast in movements between New York and the rest of the country. A se-

were liquidation of loans on the stock market and the accumulation of bankers' balances in New York were accompanied by an increase of cash at the New York Reserve Bank. Both transit operations and the relative movements of deposits and of loans and investments pointed to increases of cash (and gain of deposits) for the New York banks. Although reserves and bills and securities of the New York Bank increased by 91 and 12 millions, and balances of member banks increased 62 millions, the cash reserves of the System declined 31, rediscounts 105, and balances of members 49 millions. At this point, in leading cities outside of New York, there threatened the catastrophic deflation which was to extend far into 1932.

November was not unlike October. Liquidation, especially of security loans, continued. But the reduction of cash and balances of member banks was concentrated in the New York Bank; liquidation, however, was much larger for outside reporting banks than for New York banks. An increase in earning assets of reserve banks may be accounted for by an increase of notes in circulation.

Monetary disturbances were prevalent in December, 1930, particularly in the New York District. In that month, always a troublesome one for the New York banks, occurred the added difficulty of the failure of the Bank of the United States. On transit account the loss was 169 millions; in this item reserve banks in other large financial centers had the largest favorable balances. The situation was relieved by an appreciable increase in net bankers' balances in New York banks, and especially by transfers of 150 millions by the government from other reserve banks, in particular from those that gained on transit account. An increase in balances at reserve banks of 98 millions was not a symptom of expansion, for liquidation was still advancing at a rapid pace. An increase in earning assets of almost 300 millions was necessary because notes and gold in circulation increased by more than 250 millions, and balances of members also rose. Purchases of securities of 96 millions by the New York Bank, as well as an increase of 228 millions in its earning assets, largely accounted for the total rise in these two variables. The loss of cash of the New York Bank was no less than 127 millions, and it released 54 millions from the G. S. F. to the account of the Federal Reserve Agent. Movements in the Chicago District were similar to those in the New York District.

5. MODERATE LIQUIDATION: JANUARY-MAY, 1931

In January, 1931, several of the important movements of the preceding month were retraced. Continued liquidation, the reduction of excess reserves, and, more important, an influx of notes and gold made possible a reduction of earning assets of almost 400 millions. Reserve banks contributed to the reduction of balances of 73 millions by reducing their holdings of securities by 120 millions. It should be noted that the increase in cash reserves of the System (161 millions) is better explained by a reduction of gold in circulation (73 millions), an increase of other money eligible as reserve held by reserve banks (40 millions), than by the increase in the monetary gold supply (50 millions). The large increase of reserves by the New York Bank (139 millions) may be ascribed to the large influx of gold and notes rather than to the favorable balance with the rest of the country.

The banks continued to liquidate assets in February; the New York banks, however, more than offset commercial liquidation by an increase in brokers' loans. On the whole there was an even keel all around. The New York Reserve Bank continued to dispose of securities, thus contributing to a further reduction of balances. The inflow of notes was remarkably small. Perhaps the increased interest in speculation evinced by banks caused the New York Bank to retard rather than stimulate expansion.

March was a peculiar month. The New York Bank lost cash on transit account and deposits, and the increase in balances with New York correspondents was meagre as compared to that with banks elsewhere. The System, on the other hand, gained cash. For the first time in six months, expansion was rapid in outside reporting cities. The New York member banks increased their cash reserves by 45 millions, as compared to an increase of 85 millions for the System, indicating that the New York banks were hoarding cash; for their deposits declined while those of other reporting banks increased.

Out-of-town reporting banks continued to expand in April while New York banks continued liquidation, especially of speculative loans. The New York District gained 172 millions on transit account; but this favorable movement was offset by Treasury transfers of 167 millions; similarly, a large loss on transit account by the Chicago Bank was offset by a large Treasury transfer thereto. Most

of the important transactions of the reserve banks were undertaken by the New York Bank in this month: its earning assets, rediscounts, and member bank balances all declined appreciably.

The New York Bank gained on transit account, increased its reserves, and seemed to be gaining deposits in May. Liquidation was once more in progress for outside banks. The New York Bank was once more forced to dispose of securities in order to prevent member banks from accumulating excessive reserves; for the large inflow of gold tended to inflate the balances of members. The Chicago Bank lost heavily on transit account, but the government replenished its cash account, with the result that its cash reserves were increased by 34, its balances by 18 millions. Large movements in earning assets were concentrated in the New York Bank.

6. THE CRISIS: JUNE-DECEMBER, 1931

By June the beginnings of the crisis of 1931 were evident. An increase of notes in circulation of 143 millions required no additional financing by reserve banks because the influx of gold was even larger. Perhaps the most interesting fact is that the Chicago Bank gained on transit the very large sum of 92 millions. (The New York Bank lost 56 millions.) The Chicago Bank, moreover, increased its reserves by 115 millions as compared to an increase of 162 millions for the System. It put 126 millions of notes in circulation as compared to 143 millions for the System. How did the Chicago District obtain most of the additional reserves and the means of financing the large issues of notes? for earning assets of the Reserve Bank declined by one million. Undoubtedly the explanation is the withdrawal by Chicago banks of balances with correspondents and, perhaps, additional borrowing by them from these sources. The small part played by the Chicago Reserve Bank is revealing.

An additional sign of danger is the first large increase in the balances of foreign banks at reserve banks — an increase of 26 millions. Obviously, foreign central banks were preparing to strengthen their gold reserves.

In July the most striking change was an increase in foreign bank deposits at reserve banks of 80 millions. The latter increased their earning assets to offset the losses thus suffered by the money market; but a reduction of their balances and of gold in circulation also contributed to that end. The New York District showed a very large

favorable balance on transit account, and the reserves of the New York Bank increased by 47 millions. Both New York and Chicago member banks increased their balances at reserve banks; but the San Francisco Bank lost no less than 28 millions in member-bank deposits and 30 millions in cash. Apparently the San Francisco Bank made no attempt to replenish the reserves of members.

The increase of notes in circulation in August was approximately 200 millions, and foreign central banks extended their deposits at the reserve banks by 48 millions more. The New York Reserve Bank played an important part in these transactions, but other reserve banks, especially the larger ones, made significant contributions. The purchases of securities (50 millions) are attributable to the New York Bank. Transit debts and credits (net) were not large. Liquidation was now in progress for all reporting banks.

In September the crisis was in full swing. The most significant fact is that the burden of meeting it was distributed over all the reserve banks instead of being concentrated in New York as is usual in such periods. The New York District gained 130 millions on transit account and, in addition, the government transferred 137 millions there from other districts. Large withdrawals of gold were followed by withdrawals of 152 millions in gold from the G. S. F. by the New York Bank. Unquestionably, the ability of the New York Bank to shift a large part of the burden elsewhere was the result of a large increase of bankers' balances, the government operations, and the fact that the large losses of notes were felt, for the most part, elsewhere.

New York banks seemed to be losing deposits; but outside banks apparently were suffering even more acutely:

TABLE LXIII

(Millions of dollars)

September, 1931	Loans and investments	Net demand and time deposits	Bankers' balances
New York reporting banks	+283	+311	+175
Other reporting banks	-206	-521	-156

The loss of monetary gold stock was 254 millions; in addition, 61 millions were put in circulation. (Evidently the public was demanding additional gold.) Approximately one quarter of the monetary gold lost involved no loss of cash by the money market at this time and required no additional reserve credit, for foreign deposits were reduced at the reserve banks.

The extent to which other banks shared in the relief measures is evident in the following table:

TABLE LXIV

(Millions of dollars)

Reserve bank	Cash	Bills and securities
Boston	-34	+26
New York	-53	+65
Cleveland	-42	+37
Chicago	-42	+49
San Francisco	-49	+48
System.....	-318	+323 ¹

(1) All reserve credit.

The panic reached its peak in October. An increase in earning assets of 606 millions was necessary in order to finance withdrawals of notes and gold, although the extensive liquidation made possible a reduction of member-bank balances of 196 millions. This is not to deny that the increase in rediscounts of 400 millions also contributed to the liquidation of assets by member banks.

In October the New York Bank was again able to shift a large part of the burden to other districts. The following figures make this clear:

TABLE LXV

(Millions of dollars)

October, 1931	Cash	Bills and securities	Public securities	Balances	Notes
Reserve bank					
Boston	-35	+46	+3	-3	+5
New York	-117	+125	+18	-112	+86
Cleveland	-23	+59	-2	-15	+44
Chicago	-99	+102	+3	-41	+33
Dallas	-1	+13	-8	-4	+15
San Francisco ...	-96	+92	-9	-13	+6
System.....	-398	+606 ¹	-15	-196	+331

(1) Reserve credit.

How was the New York Bank able to shift the burden elsewhere, especially in view of the fact that the monetary gold stock had shrunk by 449 millions and the deposits of foreign central banks risen by 55 additional millions? (Of course member banks are deprived of cash as a result of an accumulation of deposits by foreign central banks.) True, the reserve banks were able to strengthen

their positions by reducing the gold in circulation by 54 millions. But the answer to the enigma is a favorable balance of payments only partly explicable by seasonal causes. On transit account the New York District gained the unprecedented sum of 302 millions; and the government transferred 20 millions more.

The reduction in deposits was surprisingly small if we consider a reduction of balances of 248, an increase in notes in circulation in the New York District of 86, and a loss of monetary gold stock (including an increase of foreign bank deposits) of 504 millions. All these variables contribute to a reduction of deposits in New York. In other words, as revealed by the transit clearings, deposit figures,

TABLE LXVI

(Millions of dollars)

October, 1931	Loans and investments	Deposits	Bankers' balances
New York City reporting banks ...	— 598	— 603	— 248

and the small reduction of cash reserves of the New York Bank, the New York District had a favorable balance of payments. An increase in the assets of the reserve banks of 606 millions was an important offset, since these transactions take place largely in the New York District. Yet they involve losses of cash for other districts forced to pay for their share in the purchases. The net balance was clearly in favor of the New York banks.

November witnessed to some extent a reversal of the movements; but the reverse movements were not of equal intensity. The monetary gold stock increased 122 millions, and in addition 48 millions of gold were withdrawn from circulation. But reserve balances of member banks continued to decline as liquidation by both groups of reporting banks continued at a dangerous rate. Once more reserve banks other than New York shared to an unusual degree in the large movements of the period, as is especially evident in their large additions of reserves. In part the explanation of the increase in their reserves is the small net movements on transit and government accounts; in part, the withdrawal of balances held in New York; and in part, also, the fact that extensive liquidation of acceptances held by the reserve banks involved large payments from New York banks and dealers to reserve banks elsewhere disposing of acceptances. (Consult the table on p. 675.)

The rather large reduction of member-bank balances at the New York Bank is not entirely attributable to the reduction of deposits; perhaps a complementary cause was a reduction of excess reserves following a return of confidence.

New York usually loses cash in December, and this month was no exception; in fact, the New York Reserve Bank lost much more cash than in December, 1930, despite the monetary disorders during the earlier month. The Treasury did not come to the help of the New York District as it had in the previous year. It is apparent from an inspection of the movements of deposits and loans and in-

TABLE LXVII
(Millions of dollars)

November, 1931	Cash	Bills and securities	Public securities	Balances (Reserves)	Notes
Reserve bank					
New York	+30	-74	-5	-70	+28
Cleveland	+33	-38	-11	-9	+4
Chicago	+38	-37	-2	-7	+8
San Francisco .	+49	-48	-1	+9	-8
System.....	+177	-253 ¹	-10	-117	+51

(1) Reserve credit.

vestments that the New York banks were losing deposits. Their loans and investments declined 73, their deposits (net demand and time) dropped 271 millions. Other factors affecting deposits did not fluctuate materially. The absence of relief for the New York Bank is to be explained in part by monetary disorders. In particular was the situation in Boston unusual. A loss of 206 millions on transit account for the New York District, though large, can be understood; but a gain of 92 millions for the Boston District was as unprecedented as was an increase in the cash reserves of the Boston Bank of 72 millions. Once more the liquidation of credit in the New York District occurred at a very rapid rate; or, perhaps more specifically, the large reduction of deposits made possible a very large reduction of reserve balances: the diminution of loans and investments was moderate. The New York Bank took heroic measures to hold liquidation in check and to offset the large losses of cash to other districts. Thus is explained the inverse movements of assets and cash reserves of the New York Bank as compared to the rest of the System.

It may also be observed that an increase in monetary gold of 46 millions, a reduction of gold in circulation of 25 millions, and a

reduction of deposits of foreign banks (64 millions) all provided New York banks (and to some extent others) with additional cash. Furthermore, those who criticize the New York Bank for not purchasing securities more vigorously should compare a shrinking of loans and investments of outside reporting banks of 303, with a reduction of 73 millions for those in the city. The New York banks were losing cash to the rest of the country, as was the New York Reserve Bank (in spite of a large inflow of gold); yet liquidation had

TABLE LXVIII

(Millions of dollars)

December, 1931	Cash	Bills and securities	Public securities	Balances	Notes
Reserve bank					
Boston	+72	-5	+4	+24	+43
New York	-194	+140	+70	-101	+54
Chicago	+45	-33	+7	+3	+22
San Francisco ..	+52	-71	+9	-20	+10
System.....	+78	-78 ¹	+100	-90	+144

(1) Reserve credit.

proceeded more rapidly elsewhere. More liberal purchases of securities by the New York Bank would have been of little use if they merely provided outside banks with additional cash that they were afraid to use.

7. EFFORTS TO STOP THE LIQUIDATION: JANUARY-MAY, 1932

In January, 1932, the New York District gained 219 millions on transit account, and the losses of the San Francisco Bank were remarkably high at 84 millions. (San Francisco ordinarily loses a moderate amount in January.) Probably the absence of the seasonal influx of notes was responsible for the adoption of rather severe measures by the reserve banks: they reduced their holdings of securities by 71 and thus contributed to an increase in rediscounts of 261 millions. Total earning assets were stable. A loss of 44 millions in the monetary gold stock was offset by a reduction of gold in circulation and an increase in *other* reserve cash held by reserve banks. Peculiar conditions are evident, particularly in the San Francisco, New York, and Chicago Districts. The increase of balances of members at the New York Bank is not to be explained by credit needs,

for deposits were reduced by almost 200 millions. A very large increase of rediscounts for the San Francisco Bank is comprehensible if we note the adverse balance of the San Francisco District with other sections.

The New York District gained 137 millions on transit account in February; all other districts but Boston, and especially the agricultural districts, lost cash; that of the San Francisco District was no less than 68 millions. On the whole, the month was not exciting compared to several months that preceded and followed. Most of

TABLE LXIX
(Millions of dollars)

January, 1932	Cash	Bills and securities	Public securities	Balances	Notes
Reserve bank					
Boston	-15	-23	-5	-30	-7
New York	+128	-72	-26	+56	+3
Cleveland	-36	+27	-5	-5	-5
Chicago	+29	-3	+1	-21	+49
San Francisco ..	-50	+54	-15	-2	+6
System.....	+11	+3 ¹	-71	-14	+41

(1) Reserve credit.

the assets liquidated by the System were liquidated by the New York Bank; and the reduction of balances was especially marked for the member banks in the New York District. An appreciable loss in the monetary gold stock was financed by the withdrawals of deposits of foreign central banks at the reserve banks, and hence the market was not deprived of cash in February.

March was an interesting month. Eastern reserve banks gained cash on transit account, the New York and Philadelphia Banks in particular; and western districts lost cash, the Chicago and San Francisco Banks in particular. Once more the Reserve System introduced an active investment policy in New York, with the result that in spite of a reduction of earning assets of 112 millions, balances of member banks increased by 75. This was the first increase in member-bank balances since March, 1931, except for that of 18 millions in May and 6 millions in August. The reduction had been no less than 579 millions since March, 1931. A large increase in public securities and a reduction in notes and gold in circulation were reflected in a very considerable shrinkage in rediscounts (189 millions) and a large increase in balances (75 millions). Moreover,

in spite of the fact that the purchases of securities were made for the most part by the New York Bank, the reduction in rediscounts was effected for the most part elsewhere, and outside reserve banks increased their cash reserves by 91, as compared to a rise of 4 millions for the New York Bank. The failure of the New York Bank to increase its reserves more, in spite of the transit balance and a tendency to gain deposits, is to be explained in part by large transfers of cash by the Treasury, which to a great extent offset gains and losses on transit account. Again, the rediscounts of the New York Bank were at a rather low level, perhaps one sixth of the total for the System, at the end of February. Thus the tendency was for the cash to flow elsewhere as earning assets were purchased in New York. A partial explanation probably is the transfers of cash resulting from the activities of the R. F. C. Another factor was the large reduction of notes in circulation outside of New York.

The following figures sum up the situation:

TABLE LXX
(Millions of dollars)

March, 1932	System	New York	Cleveland	Chicago	San Francisco
Transit clearings ..	..	+79	+20	-43	-44
Government transfers ..	..	-129	-3	+49	+46
Cash of reserve bank	+95	+4	+17	+10	+10
Bills and securities	-112 ¹	+74	-27	-41	-30
Rediscounts	-189	-8	-39	-34	-24
Public securities	+132	+92	+16	-1	0
Balances	+75	+69	+4	-10	-2
Notes	-88	-2	-13	-23	-18

(1) Reserve credit.

It is to be observed that the New York Bank, rather than the System, ushered in the new open market policy; and this fact partially accounts for the movements of cash to other sections and the reduction of rediscounts outside of New York: open market operations did not require payments by reserve banks in other sections to New York. We must bear in mind that balances tend to accumulate in New York long before rediscounts are reduced to a moderate level elsewhere, indeed, before they are reduced to a low level in New York.

In April the open market policy was continued in a most vigorous fashion; and once more the purchases were for the most part by the New York Bank. But on the whole the results were not so encourag-

ing as they had been in the previous month; for the surplus cash did not move freely from New York to other districts. This is evident if the large accumulation of balances with New York banks is compared with the very small reduction of rediscounts outside of the city. Member banks outside of the New York District seemed disposed to accumulate balances in New York rather than repay the reserve banks. Purchases of 356 millions of securities were followed by a reduction of rediscounts for the System of but 83 millions (or approximately 12 per cent); and rediscounts remained at the high level of more than 500 millions. Moreover, the reduction of rediscounts in the New York District was but 26 millions: balances increased by 172, although rediscounts remained at a level (above 100 millions) high in view of conditions. Member banks in New York were afraid to use the additional cash to repay the New York Reserve Bank, and outside member banks in debt either did not obtain the additional cash dumped on the market or else were so frightened that they preferred to remain in debt and move their balances to New York. The New York District had a large favorable balance on transit account; but as in the previous months, government transfers, perhaps related to the activities of the R. F. C., replenished the reserves of districts losing cash and deprived the New York District thereof.

The situation is presented concisely in the following figures:

TABLE LXXI

(Millions of dollars)

April, 1932	Loans and investments	Net demand and time deposits	Bankers' balances
New York reporting banks	-16	+247	+197
Other reporting banks	-305	-39	+85

TABLE LXXII

(Millions of dollars)

April, 1932	New York	Chicago	System
Transit clearings	+190	-29	...
Government transfers	-199	+55	...
Cash of reserve bank	+213	+30	+253
Bills and securities	-46	+25	-22 ¹
Rediscounts	-26	-6	-83
Public securities	+246	+41	+356
Balances	+172	+49	+200

(1) Reserve credit.

It is apparent that the progress of liquidation had not been checked in reporting banks outside of New York, although open market operations and the activities of the R. F. C. and the government enabled these banks to reduce their assets much more rapidly than their deposits. (They were gaining deposits.) The banks in the Chicago District were able to react to this new policy almost as early as were the New York banks.

The reserve banks continued to purchase securities at an unprecedented rate in May; but these purchases contributed even less to the retardation of the liquidation of bank credit than had those of the

TABLE LXXIII

(Millions of dollars)

May, 1933	Transit clearings	Government transfers	Cash of reserve bank	Bills and securities	Redis- counts	Public securities	Balances
Boston	-10	+15	+3	+17	-14	+31	+15
New York	+283	-106	-60	+46	-3	+55	-42
Cleveland	-40	+15	-28	+22	-21	+43	-5
Chicago	-34	+34	+2	+30	-10	+41	+26
Kansas City	-23	+14	-9	+13	-6	+20	+4
San Francisco	-20	+13	-1	+6	-7	+16	+2
System.....	...	...	-226	+246 ¹	-66	+321	-11

(1) Reserve credit.

previous month. The explanation is of course the renewal by foreigners of withdrawals of gold on a large scale. In this month the New York District showed a favorable balance on transit account of unusual proportions; and the cash transferred to other reserve banks by the Treasury was less than half as large as the gains on transit account. The solicitude for the New York money market is to be explained by the very large losses of gold, first felt on the New York money market. Perhaps the small proportion of the purchases of securities undertaken by the System is to be interpreted on similar grounds. Other reserve banks become indebted to the New York Bank as securities are purchased on their account in the New York market. At first glance it might seem that the open market purchases in March and April had been undertaken on the initiative of the New York Bank; for the purchases were made by it to such a large extent. But further consideration leads to the conclusion that the purchases were made by the New York Bank as an additional stimulus to activity in districts laboring under the handicap of large

member-bank indebtedness. Additional cash is thus created for which outside reserve banks incur no obligation. On the other hand, the New York Bank was able to force other reserve banks to share, by participating feebly in the purchases of May, the burdens involved in the loss of gold. By May there is evidence, moreover, that the vigorous purchases were beginning to have some effects outside of New York; liquidation had definitely been checked in the city by March.

CHAPTER XLIII

RECENT CURRENCY LEGISLATION, PROPOSALS, AND THE FUTURE

I. INTRODUCTION

OF THE numerous proposals that have been made, since the debacle of 1929, to modify our banking and currency system, only three need detain us. The Banking Act of 1932, introduced by Senator Glass on January 21, 1932, is the result of the lengthy and valuable hearings on Senate Resolution 71 and is largely the work of Senators Glass and Bulkley.¹ The Reconstruction Finance Corporation

¹ *S. 3215* (71:1), — "A Bill to provide for the safer and more effective use of the assets of the Federal reserve banks and of national banking associations, to regulate interbank control, to prevent the undue diversion of funds into speculative operations, and for other purposes."

The Banking and Currency Committee on April 21, 1930, reported on Senate Resolution 71 (Senate Report No. 493, 71:2): "The inquiry thus authorized and directed is to comprehend specifically the administration of these banking systems with respect to the use of their facilities for trading in and carrying speculative securities; the extent of call loans to brokers and by member banks for such purposes; the effect on the system of the formation of investment and security trusts; the desirability of chain banking; the development of branch banking as a part of the national system, together with any related problems which the Committee may think it important to investigate."

Hearings on Senate Resolution 71 have been published in seven parts. The House Banking and Currency Committee has also held hearings (fifteen parts) on Branch, Chain, and Group Banking (House Resolution 141, 71:2).

As a result of the widespread criticism of *S. 3215* and the second draft (*S. 4115* — introduced on March 14) Senator Glass offered a new bill on April 18, 1932 (*S. 4412*). The second draft (*S. 4115*) was substantially similar to *S. 3215* and it was subjected to severe criticism by the banks in particular. The New York Reserve Bank was especially hostile, for Senator Glass attempted to deprive it of much of its authority; and even the Board was only lukewarm. Senator Glass was unable to make much progress with the bill and had to drop it for the time being. Cf. Hearings: *Operation of Banking Systems* (72:1), 1932, Parts 1 and 2 (March, 1932), in particular pp. 357-358, 402-422, 499-508 (comments of the Board and the New York Bank). It may be remarked that in the final version numerous changes were made in response to criticisms by the Reserve Board in particular. Since the above was written, *S. 4412* has been approved by the Senate of the Lame-Duck Congress, and it is now (March, 1933), in a form not much different from that discussed in this chapter, being considered with a strong probability of approval by the present Congress.

(R. F. C.) Act¹ and the Glass-Steagall Act² have contributed to the alleviation of panicky conditions and they modify our central banking practice at vital points.³

2. PROPOSALS TO STABILIZE PRICES

Before turning to a discussion of these three bills, let us for a moment consider recent proposals to stabilize prices (H. R. 10517, H. R. 11499, and S. 4429). The Goldsborough Bill, proposing the stabilization of commodity prices, was approved by the House of

¹ Hearings were held by the Senate on December 18-22, 1931 (Hearings on S. 1, 72: 1) and by the House Committee in December, 1931, and January, 1932 (Hearings on H. R. 5060 and 5116, 72: 1). The Senate Committee reported the bill favorably on January 6, 1932. The necessity of hasty action to facilitate loans to useful banks, railroads, etc., in a temporarily weakened condition, was stressed. (Senate Report No. 33, 72: 1). In the House Report (House Report No. 36, 72: 1), the failure of banks and their inability to obtain adequate assistance and the relation of financial to economic distress were stressed. The original bill is printed in the volumes containing the hearings. (Cf. *F.R.B.*, 1932, pp. 94-99, and Public-No. 2-72d Congress [H.R. 7360] for the Act approved on January 22.) A comparison of the original bill, the Act, and the Conference Report (House Report No. 243, 72: 1) reveals the following facts. The provision to help failed banks was added at a late stage by the House Banking and Currency Committee; and the Senate conferees insisted on a maximum appropriation of 200 millions for this purpose. In general the Senate won on contested points in conference as is evident in the elimination of the proposal that bills, notes, etc., secured by paper of the Corporation or member-bank notes, so secured, should be eligible for rediscount. U. S. Senate Banking and Currency Committee, Subcommittee, Hearings: *Reconstruction Finance Corporation* (72: 1), 1931, pp. 83, 85. In the course of passage several undesirable provisions were added and in particular several that assured the farmers of a designated percentage of the booty. Financial institutions were carefully defined. The Senate introduced the puzzling provision that allows the Corporation to accept bills to facilitate the export trade in amounts up to 500 millions if amply secured. This provision means either that the Corporation will accept bills that reputable banks will not accept or will accept bills on behalf of banks which for some reason or other are not in a position to obtain acceptance credits.

² No hearings were held on this Bill (S. 3616, 72: 1) which was introduced in the Senate on February 5, 1932; but hearings were held on H. R. 9203 (Liberalizing the Credit Facilities of the Federal Reserve System — 37 pp.). In the report of the Senate Committee, Senator Glass points out that the provisions are so carefully drawn that inflation would be possible only if the reserve authorities administer them in an improvident manner. The bill suffered only minor changes in the course of passage. Perhaps the most important was the provision that a vote of five members of the Board rather than six was required for permission to borrow under the new conditions and that members could have access to the special facilities provided only when their eligible and acceptable paper is exhausted. Cf. Senate Report No. 237, 72: 1 — Committee Report; House Report No. 475, 72: 1 — Committee Report; Senate Document No. 60, 72: 1 — Conference Report; and Public-No. 44-72d Congress (H.R. 9203).

³ Also consult the addendum on the crisis (p. 799).

Representatives by a large majority early in 1932, but was easily defeated in the Senate.¹

I do not propose to discuss here the problem of declining prices. Whatever may be said concerning the future, it is my opinion that the scarcity or even mal-distribution of gold has not been a very important cause of the decline in recent years.² Keynes and Hawtrey are probably right in directing emphasis elsewhere in their recent writings.³ Numerous countries have undoubtedly been forced to introduce restrictive measures as a result of large losses of gold; and these measures might have been averted to some extent if the countries receiving the gold were more disposed to put it to full use. But the crux of the matter, it seems to me, is the conditions that made the terms of trade of these countries less favorable; that is, the conditions which, bringing their prices lower than those of other countries, made creditor countries less willing to lend to them. In the years 1926-32, largely as a result of the difficulty of making necessary adjustments, too much pressure has been put upon available gold supplies.⁴

In the United States, stabilizers or inflationists — for the supporters of the Goldsborough Bill intended to raise prices to the 1926 level before stabilizing — proposed that reserve banks should continue to purchase securities until the price level was raised to the

¹ Hearings: *Stabilization* (72: 1), 1932 (March-April). See in particular the evidence of Governor Harrison and Governor Meyer, and of those who favored the bill, the evidence of Professor Fisher. Cf. Hearings: *Maintaining the Purchasing Power of the Dollar* (72: 1), 1932 — in particular the evidence of Professors Mills and Warren and Governor Meyer. One interesting proposal in one of the bills was the authorization of issues of debentures by reserve banks in the contingency that the ammunition of the reserve banks might be exhausted in attempting to curb inflation. Hearings: *Stabilization* (72: 1), 1932, p. 557.

² Cf. Sir J. Stamp, *Papers on Gold and the Price Level*, *passim*; *L.E.*, January 24, 1931; and the comments of Strakosch in *The International Gold Problem*, pp. 9-11, 94-95, for what has come to be the orthodox position on the relation of gold and the decline in prices. Federal reserve authorities however are inclined to emphasize reduced costs and overproduction. *F.R.B.*, 1930, pp. 335-339; *ibid.*, 1931, p. 5. Cf. *Vierteljahrshefte zur Konjunkturforschung*, 1930 (5: 2), pp. 17-18. Many are inclined to deduce a scarcity of gold from the decline of prices. Gregory criticizes this position. *L.E.*, January 31, 1931, *passim*. On the other hand Anderson begs the question when he argues that if the supply of gold were adequate at a higher price level it is undoubtedly adequate now. B. M. Anderson, Jr., "Gold," *Chase Economic Bulletin*, March, 1931, p. 3.

³ R. G. Hawtrey in *The International Gold Problem*, pp. 99-102; J. M. Keynes, *op. cit.*, II, 205-206.

⁴ Cf. League of Nations: *Report of the Gold Delegation of the Financial Committee*, especially pp. 16-25.

desired point; such announcements of intention would, they held, increase the confidence of the public.¹ The reply of the reserve authorities was that they were purchasing securities as rapidly as they could and doing everything possible to check the decline of prices.² (Perhaps, however, the threats of inflationists have in part been responsible for the vigorous operations undertaken by the reserve banks since February, 1932.) Yet other factors also influence the movement of prices, and, what is more, commodity prices are not the only guide to be observed. The requirement that policy be directed to stabilizing prices would have necessitated inflationary measures by reserve banks in 1928-29: commodity prices and general prices do not always move together.³ Reserve officials, it may be suggested, objected to the determination of administrative procedure through legislation beyond the point of laying down general principles.⁴

Reserve authorities — Governor Harrison in particular — were now compelled to express an interest in the price level that they had conscientiously stifled for at least a decade.⁵ They were determined to do their utmost to stop the decline in prices: bankruptcy or higher prices were the alternatives. They preferred the present system under which they were attempting to stabilize prices without a mandate or direction from Congress. But too many other factors play a part: the lack of confidence; the relation of production and consumption; the refusal of banks to use excess reserves.⁶ On the other hand it was held that no group of men ought to be entrusted with the vast power of determining prices.⁷

3. THE RECONSTRUCTION FINANCE CORPORATION ACT

Let us return to the R. F. C. Act. As has been indicated in the first volume,⁸ member banks have several times as much eligible paper as they may conceivably require for the purpose of redis-

¹ Hearings: *Stabilization* (72: 1), 1932, pp. 466, 470.

² Hearings: *Maintaining the Purchasing Power of the Dollar* (72: 1), 1932, pp. 205-210; Hearings: *Stabilization* (72: 1), 1932, pp. 460-461.

³ *Ibid.*, pp. 485, 491, 552.

⁴ Thus at times the purchase of securities would not result in the creation of additional bank credit; and the uses are not controlled. The threat of foreign withdrawals of deposits also has required attention in formulating open market policies. *Ibid.*, pp. 461, 469, 471, 552.

⁵ *Ibid.*, pp. 482, 487.

⁷ *Ibid.*, p. 485.

⁶ *Ibid.*, pp. 462, 472-473, 552.

⁸ See pp. 297-300.

counting, although a bank here and there holds inadequate supplies. On this score, a broadening of eligibility laws is not required. But approximately 1.7 billions of deposits were immobilized as a result of bank failures in 1931, and authorities were therefore particularly anxious to give banks in a doubtful position every opportunity to obtain support.¹ To achieve this end, eligibility laws may be broadened or new institutions may be established to lend on assets not acceptable by reserve banks.

The R. F. C., modelled on the War Finance Corporation and succeeding the National Credit Corporation, is an institution designed to render aid when the reserve banks are unable to help.² With capital subscribed by the Treasury, it is allowed to issue bonds and notes in amounts equal to three times that subscribed; and all its obligations are guaranteed by the Treasury. It may lend for a period of three years, its loans are renewable up to a period of five years (in all), and all loans are to be advanced within a period of one year of opening, although this may be extended to two years by the President. Perhaps the fact that the Corporation is to operate for a period of ten years, in spite of the fact that no loan may be extended for a period longer than seven years from the date of opening, is indicative of apprehension lest the R. F. C. encounter trouble in liquidating loans. This discussion relates to the provisions in the Act of January 22, 1932, not the relief bill of July, 1932, extending the activities of the Corporation.

It is provided that loans are to be amply secured, and if we are to deduce any conclusions from the history of the War Finance Corporation, losses will be kept down to a minimum. Loans may be made to banks and many other types of financial organizations, as well as to insurance companies and railroads. Undoubtedly the influence of the Corporation will be determined by its interpretation of the phrase "amply secured." In the course of passage a strong effort was made to elicit an interpretation of this phrase making possible advances, to banks and others, not fully secured.³ Again, is the Corporation to accept bonds at *normal* rather than *current* values? In accepting slow but sound assets the Corporation may exercise a wholesome influence; but it is unlikely, especially in view

¹ *F.R.B.*, 1932, p. 132.

² House Report No. 36 (72: 1), pp. 2-3.

³ Evidence of the President of the Metropolitan Life Insurance Company, U. S. Senate Banking and Currency Committee, Subcommittee, Hearings: *Reconstruction Finance Corporation* (72: 1), 1931, pp. 140-141.

of the June, 1932, personnel of the Corporation, that taxpayers' money will be *lost* by lending on inadequate security. Loans up to 200 million dollars may be made to banks in receivers' hands; adequate security will be demanded of course, and such loans, if made on the basis of a careful appraisal of assets, are safe; moreover, since a bank in the receiver's hands is in the liquidating business, loans will be repaid within a reasonable period. Whether the Corporation will involve the Treasury in large losses will be determined, more than by any other factor, by the future movements of prices: a continuance of declining prices will be disastrous. Also, the R. F. C. may do much to stop the decline in prices.

The first report of the R. F. C. covered the months February and March, 1932. Its total authorized loans were 239 millions, of which 192 had been advanced and 7 repaid. Approximately 850 banks and trust companies borrowed 125 millions; 16 railroads borrowed 56 millions.¹ A second report has just (July, 1932) been issued. At the beginning of July, 497 millions of advances to banks and trust companies and 129 millions to railroads were outstanding.²

Nobody can question the real services conferred by the R. F. C.:³ without its existence, liquidation would have proceeded more rapidly and banking failures would have been more numerous. Under the Emergency Relief and Construction Act of July, 1932, the activities of the Reconstruction Finance Corporation were broadened.⁴ Direct loans to industry are provided for, and reserve banks, under conditions imposed by the Board, may make advances direct to industry under conditions meticulously described. It is improbable that these advances by reserve banks will be of any practical importance although they may furnish the reserve authorities with a weapon to be used in coercing banks to lend more freely.

4. THE GLASS-STEAGALL ACT

Perhaps the experience of the War Finance Corporation, possibly the fear that the R. F. C. might not be able to cope with the situation, and certainly the demoralizing monetary conditions in Janu-

¹ *F.R.B.*, 1932, pp. 225-226. Also see addendum on the crisis (p. 799).

² *Ibid.*, p. 481.

³ The services are not measured merely by the advances made. U. S. House Banking and Currency Committee, *Hearings: Reconstruction Finance Corporation* (72: 1), 1931, pp. 12-13.

⁴ Emergency Relief and Construction Act of 1932—Public-No. 302. Approved July 21, 1932. *Cf. F.R.B.*, 1932, pp. 473-474, 520-527.

ary, led to the introduction of the Glass-Steagall Bill two weeks after the R. F. C. Act was approved.¹ The National Credit Corporation, a similar organization, had advanced insignificant sums of money.²

The Glass-Steagall Act provides that under certain conditions member banks may borrow on their joint guarantee from reserve banks, and that such borrowing may be effected, through their promissory notes, on collateral other than that hitherto eligible — this under conditions determined by the Federal Reserve Board and the reserve banks. Loans made under these provisions are to be offered at a rate at least 1 per cent above the Bank rate. Since it is thus possible to borrow on paper not previously eligible for rediscount, the Bill undoubtedly constitutes a command to reserve authorities to relax their regulations. Thus every bank with sound assets is assured access to the reserve bank, and the tendency to broaden eligibility requirements is once more revealed. Previously member banks might not borrow on eligible paper not acceptable by the reserve banks; now they are assured the privilege of borrowing on acceptable (good), even if ineligible, paper. Of course, the reserve banks may shift to the R. F. C. the responsibility for advancing on sound but ineligible assets; and this was the practice up to July, 1932.

Let us consider the only other important provision in the Glass-Steagall Bill before turning to the Banking Act of 1932. It is provided that for one year from the passage of the Act, the Board may allow the reserve banks to include securities of the United States Government as collateral against which notes may be issued. The

¹ Early in February, Governor Harrison in a letter to Senator Glass urged him to incorporate in his Banking Act of 1932 provisions similar to those later embodied in the Glass-Steagall Bill. Governor Harrison also pointed out that the Banking Act of 1932 would further reduce the surplus gold available by modifying reserve and collateral requirements. Apparently the legislation was unnecessarily delayed by the Senate Committee. The unavailability of Government securities as collateral prevented the reserve banks from adopting an easier policy earlier in 1931 or 1932. Hearings: *Operation of Banking Systems* (72: 1), 1932 (March), pp. 505-508; Hearings: *Stabilization* (72: 1), 1932, pp. 500-501.

² The banks were never particularly enthusiastic concerning Hoover's scheme for a National Credit Corporation, for as one banker expressed it, the proposal involved taking 500 millions from the larger (and liquid) banks and tying up the money in loans that could not be quickly or readily liquidated. In the course of an existence of several months, loans in the neighborhood of but 10 millions were made and apparently a few denials were decisive in discouraging applicants. U. S. Senate Banking and Currency Committee, Subcommittee, Hearings: *Reconstruction Finance Corporation* (72: 1), 1932, pp. 71, 83-90, 176, 179.

explanation of this provision is that the amount of free gold — that is, gold in excess of reserve and collateral requirements — having declined to a level considered low in view of the disturbed conditions, therefore the authorities have deemed further economies of gold necessary. It is provided by the Federal Reserve Act that a reserve of 40 per cent in gold is to be held against notes in *circulation* and of 35 per cent in gold and lawful money against deposits; but, also, there is a requirement that all notes outstanding be covered by 100 per cent collateral. Since this subject has been discussed fully in Volume I, it is necessary now merely to point out that this provision in the Glass-Steagall Act makes it possible to release approximately 700-800 millions of gold held as collateral rather than as reserves, because the supplies of eligible paper held by the reserve banks were not equal to the difference between the notes outstanding and the minimum amount of gold required to satisfy reserve and redemption requirements. Government securities may now be substituted for the gold, and to some extent have already been used as collateral.¹

It is well and good to make the most of this legislation in a period when the hoards and additional circulation of notes are one billion dollars or more above normal and further losses of gold are anticipated with misgivings; but this legislation is of limited significance. Gold tied up as collateral would have been released when the occasion to use it arose unless the reserve authorities, by purchasing securities, prevented the substitution of eligible paper for gold. The fact is that member banks would have rediscounted to obtain additional notes or gold for export, and hence, with eligible paper becoming available, the gold required would have been released. Thus it may be said that the Glass-Steagall Act merely makes it possible to release gold now that, under the earlier system, would have been released as and when required. The supply of free gold may be increased *now* and will be reduced as the occasion for use arises; under the earlier conditions, the amount of free gold would not be reduced as additional demands were made, for additional supplies would be released. On the other hand, the legislation has one very important

¹ The conditions under which reserve banks may substitute Government securities are given in the Bulletin. *F.R.B.*, 1932, pp. 285-287. On May 31, 1932 the reserve banks held 205 millions of United States Government securities as collateral. *Ibid.*, p. 353. Even on the eve of the crisis of 1933, reserve authorities had not made extended use of this privilege, which had been extended for another year early in 1933. *Ibid.*, 1933, p. 59. But on March 22, 1933, one billion of securities were thus used.

advantage; namely, that it enables reserve banks to purchase securities rather than force member banks to increase their rediscounts when additional supplies of gold and currency are required, for securities (United States) may be included as collateral against which notes may be issued. The depressing effects of a large volume of rediscounts may thus be averted.

5. THE BANKING ACT OF 1932

The R. F. C. Act was approved on January 22, 1932; the Banking Act of 1932 had been introduced the day before. The delay in proceeding with it may be ascribed, first, to the urgent conditions in January–February which made speedy legislation, as proposed in the Glass-Steagall Bill, imperative; but, secondly, to the hostility of interests opposed to provisions of this bill.¹

The Banking Act of 1932 was first presented to Congress as S. 3215 on January 21, 1932. On March 14, a second draft was offered — S. 4115. The earlier draft had been criticized severely; but the subcommittee of the Senate made few concessions. Hearings were held on S. 4115, in the course of which the bill was subjected to severe criticism by the banks and reserve authorities. As a result of these criticisms and, more particularly, of the friendly criticisms of the Board, the latest revision (S. 4412), which was introduced in the Senate on April 18, 1932, was found more acceptable than were earlier drafts. Senator Glass also presented a report (Senate Report No. 584) on April 22, 1932, in which the main provisions of S. 4412 were explained and the history of the bill was discussed. In the report Senator Glass emphasized the need of correcting the abuses that were responsible for the collapse of 1929. In particular he would discourage excessive investments in securities and loans collateraled by securities, abolish as far as possible the relations with affiliates, and strengthen the position of the Board in order to correct the tendency to stimulate financial rather than commercial banking.²

Perhaps the most serious evil to be corrected, in Senator Glass's

¹ Banking interests have expressed their hostility in no uncertain terms; and even to the later drafts which were not as distasteful as the first draft. Cf. especially Hearings: *Operation of Banking Systems* (72: 1), 1932, Pt. 1, which consists of the testimony of bankers; and consult the comments of the Federal Advisory Council in *F.R.B.*, 1932, pp. 222–225.

² Senate Report No. 584 (72: 1), 1932, pp. 2–4, 7–10.

opinion, was the excessive use of banking resources, in particular *reserve* bank funds for speculative purposes.¹ In the early drafts it was even provided that the reserve banks might determine the proportion of collateral loans to capital resources to be advanced by member banks. It was also provided that reserve banks were to keep informed of the lending policies of member banks and of the use to which members put *reserve* funds; and they were to prevent the undue use of funds in speculative markets. Governor Meyer criticized this section of the bill, and the Board now reverted to a position taken at intervals before 1928-29: it was not possible to identify the use of reserve funds. But the Board also clearly stated that in its opinion rediscounting was not a right and that, although the use of *reserve* funds could not be determined, the uses to which all of the resources of the member banks were put, *i. e.* the general investment policies of member banks, could be studied; and members using a disproportionate part of their resources for speculative or other undesirable purposes might be penalized by a suspension of the rediscount privilege.² The New York Bank, however, adhered to the position consistently taken in the past that the use of moral suasion could not be countenanced and the Board ought not to be allowed to control the banking policies of members.³ The latest version of the bill followed the draft suggested by the Board.⁴ In view of the history of reserve policy, in view of the fact that member banks provide the capital of the reserve banks and that in the last year or two every bank with eligible or sound assets has been assured the privilege of converting these assets into cash, the latest comments of the Board are not easily understood; perhaps political expediency is the explanation. It is, however, clear that the issues of 1929 between the Board and the New York Bank are still unsettled.

Senator Glass also proposed to check the unhealthy tendency to invest excessively in securities, or in loans collateralized by securities, by imposing a penalty rate on advances obtained from reserve banks through the offer of promissory notes secured by Government securities, and by suspending the privilege of borrowing in this manner if collateral loans were increased when member banks were indebted

¹ S. 3215, especially pp. 4-5, 12-13, 27-28, 37, 55, 60-61.

² Hearings: *Operation of Banking Systems* (72: 1), 1932, pp. 404-405.

³ *Ibid.*, p. 501.

S. 4412, p. 4.

to reserve banks on promissory notes secured by "governments." Senator Glass has not yet learned that the instruments used for obtaining funds from reserve banks do not determine the use to which funds are put.¹ Repeated criticisms of this section, however, induced him to drop the provision that a rate above the go-day rate be charged for loans on promissory notes secured by governments.²

Again, in order to check speculation, it is provided that loans on account of others are not to be made by member banks; loans on account of others would also be discouraged indirectly. It is Senator Glass's contention that the major part of the funds used for speculation was obtained through loans by banks either through brokers or through ordinary security loans. It is held that the public, by borrowing from the banks, obtained the greater part of the funds required to pay for new securities; and the corporations in turn used a large part of these funds for speculative purposes.³ Any efforts, therefore, devoted to the reduction of security loans or investments held by banks would dry up in part the source from which loans on account of others are made. Senator Glass would go even further. But Governor Meyer protested at a provision that banks be prohibited from lending to corporations that lend funds on speculative markets; for member banks, he pointed out, could not identify the use to which the public put funds obtained from them. The result was that the provision was dropped; and the last version of the bill (April, 1932) contained only the provision that member banks be prohibited from acting as intermediaries for non-banking lenders.⁴

Numerous authorities have protested at the attempt, implied in numerous provisions of the Banking Act of 1932,⁵ to sever the relations of banks with the capital market. Governor Harrison argued that the proponents of the bill were too little concerned with measures to stimulate recovery; any excessive zeal, introduced at this time to prevent inflation, was, he said, an additional obstacle to the stoppage of deflation.⁶ And the capital market certainly would not function properly if deprived of the services of the banks.

It is unfortunate that the eminent name of Senator Glass should be behind a bill which aimed to increase reserve requirements and

¹ Hearings: *Operation of Banking Systems* (71: 3), 1931, pp. 292-293.

² *Ibid.* (72: 1), 1932, p. 358; *S. 4412*, pp. 27-28.

³ Senate Report No. 584 (72: 1), 1932, pp. 3-4.

⁴ *S. 4412*, p. 30.

⁵ *F.R.B.*, 1932, p. 222; Hearings: *Operation of Banking Systems* (72: 1), 1932, pp. 500-501.

⁶ *Ibid.*, p. 499.

compel further liquidation of investments by member banks in a period when, above all, deflation needed to be checked.¹ In the latest draft, however, provisions dealing with reserve requirements, and several other deflationary proposals, were dropped. It is, nevertheless, regrettable that the bill did not incorporate recent suggestions of the reserve authorities for a modification of reserve requirements. The excuse that the banks would not accept the changes seems unacceptable, coming from Senator Glass.²

In numerous important provisions in each draft of the bill the Board is given increased authority, and that of the reserve banks, in particular of the New York Bank, is reduced; and nowhere is the movement away from regionalism more evident than in the provisions relating to open market operations.³ In the first draft it was stipulated that reserve banks were to report to Congress all open market operations, commenting on reasons and results. Fortunately, this unwise provision was dropped. But the proposal to deprive the reserve banks of all initiative in undertaking open market operations — even to the extent of requiring for all operations the consent of both the Open Market Committee and the Board — was retained in the second draft, and only modified when the Board protested at this extreme deprivation of authority of reserve banks.⁴ The wording was then changed from "except after approval and authorization" of the Board and committee, to "except in accordance with resolutions adopted and approved by the Board."⁵ The Board's authority is increased; and whatever authority is exercised by the Open Market Committee is given legal sanction.

With 2.5 billions of assets estimated to be in the possession of receivers of closed banks early in 1932, the creation of a liquidation corporation was held to be desirable.⁶ It will be recalled that the R. F. C. may make advances to receivers of closed banks; and such advances have been made.⁷ Senator Glass would have the Treasury,

¹ *Ibid.*, pp. 358, 383, 416; *F.R.B.*, 1932, p. 222.

² Hearings: *Operation of Banking Systems* (72: 1), 1932, pp. 378-383.

³ *S. 3215* (72: 1), 1932, especially pp. 16-17, 28-30. *F.R.B.*, 1932, pp. 223-224; *S. 4412* (72: 1), 1932, pp. 13-14, 29; Senate Report No. 584 (72: 1), 1932, p. 11.

⁴ Hearings: *Operation of Banking Systems* (72: 1), 1932, pp. 408, 507.

⁵ *S. 4412* (72: 1), 1932, pp. 13-14.

⁶ Senate Report No. 584 (72: 1), 1932, p. 12.

⁷ Traylor's arguments were probably effective on that point. U. S. Senate Banking and Currency Committee, Subcommittee, Hearings: *Reconstruction Finance Corporation* (72: 1), 1931, pp. 160-164. Also see U. S. House Banking and Currency Committee, Hearings: *Reconstruction Finance Corporation* (72: 1), 1931, pp. 24-28.

the reserve banks, and members contribute the necessary capital; and he refused to accept the suggestions of reserve authorities that the surplus of reserve banks should not thus be dissipated and that, under the conditions of 1932, member banks ought not to be called upon to make contributions to an institution of this type.¹ It is desirable that depositors of failed banks be able to encash, as soon as possible, assets sound but illiquid; on the other hand it is not adequately realized that all such proposals to create salvaging institutions — and the R. F. C. must therein be included even though it may be defended on other grounds — involve the loss of deposits (cash) of banks and sections of the country in a relatively sound condition to banks and sections of the country in a relatively unsound condition. Furthermore, such a corporation suffers from the same disadvantage, although not to an equal degree, as any proposal to guarantee bank deposits. The penalty for bad banking or unsound banking organization is reduced; perhaps nothing could move us so effectively as recent banking failures to modify our banking system along sound lines. Other arguments may, however, be advanced for a guarantee of bank deposits.

One other provision requires comment — this was approved by the Board and appeared in each successive draft. Member banks are to be allowed to charge 1 per cent in excess of the Bank rate or that set by the usury law of the state, whichever is the higher.² The object of this provision was to assure banks a profit on funds borrowed from reserve banks.³ Officials are concerned with the tendency of banks to withhold resources because they are prevented from charging a high rate. The legislation is desirable, but the object of the proposal indicates the position to which the doctrine of penalty rates has fallen in the United States.

The Banking Act of 1932 also deals with the subject of branch banking, affiliates, savings deposits, and many other important items; but I am concerned primarily with reserve policy. I may add at this late date (November 18, 1932) that the bill in some form or other may meet with success in the lame duck session of 1932-33; and failing that, ought certainly to be passed in the following session of Congress. I may now (March, 1933) add that the passage of the Bill seems likely.

¹ Hearings: *Operation of Banking Systems* (72: 1), 1932, pp. 408-409; *S. 4412* (72: 1), 1932, pp. 15-18.

² *S. 4412* (72: 1), 1932, p. 46.

³ Glass's comments on his first draft in the *New York Times* of January 22, 1932.

6. CONCLUSION: 1913, 1932, AND THE FUTURE

Recent and pending legislation has been considered in some detail because it raised again the fundamental questions of reserve policy and modified the System at vital points. Proposed legislation would reshape the System along lines that would be approved by those who founded it. The changes introduced in 1932 were, on the whole, consistent with the developments since 1913; but the proposals of Senator Glass and his supporters embodied in the Banking Act of 1932 have the earmarks of banking theory acceptable in 1910-13. It is essentially a conflict between those who would modify the Federal Reserve Act along lines determined by the banking developments since 1913, and those who would determine banking developments by legislation in the hope that commercial banking once more might assume the position it occupied before the creation of the Act. Yet the bill has many excellent features.

Let us consider briefly the most important issues raised in 1931-32. Member banks were assured of the right to rediscount all eligible paper and even all sound assets whether or not eligible; the creation of the R. F. C. was a tacit admission that members are entitled to the privilege of converting eligible paper into cash: for the establishment of the R. F. C. and the provision for special rediscounting facilities at the reserve banks under the Glass-Steagall Act were provided in order to help member banks that lacked adequate supplies of eligible paper. Thus a distinction between eligible and acceptable (good) paper, painfully built up in the years following the War, was discarded as a weapon of control; but it may be said that eligibility regulations have not been an important weapon of control and the tendency from the very beginning has been to reduce their significance by relaxing them. The emphasis on acceptability and (or) the condition of the endorsing bank, as well as the wide use of promissory notes as a means of borrowing from reserve banks, was nothing less than an admission that eligibility regulations are not to be considered seriously. But, perhaps, in so far as the possession of eligible paper or sound assets may in the future be considered the only qualification for obtaining cash from the reserve banks or the R. F. C., increased attention may be focussed on the particular asset offered or the paper that represents it.

Possibly the new legislation will bring no fundamental changes after all: banks in distress have always been allowed to convert

sound assets into cash; the practice of demanding excess collateral, in order to obtain additional security, involves a neglect of the consideration of the quality or eligibility of the paper. Excess collateral has generally been demanded when the condition of the endorsing bank has not been above suspicion, or the paper not clearly eligible. To-day the difference is that banks in an unsound condition are more numerous, and perhaps they are now assured a maximum amount of cash for their reduced portfolios of paper representing sound assets. In the financial centers, and perhaps for most banks in a sound condition, the status of the endorsing bank and the offer of additional collateral will continue to be relevant considerations. Moreover, in a period of inflation, reserve banks may once more make much of their distinction between eligibility and acceptability.

Nevertheless it is a far cry from the theory on which the reserve system was established. Possession of self-liquidating paper of a commercial type was intended to be the only means of access to the resources of the reserve banks. This definition of eligible paper has not prevented the development of a banking system in which commercial banking is relatively of much less importance than was anticipated in 1913. Reserve banks were at first inclined to emphasize the fact that possession of eligible paper by members predisposed the right to rediscount; and although in 1920-21 and in later years there was a disposition to question that right, reserve banks have never consistently adhered to the position that member banks inherently lacked it. Even in 1929 the Board would only point out that members were using the resources of reserve banks in a questionable manner; a curt refusal was not deemed expedient. Now member banks (and non-member) may tap the resources of the reserve banks or the R. F. C. if they possess sound assets of any kind, and they have the right to do so: they need no self-liquidating paper of a commercial type.

The right to rediscount all sound assets is a logical outcome of our System and its development. Member banks provide the necessary capital of the reserve banks; and distinctions should not be based on rules of eligibility, especially in view of the fact that these rules were framed to meet conditions entirely different from those current to-day. The member bank can anticipate all reasonable requirements for rediscounts by investing a small proportion of its assets in eligible paper — particularly since it may borrow on governments — and

can invest freely in assets not approved by those who are impressed by the importance of commercial as against investment banking. Moreover, the type of paper rediscounted is no guarantee of the use to which resources are put. Administrative procedure and the permission granted to rediscount notes secured by governments have in part solved the problem of adjusting our System to changed conditions; and recent changes are to be approved on the same grounds.

In proposing that the reserve authorities withhold accommodation when they disapprove of the investment policies of member banks, Senator Glass has raised an old question. It is to be emphasized that such practices are inconsistent with the reserve system's attitude toward eligibility and the right to rediscount. But the Board apparently still supports the theory of moral suasion that has been supported by Senator Glass. The conflict between the Board and the New York Bank on this subject is to be explained in part by the fact that the Board is a public organization, reflecting the attitude of the country toward the speculative use of banking resources; and in part by the conflict of methods of control between large financial and less developed centers. The Board, be it noted, no longer adheres to the position that it can detect the use to which reserve bank funds are put: it merely takes the position that rediscounts may be withheld if the policies of the member bank as revealed in the use of *all* its resources are not consistent with sound credit conditions. Thus the theory of qualitative control implied in eligibility requirements may play some part in future reserve policy.

In recent discussions relatively little attention has been paid to the more orthodox weapons of control; namely, bank rate policy and open market operations. To some extent the neglect may be explained by the unimportant part played by these weapons of control. Numerous critics of reserve policy have, however, in recent years stressed the unfortunate effects of open market policy. Senator Glass, for example, would confer responsibility upon the Board and reserve banks jointly rather than upon individual reserve banks; in practice there has been a shift of authority to the Board and the committee representative of all the banks. But such changes further impair the effectiveness of open market operations, for hasty action is made difficult and there develops too much inertia in open market policies. In objecting to the Goldsborough Bill, reserve authorities have themselves cast doubts on the efficacy of their operations: they cannot determine the cash resources of member banks or the uses

to which members put the additional cash placed at their disposal. Purchases of securities may be wasted if gold and currency movements are unfavorable or member banks are not disposed to use surplus reserves. Such admissions are long overdue.

The permission, granted under the terms of the Glass-Steagall Act, to substitute Government securities for gold as collateral against notes is a desirable change from every viewpoint. Gold unnecessarily tied up as collateral is thus made available for future expansion, a change peculiarly desirable in a period when the charge of not playing the game of the gold standard is being made so frequently. At this time it also allows the reserve banks more freedom in the manner in which reserve credit is issued, and yet the Board can prevent this measure from exercising an unnecessary inflationary effect by withdrawing permission whenever necessary. The provision also marks another departure from the theory on which the Reserve Act is based. Most of us now realize that the issue of notes ought not to be determined or limited by the volume of self-liquidating paper presented to the reserve banks for rediscount.

Finally a word of comment on the provision in the Home Loan Bank Act of July, 1932, which allows banks to issue approximately one billion of notes on the basis of bonds not hitherto eligible as collateral. This is another step backward in the theory of note issue; but since a billion of Federal reserve notes will undoubtedly be out at all times in the next decade, thus not interfering with the necessary elasticity on the contraction side, there can be no serious objections to the proposal. It does, moreover, make it possible for the reserve banks to purchase assets more freely than they otherwise would; for the additional notes issued by banks, requiring no large gold reserves, could therefore satisfy the great demands of the public, to-day, for hoards.

CHAPTER XLIV

THE END OF LIQUIDATION?

I. THE OPERATIONS OF 1932 SUCCESSFUL?

OPEN market operations, on a scale never before attempted, have *apparently* finally stopped the process of liquidation. (I write in November, 1932.) It is to be emphasized, however, that from February, 1932, when the aggressive open market policy was introduced, to August, 1932, when it may be said to have been suspended — a period in which the securities held by reserve banks increased by 1,100 millions — the (1) net demand and time deposits and the (2) loans and investments of *member* banks declined by 1,000 and 1,200 millions respectively.¹ Thus despite the creation of 1,100 millions of deposits resulting from these operations, the deposits of member banks *declined* by 1,000 millions. Net demand and time deposits of *reporting* banks, however, increased by approximately one billion dollars from March to October, the major movement occurring after July; moreover, from August to October the earning assets of reporting member banks in New York City increased to an appreciable extent. But the improvement in the condition of all member banks was probably not so satisfactory for member as for reporting banks, nor so satisfactory for all reporting banks as for those in New York City. Deposits of *all* members declined.

Are we to deduce from the developments in August, September, and October that the open market policies have been *successful*? It all depends upon what we mean by success. Nobody can reasonably contend that these vast operations² did not contribute to an easing

¹ On the basis of figures for reporting member banks, the New York Reserve Bank, however, concludes that two thirds of this liquidation occurred in the first quarter of 1932. *Mo. Rev. of N.Y.R.B.*, September, 1932.

² The operations in the first half of 1932 were vast as compared with any previous experience here or elsewhere. In truth, so far as I know, European central banks do not pump any appreciable amounts of cash in excess of the amount required to offset losses of reserves into the money market. The Bank of England has publicly stated that it cannot assume the responsibility for providing the money market with cash in anticipation of its requirements. Many may still contend that operations were not adequate to cope with a crisis of these proportions. All that I can reply is that the departure from tradition was further than anyone could have reasonably expected and the operations were as bold as the conditions allowed.

of the monetary situation or to a diminution in the rate of liquidation. In that sense the operations were most assuredly successful. But if we take as criteria the public pronouncements of Hawtrey, Rogers and many others in the years 1929-31, then I can only say that these operations were a signal failure. Reserves of banks increased to a disappointing degree (and part of these additional reserves, held to cope with future emergencies, were not available for expansion). Banks have not demonstrated any anxiety to put additional funds to use; and the public has evinced no strong desire to use them. The explanation may be that liquidation has not proceeded far enough, and of course this experience is not proof that, under more satisfactory conditions, large operations of this kind would not have led to more decisive results. On the other hand critics of the policies of 1930-32 may argue that the open market purchases of this period have retarded the process of liquidation and reduction of costs, and therefore have accentuated the depression;¹ and that the present upswing (late 1932) is merely the result of the satisfactory progress of liquidation. Who is to say that they are wrong?

Something has already been said concerning the problem of putting money to work. Bonus schemes, public works, doles and the like have the advantage, as contrasted with open market operations, that they attack the problem from the consumption (or demand) side.² It is therefore unfair to argue, as several important officials have contended, that these plans for issuing currency notes will be no more effective than those for pumping cash on the market through purchases of Government securities have been;³ for purchases of commodities and services by the unemployed (assuming a dole) or by both employed and unemployed (assuming a bonus or public works) will increase the demand for commodities and labor and thus ultimately may infuse life into our inactive deposits and perhaps lead to the creation of additional deposits. At any rate the original expenditures of the currency notes will have a favorable effect. Official critics of radical legislation have a stronger position,

¹ There is much truth in Hayek's position. F. von Hayek, "Reflections on the Pure Theory of Money of J. M. Keynes," *Economica*, 1932, p. 44.

² U. S. House Report No. 1252, *Payment of Adjusted Compensation Certificates* (72: 1), 1932, pp. 2-8.

³ U. S. House Ways and Means Committee, Hearings: *Payment of Adjusted Compensation Certificates* (72: 1), 1932, pp. 608, 739-741.

however, when they argue against stabilization (and inflationary) proposals, which are to be administered through issues of currency notes and which provide no means for pumping notes into circulation.¹ The only result will be an accumulation of excess reserves in the form of currency notes or balances at reserve banks.

The Emergency Relief and Construction Act (July, 1932) is an admission that open market operations, operating merely on the supply side of money, are not an adequate means of coping with the situation.² Provision is there made, through proposals to finance self-liquidating projects and public works, for increasing the demand for money. Also of importance is the thought that the original Reconstruction Finance Corporation (R. F. C.) Act and its modification in the above may also be construed as attempts to supplement the effects of open market operations, which after all are introduced to provide thousands of banks with cash to offset losses of deposits and (or) to supplement their other resources. There is no means of guaranteeing that the different sections of the country will obtain the additional resources in the proper proportions — that the most effective distribution is not always obtained is evident from what has gone before and what follows. Banks in agricultural districts especially have been unable to cope with their large losses of deposits; and it is not merely a question of one section as against another, but also a question of one bank against another.³ The R. F. C. has been created in part to provide the individual bank with additional resources when the flow of additional supplies of cash following open market operations is not adequate. A proper distribution between sections of the country may sometimes be assured by adjustments in the participation of individual reserve banks in open market operations and by Treasury transfers;⁴ but

¹ Cf. U. S. House Report No. 1103, *Restoring and Maintaining the Average Purchasing Power of the Dollar* (72: 1), 1932.

² U. S. House Report No. 831, *Emergency Construction and Relief Bill* (72: 1), 1932, p. 2.

"The primary objects of S. 4755 are to create a demand for commodities and thereby help check further price deflation; to bring about a resumption of employment; to contribute to a revival of trade, industry and agriculture."

Cf. also U. S. House Report No. 1512, *To Broaden the Lending Powers of the Reconstruction Finance Corporation* (72: 1), 1932, p. 1.

³ The New York Bank comments on the large excess reserves held by some members when other members were indebted to reserve banks in excess of 500 millions. *Mo. Rev. of N.Y.R.B.*, July, 1932.

⁴ Cf. U. S. House Ways and Means Committee, *Hearings: Payment of Adjusted Compensation Certificates* (72: 1), 1932, p. 743.

the problem of the individual bank can be solved only by direct contacts with reserve banks and the R. F. C.

It need scarcely be added that the R. F. C. is not a house of magic. It obtains its resources through issues of securities to which the public and banks subscribe. Thus in the absence of offsetting operations, banks in the financial centers (where subscriptions are largely made to these Treasury securities), are likely to lose cash to banks in the West and South; and thus they lose part of their excess reserves, or increase their rediscounts, or liquidate in order that the weaker banks may be able to borrow from the R. F. C., or the movement of cash to the East is offset. The weak are made stronger; and the strong weaker.

Observers of reserve policy may be divided into three classes: those who have favored more vigorous operations; those who have approved of the policies pursued; and finally those who have opposed aggressive open market operations. Reserve authorities probably belong to the third class although political necessities drove them to the adoption of a policy that they did not strongly favor. I am inclined to put myself either in the second or the third class. In my opinion the advantages gained from the experience of 1932 have been that the rate of liquidation has been diminished, and that the rejection of more dangerous inflationary proposals has thus been made possible. On the other hand, reserve banks have on their hands 1,800 millions of securities, a large part of which ought to be liquidated in the course of the next few years. Reserve officials will need all their ingenuity and experience to prevent such sales from exercising a restraining effect on business, when business is on the mend, of larger dimensions than the stimulating effect introduced when open market purchases were made in the period of liquidation. Perhaps reserve officials will receive some help from the release from hoards of one billion or more of notes, or from the substitution of National Bank for reserve notes in circulation.¹ The fact is that banks

¹ Under the provisions of the Federal Home Loan Bank Act (approved July 22, 1932) it is possible (so long as the capital of national banks remains at its present level) to issue 900 millions additional of National Bank notes. Such issues will be determined largely by monetary conditions: the existence of surplus reserves and low money rates are obstacles to further issues. On the other hand, banks in debt are likely to find it profitable to apply for bank notes and use the proceeds to repay the reserve banks. Undoubtedly the explanation of this legislation is the need of releasing large supplies of gold tied up as reserves or collateral against Federal reserve notes now in hoards: National Bank notes put a smaller strain on gold reserves. *Cf. F.R.B.*, 1932, pp. 474-476.

may increase their reserves by issuing National Bank notes or depositing reserve notes with the reserve banks, thus offsetting the effects of sales of securities by reserve banks. So far, reserve officials have not found it expedient to dispose of any securities, although in the three months ending October 26, 1932, member banks, largely as a result of imports and releases from earmark of gold, issues of National Bank notes, and a reduction of reserve notes in circulation, have obtained in excess of 500 millions of additional cash. They have used it largely to repay reserve banks and increase their excess reserves; and only to a small extent to expand.¹ Early in 1933, however, approximately 88 millions of securities were sold in order to prevent a further rise in excess reserves.²

2. LIQUIDATION IN 1932 AS COMPARED WITH 1929-31

When the chapter on the process of liquidation was written, figures for the first half of 1932, which have since become available, had not been published. It is worth pointing out that in spite of the

TABLE LXXIV
(Percentage change)

Period	Loans and investments	Member Banks	
		Loans	Demand deposits
1. Oct. 4, 1929-June 30, 1930 (9 months)	-0.7	-3.6	+1.2
2. June 30, 1930-June 30, 1931 (12 months)	-4.9	-13.5	-9.9
3. June 30, 1931-Dec. 31, 1931 (6 months)	-9.9	-11.7	-11.0
4. Dec. 31, 1931-June 30, 1932 (6 months)	-8.4	-13.9	-12.6

unparalleled rate of liquidation in the years 1930-31 and in spite of the increase in security holdings by reserve banks of 950 millions from February to June, 1932, the rate of liquidation was on the whole more rapid in the first half of 1932 than it had been in 1930-31.

The decline of *net demand deposits*, however, was but 9.9 per cent

¹ *Mo. Rev. of N.Y.R.B.*, November, 1932.

² *F.R.B.*, 1933, p. 59.

in the last period as compared with 12.5 in the preceding period. Differences are to be noted for groups of banks:

TABLE LXXV
(Percentage change)

Period	System	Reporting banks in N. Y. City	Other reporting banks	Non-reporting banks
Net demand deposits				
June 30, 1931-				
Dec. 31, 1931	-12.5	-10.6	-14.7	-11.0
Dec. 31, 1931-				
June 30, 1932	-9.9	-5.4	-10.2	-15.0
Loans and investments				
June 30, 1931-				
Dec. 31, 1931	-9.9	-8.7	-8.7	-12.2
Dec. 31, 1931-				
June 30, 1932	-8.4	-8.6	-8.8	-7.8

Apparently, as might be expected, the liquidation movement in the first half of 1932, as evidenced in the total loans and investments, was encountering more obstacles in New York than it was in other large cities, and more in the latter than in small cities and country districts. Also, any success of open market operations in retarding the process of liquidation is likely to be exaggerated if attention is paid exclusively to fluctuations in deposits, which immediately reflect such activities; only when deposits are put to work, as evidenced in the movement of loans and investments (and activity of deposits), can these operations be termed effective.

Also consider the following figures:

TABLE LXXVI. ALL MEMBER BANKS
(Millions of dollars)

	Last six months of 1931	First six months of 1932
Loans and investments	-3348	-2574
All loans	-2555	-2674
Security loans	-1243	-1405
All open market loans	-1201	-155
Open market loans to brokers	-642	-297
Inter-bank loans	+333	-217
Investments	-792	+99
Net demand deposits	-2290	-1585
Demand deposits	-1951	-1973
Due to banks in United States	-1172	+38
Due from banks in United States	-855	+69
Capital and surplus	-432	-338

Even in absolute figures the decline in loans and in demand deposits was larger in the first six months of 1932 than it had been in the last six months of 1931, although in the latter period the monetary machine all over the world was in a state of collapse. On the other hand the effects of the large additional sums of money pumped into the market are especially evident in the slight increase, as contrasted with a large reduction in the previous period, of investments. Continued depression in security values is reflected in the continued large reduction of security loans; the decline of loans to brokers was not so large as in the earlier period because brokers' loans had been reached a very low level by the end of 1931.

Inter-banking relations largely explain the relatively larger reduction in net demand deposits in the last six months of 1931 than in the first half of 1932. Member banks lost no less than 1,172 millions of bankers' deposits in the last six months of 1931 as compared with an increase of about 40 millions in the first six months of 1932. Apparently country banks thus put upon city banks a large additional burden in the panicky days of the latter part of 1931: the New York City member banks lost 33 per cent of their banking deposits in the last six months of 1931 as compared with 29 per cent for the System. Such losses on top of the large withdrawals of gold and currency notes (the latter, however, were financed in part by withdrawals of bankers' balances) put a severe strain on the New York banks and the New York Reserve Bank; but the latter was able to transfer part of the burden by inducing other reserve banks to purchase (pay for) assets purchased in the New York money market. Thus through these purchases the New York money market acquired cash and the large losses suffered by the New York District in its relations with other districts (resulting from currency and deposit withdrawals) were offset in part by the influx resulting from the payments for assets purchased in New York by other reserve banks. Also note (as is evident from a comparison of balances due to and balances due from banks) that member banks lost 300 millions of deposits (bankers') as a result of withdrawals by non-members in the last half of 1931, and there was little change in the first half of 1932.

3. OPEN MARKET OPERATIONS — ONE OR TWELVE BANKING SYSTEMS?

At this point I should like to return to a problem that has been discussed more than once already, namely, the relation of reserve banks and reserve districts to one another. It is appropriate to end this book with a discussion of this problem, because it is one that requires more attention than it has received and because it offers an opportunity to review the open market policies of the years 1929-32 from another angle. Figures for the first half of 1932 are now available and we can therefore consider the entire open market episode (1929-32) from a regional viewpoint.

TABLE LXXVII.¹ TWELVE RESERVE BANKS

(Changes in millions of dollars²)

Periods	Public securities	Acceptances	Rediscounts	Cash reserve	Federal reserve notes in circulation
Sept. 25, 1929-	+425	-162	-712	+70	-435
June 25, 1930	(+279)	(-61)	(-75)	(+2)	(-24)
June 25, 1930-	+86	+1	-82	+347	+335
July 1, 1931	(+15)	(+1)	(-35)	(+11)	(+24)
July 1, 1931-	+140	+224	+874	-424	+875
Dec. 30, 1931	(+21)	(+217)	(+563)	(-12)	(+50)
Dec. 30, 1931-	-63	-218	-196	-15	+38
Feb. 29, 1932	(-7.8)	(-67)	(-19)	(-0.5)	(+1.5)
Feb. 29, 1932-	+1044	-42	-388	-363	+144
June 30, 1932	(+141)	(-38)	(-47)	(-12)	(+5.4)

(1) I used Wednesday figures to the end of 1931, and end of month data for 1932, which alone were available. The two series are comparable, for they both give conditions on a specific day.

(2) Percentage changes in parentheses — beginning to end of period.

Let us consider the first period (September, 1929, to June, 1930), a period in which reserve banks increased their portfolio of securities by 425 millions, or 279 per cent. Purchases during this period were made in order to provide New York banks with additional reserves to cover additional deposits created as a result of the withdrawal of non-banking funds from the stock market, and, more important, to provide member banks generally with funds to repay the reserve banks. That this policy was successful in this sense is evident from the reduction of rediscounts by 712 millions, or 75 per cent. What is perhaps more interesting is the varying degree in which reserve banks participated in these operations. Thus the Boston Reserve Bank increased its portfolio by 41 millions (one

tenth of the total purchases), an increase in its holdings of 1,365 per cent for the period; the purchases of the New York Bank were 142 millions, an increase in its holdings of 384 per cent. With the exception of these two banks and the Atlanta, Kansas City, and Richmond Banks, reserve banks increased their holdings to a smaller extent than did the System. In particular the Cleveland, Dallas, San Francisco, Minneapolis, and Chicago Reserve Banks increased their holdings by but 90, 155, 184, 189, and 212 per cent respectively. Reserve banks in agricultural districts, unable to force member banks to liquidate their indebtedness so quickly as other reserve banks, might be expected to participate more generously in the System's open market operations, which ultimately ought to provide member banks in their districts with the cash required to repay their debts. On the other hand, increased participation would require larger payments by reserve banks in these districts; and that might not be expedient, since unsatisfactory agricultural conditions have adverse effects on the balance of payments of agricultural districts.

Banks in agricultural districts in fact liquidated their debts at reserve banks almost as rapidly as those in financial districts, although the districts most uniformly agricultural liquidated at a somewhat slower rate (Richmond, Atlanta, Kansas City, and Dallas).¹ There does not seem to be any close correlation between the percentage increase in security holdings for each reserve bank and the percentage reduction in its rediscounts; and there is no strong reason why there should be. On the other hand, more rapid liquidation might be expected in New York where purchases are largely made. Not only was the rate of liquidation of rediscounts relatively slow in several agricultural districts, but banks in these districts, as evidenced by the relative movements of deposits and loans and investments, seemed to lose cash to other districts.

Of course one might study the percentage that each district or reserve bank contributes to the total purchases of securities or the total reduction of rediscounts; but on the whole it seems desirable to take as the base each reserve bank's rediscounts or security holdings at the beginning of the period, and to be aware of the fact that the percentage change is related to the question of the relative

¹ I refer to the percentage change in rediscounts for banks in each district over the period in question, not the proportion of the total reduction of System indebtedness for each reserve bank.

height or depth of rediscounts and securities at the beginning of each period.

In the second period (June 25, 1930–July 1, 1931) the reserve banks maintained an even keel: they increased their portfolio of securities by 86 millions (15 per cent); the volume of acceptances in their portfolio was at the same level at the end as at the beginning of the period (foreign correspondents, however, disposed of 129 millions of acceptances), but the decline of rediscounts of 82 millions was equivalent to 35 per cent of the total rediscounts at the begin-

TABLE LXXVIII. EACH RESERVE BANK

(Percentage change over period Sept. 25, 1929–June 25, 1930)

Reserve bank	Public securities	Rediscounts	Cash reserve
Boston	+1365	-73	-13
New York	+384	-84	+7
Philadelphia	+178	-64	+7
Cleveland	+90	-65	+17
Richmond	+700	-62	+4
Atlanta	+300	-58	+3
Chicago	+212	-81	-15
St. Louis	... ¹	-76	+31
Minneapolis	+189	-89	+3
Kansas City	+2800	-64	-8
Dallas	+155	-71	-17
San Francisco	+184	-91	-14
System	+279	-75	+2

(1) Virtually no holdings at beginning of period.

ning of the period. Reserves increased by 347 millions (11 per cent), reserve notes in circulation by 335 millions (24 per cent), and unsatisfactory conditions were also evident in the continued liquidation of bank credit.

Out of line with System policy were additions to their portfolios of securities by 87, 75, and 73 per cent for the Richmond, Atlanta, and San Francisco Banks, and a reduction of 7 per cent for the New York Bank. Peculiar conditions at home may explain the policies of these reserve banks. An appreciable reduction of acceptances offset the other open market operations of the Richmond and San Francisco Banks in small part. Perhaps the large purchases of securities by the Atlanta Bank explain a reduction of rediscounts of 58 per cent as compared with 35 for the System; but the reduction had been less rapid than it had been for the System in the previous period. Rediscounts of the San Francisco Bank, de-

spite the large purchases of assets, did not decline, although the explanation in part may be the relatively marked liquidation in the first period. Unsatisfactory conditions in agricultural sections may explain the failure to reduce rediscounts in the Minneapolis, Dallas, and San Francisco Districts and the relatively small reduction in this period for the Richmond and Kansas City Banks. Reserve banks in agricultural districts were also losing reserves although the System's gains were of large proportions. Another peculiarity of this period is that although the New York and Chicago Banks increased their notes in circulation by 78 and 82 per cent respectively, they did not find it necessary to increase their holdings of securities.

TABLE LXXIX

(Millions of dollars)

Reserve bank	Public securities	Acceptances	Reserve	Notes
New York	- 12	+ 24	+ 179	+ 135
Chicago	+ 11	- 9	+ 158	+ 164

It is rather remarkable that these withdrawals of notes were financed without any material aid through open market operations and that in spite of these monetary disturbances the increase in reserves of the New York and Chicago Reserve Banks accounted for virtually the entire influx of cash into the System. Apparently the balance of payments of these two districts was favorable; and an increase of bankers' balances of 256 and 146 millions with New York and other reporting banks respectively contributed to that favorable balance.

The third period was one of complete confusion: in the last six months of 1931 the increases in public securities, acceptances, rediscounts at reserve banks, and reserve notes outstanding were 140 (21 per cent), 224 (217 per cent), 874 (563 per cent), and 875 millions (50 per cent) respectively. The loss of reserves was 424 millions (12 per cent).

Virtually the entire increase in security holdings in this period is explained by purchases of 134 millions (additional) by the New York Bank. The extent to which the burden was put upon banks in New York is revealed by a loss of reserves of 323 for the New York Reserve Bank as compared with that of 424 millions for the System. Also, of a total increase in acceptances held by the System of 224 millions, the New York Bank accounted for 127 millions. Perhaps

the absence of full cooperation or unity of policy is evidenced by the fact that in spite of these large operations on the part of the New York Bank and the large losses of gold and reserves, reserve banks in six districts (agricultural) actually reduced their holdings of securities. The favorable balance of payments of the New York District at least in September-October both on Treasury and Commercial account improved its position and makes the policies of reserve banks in other districts easier to understand.¹ In so far as these reductions were on System account they involved some additional loss of cash for New York. Several of the banks disposing of securities purchased acceptances, a policy that may indicate a solicitude for local money markets. The Chicago Bank announced its interest in local conditions by its failure to purchase securities and its increase of acceptances by 32 millions, or 400 per cent. Perhaps the best indication of the distribution of the burden of losses of gold, withdrawals of reserve notes, and of bankers' and private deposits may be gleaned from the relative level of rediscounts on December 31 as compared to the end of June. The following are typical:

TABLE LXXX. REDISCOUNTS

(Per cent increase)

New York	+1440
Chicago	+850
San Francisco	+563
Boston	+375
Richmond	+141
Minneapolis	+100
Dallas	+10

Movements were on a moderate scale for the first two months of 1932; on the whole there was a tendency for a reversal in the movements of the previous six months. Reserve banks were able to reduce their assets by several hundred millions in this period although there was little change in their reserves and notes outstanding. Continued liquidation by banks is in large part the explanation—smaller reserves were required.

Rediscounts at the New York Reserve Bank declined by 290 millions as compared with a decline of but 196 millions for the System. Banks in agricultural districts were becoming more heavily in-

¹ Cf. pp. 672-676.

debted to the reserve banks, a symptom of the unsatisfactory banking conditions in these sections.

Then finally comes the very important period, March-June, 1932, a period that witnessed aggressive purchases of securities by reserve banks introduced with a view to stopping liquidation and stimulating business, an operation unparalleled in central banking annals. Reserve banks added 1,044 millions of securities (141 per cent); but the reduction of rediscounts was only 388 millions (47 per cent) and of acceptances 42 millions (38 per cent). On the other hand, foreign correspondents disposed of 214 millions of acceptances (69 per cent).

There was more uniformity in the percentage increase of securities held than has been usual; but the Richmond, Atlanta, and Kansas City Banks increased their portfolios to a larger extent than did the System, and the Dallas Bank scarcely added to its portfolio. The liquidation of rediscounts (percentage change) was also rather uniform, although the New York (31 per cent), Richmond (30 per cent), Minneapolis (29 per cent), and Cleveland (67 per cent) Banks diverged from the System average (47 per cent). That the New York Bank bore a large part of the burden of the drain of notes and gold is evident from the loss of reserves for the New York Bank of 244 millions as compared with the System's loss of 363 millions. But the New York Bank was aided by the willingness of outside reserve banks to participate in the open market operations.¹ Normally one would expect the New York District to bear a larger part of the brunt of such large currency and gold withdrawals. The position of outside markets and reserve banks was weakened as a result of the remittances for securities purchased and as a result of other factors in the balance of payments.

4. OPEN MARKET OPERATIONS AND LIQUIDATION

Something has been said in the chapter on the process of liquidation concerning the varying rates of liquidation of different groups of banks. At this point I should like to say something on this problem in relation to open market operations.

¹ Cf. pp. 677-681. In March and April, the New York Bank took the lead in introducing operations on a large scale; but in May other reserve banks played a large part. Treasury transfers (representing in part the activities of the R. F. C.) further weakened the position of the New York District in these first two months; but on the other hand a favorable balance on commercial accounts and a desire to strengthen the banking position in the South and West are to be considered.

In the period October 4, 1929-June 30, 1930, the loans and investments of member banks in the New York District increased 5.3 per cent, and those of members in all other districts declined, the maximum decline being 11.9 per cent for the Dallas District. Liquidation was of large proportions in the agricultural districts. With few exceptions, the reductions of demand deposits were not of as large proportions as those of loans and investments, a fact which largely reflects the inward movement of cash and the open market operations of the period. The total liquidation of loans and investments would generally have been much larger if banks had not purchased investments freely.

Agricultural distress contributed to a more rapid liquidation, in the year ending June 30, 1931, in agricultural than in financial districts; but once more purchases of investments by member banks played a large part in keeping the rate of liquidation down. Loans and investments of member banks in the San Francisco District actually increased by 2.3 per cent; the maximum decline was 11.8 per cent for the St. Louis District. (Loans of members in this district declined by no less than 23 per cent.) Demand deposits in general declined more rapidly than did loans and investments; a fact not easily explained. One consideration is the large withdrawals of cash during this period, another the much smaller decline in net demand deposits: the fact may be that demand deposits were at a rather high level on June 30, 1930. At any rate the movements in bankers' balances do not adequately explain the much larger decline of demand deposits. Reserve banks maintained a rather stable level of earning assets.

In the second half of 1931 a very drastic liquidation occurred quite generally: the maximum reduction in loans and investments occurred in the Cleveland District (15 per cent) and the minimum in Atlanta (5.3 per cent). In general the liquidation was more rapid in the financial than it was in the agricultural districts; but on the other hand the loss of demand deposits was at least as marked in agricultural as in financial districts. In other words, banks in the former were losing cash (deposits) more rapidly than were the banks in the latter. Perhaps the beneficial effects of large purchases of assets by the reserve banks and the increase in borrowing by members were especially felt in the financial centers; and bank failures in the West and South forced large withdrawals by frightened depositors. In another sense, however, the banks in the financial

centers suffered a much more severe strain: losses of gold and withdrawals of deposits by banking correspondents put a severe strain on them. Reserves of banks in financial centers therefore declined about as much as, if not more than, reserves of member banks in agricultural districts declined:

TABLE LXXXI. REDUCTION IN RESERVES

(Per cent)

San Francisco	31
Cleveland	22
New York	21
Richmond	19
Atlanta	17
Minneapolis	13
Dallas	12
Kansas City	10

In the final period (first half of 1932) the liquidation once more was more rapid in agricultural districts, and in general the decline in demand deposits was of larger proportions than was that in loans and investments. Apparently, even the open market operations were not adequate to cope with the large losses and withdrawals of deposits.

5. CONCLUSION

Open market operations of 1932 were not successful if we take as our criteria the pronouncements of eminent economists and other inflationists in the five years preceding; but they probably contributed to a diminution of the rate of liquidation. One of the difficult problems is to put the additional money to work: the Emergency Construction and Relief Act is therefore a step in the right direction. In still another direction, the legislation on the R. F. C. is to be commended: when the additional cash created in the process of purchasing securities on the part of reserve banks fails to be distributed in such a manner that the effectiveness of open market operations is maximized, the R. F. C., by establishing direct contacts with weak banks, may supplement open market operations. But any resources put at the disposal of the money market or banks by the R. F. C. is not additional money. Finally the necessity of disposing of a billion of securities or thereabouts in the next few years confronts the reserve banks, a consideration that ought to

receive much attention in any evaluation of the results of the experiences of 1932.

Also of significance for this problem is the fact that in spite of the open market operations of March-June, 1932, and the large measure of liquidation already effected, the rate of liquidation during the first half of 1932 was about as rapid as that in the previous six months and more rapid than it had been in the previous two years.

The contributions of each reserve bank to the purchases of securities by the System have not always been of equal proportions; and in the period October, 1929-June, 1930, one might expect larger purchases by reserve banks in agricultural districts, for banks in these districts get out of debt slowly. On the other hand, such purchases would put upon reserve banks in these districts, in a period when agricultural distress is reflected in an unfavorable balance of payments in relation to other sections of the country, the added responsibility of making additional payments of cash to reserve banks in financial sections.

In the year June 30, 1930-June 30, 1931, the System maintained an even keel, although peculiar conditions may account for relatively large purchases of securities by reserve banks in several districts. A feature of the period that seems to indicate a favorable balance of payments of non-agricultural districts, or at least districts not predominantly agricultural, was the financing of very large issues of notes by the Chicago and New York Banks without recourse to open market operations.

In this period, and especially the next (July-December, 1931), the percentage reduction and increase of rediscounts of banks in different districts varied in a notable fashion. The New York District bore the brunt of the crisis of the latter part of 1931, for its rediscounts increased by 1,440 per cent (the increase for the Dallas District was but 10 per cent) and a very large part of the additional securities and acceptances purchased by the System were purchased by the New York Bank; and it suffered large losses of reserves. In this panicky period several reserve banks disposed of securities and purchased acceptances, a policy that seems to indicate concern for domestic rather than national conditions.

The New York Bank bore a large part of the pressure in the first half of 1932; but not so much as in the preceding period and probably not so much as the central money market usually bears (relatively) in such periods. Other reserve banks seemed more disposed

than they had been in 1931 (as is evident in their purchases of securities) to assume a fair share of the responsibility of creating additional supplies of cash.

A study of the relative liquidation in each of twelve reserve districts reveals that open market operations were not entirely effective in stopping the relatively more rapid liquidation of loans and investments and the larger losses of deposits, in agricultural as against non-agricultural districts.

The reader is referred to the Addendum on the crisis, 1933 (p. 823) for a further discussion of the liquidation in 1932, and some additional comments on open market policy.

PART IX

APPENDICES—STATISTICAL ANALYSIS

APPENDIX A

INVESTMENT POLICIES OF RESERVE BANKS

IT HAS seemed desirable to gather all the charts in one part of the book and to analyze them at this juncture rather than to scatter them throughout the study. On the other hand, brief references are made to them at the appropriate places elsewhere in the text.

In Chart I is brought out clearly a point that has been emphasized in the discussion of open market operations; namely, that the fluctuations in security holdings and reserve credit outstanding do not determine the balances of member banks.¹

(a) The correlation between reserve credit outstanding and member-bank balances is not high. Balances rather consistently tend to rise; reserve credit outstanding both rises and declines, with great amplitude of the movements in the latter.

(b) A reduction of security holdings of reserve banks is sometimes accompanied by a reduction of balances; an increase, by an increase in balances. The latter occurs more frequently than the former. But for the period as a whole the direct correlation is not high, and movements in securities are of much larger proportions than those of balances.

(c) There seems to be a moderate inverse correlation between securities held and reserve credit outstanding, and therefore, it can hardly be argued that reserve banks, by adjusting their portfolios of securities, can determine their earning assets.

It is clear from these graphs that reserve banks are unable to determine the volume of member-bank balances or reserve credit outstanding, and that the balances are not adequately controlled by determining the volume of reserve credit.

A relatively small gain or loss in the percentage of deposits of the System at any one reserve bank may be of much significance. A reserve bank, like any other, may increase its share of the total deposits by increasing its assets; or it may do this by drawing deposits from other reserve banks, gold abroad, or currency from domestic circulation. Rediscounts or other investments made by one reserve bank that are out of line with the movements of others may be followed by a loss of deposits, and hence the gain may be only temporary.

¹ Chart Ia, Ib, and Ic. Reserve balances of members, reserve credit, and securities held by reserve banks, 1921-31.

CHART 1a
 RESERVE BALANCES OF MEMBER BANKS AND RESERVE CREDIT
 QUARTERLY, 1921-31
(First differences in millions of dollars)

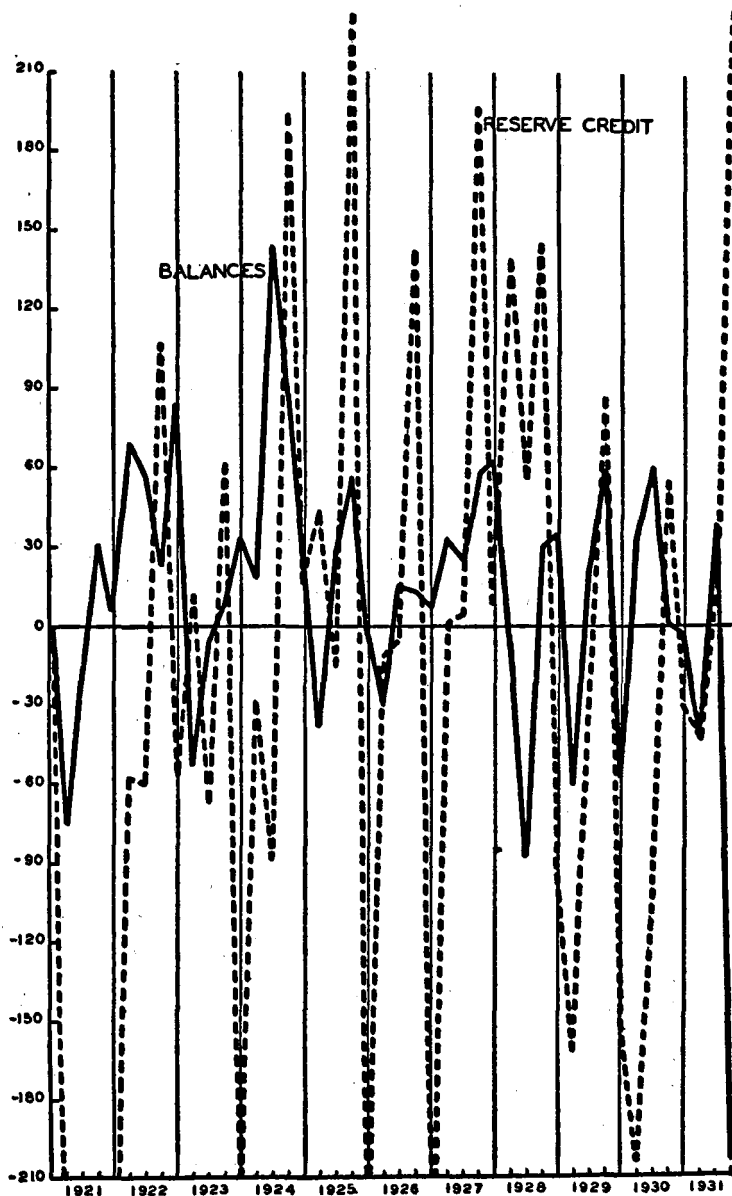


CHART 1b
 RESERVE BALANCES OF MEMBER BANKS AND SECURITIES HELD BY
 RESERVE BANKS: QUARTERLY, 1921-31
(First differences in millions of dollars)

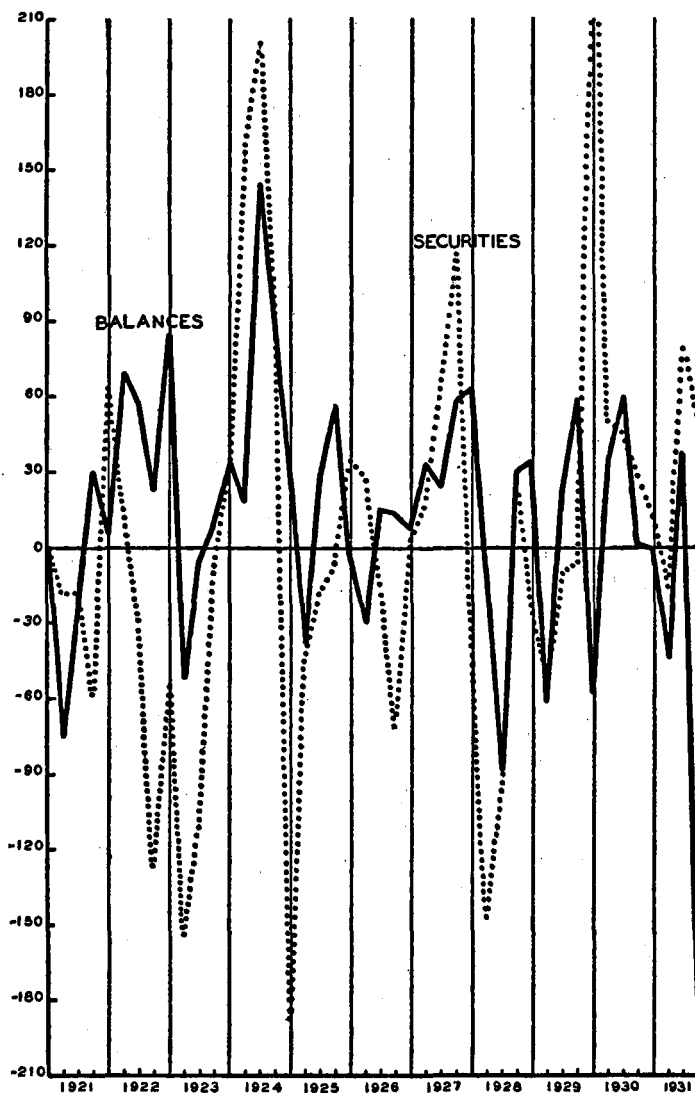
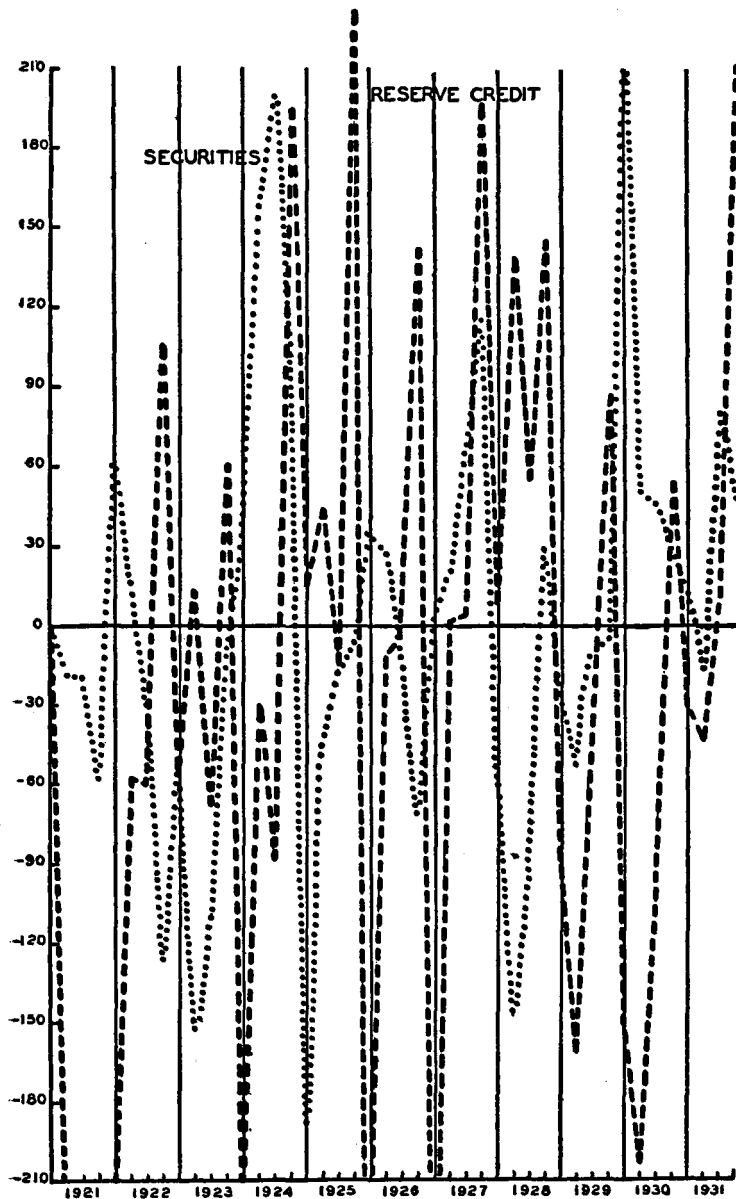


CHART Ic
RESERVE CREDIT AND SECURITIES HELD BY RESERVE BANKS
QUARTERLY, 1921-31

(First differences in millions of dollars)



A study of the proportion of deposits for each reserve bank reveals some interesting results.¹ Fluctuations were large in the early years, not only because of the movements caused by the War, but as a result of the large increases in membership that affected individual reserve districts to a different degree, and the large movements of gold. Note in particular the large fluctuations of the New York Reserve Bank.

This much may be said of long-time trends. The New York Bank has about held its own. The Boston and Philadelphia Banks seem to be losing ground. Most of the agricultural reserve banks are losing ground to the other reserve banks — a loss which no doubt reflects a diminution of economic strength as well as of banking deposits. San Francisco is one notable exception; the Cleveland District made appreciable gains until the last few years; the Chicago District has also been making headway. These exceptions are easily explained by the prominence of industries other than agricultural in the Cleveland and Chicago Districts, and the phenomenal development on the Pacific coast. Without doubt the relatively high level of indebtedness, in the last ten years, at reserve banks in agricultural sections is to be associated in large part with the relative loss of deposits of the reserve and member banks in these districts.

Fluctuations in the proportion of rediscounts and securities are especially large for the New York Bank. When large operations are introduced, the New York Bank suffers fluctuations greater than those suffered by all reserve banks. Thus in periods when securities are purchased and rediscounts are reduced, the securities of the New York Bank increase and its rediscounts decline more rapidly than do those of other reserve banks; and the same is true for its reduction of securities and its increase in rediscounts during periods of restraint. Note the following periods:

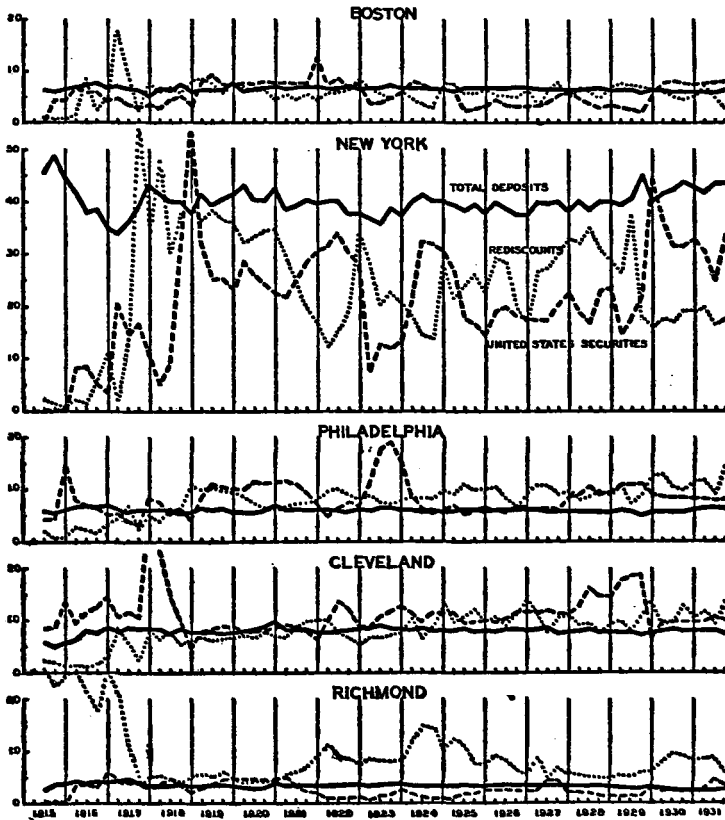
In 1920-22 the proportion of rediscounts of the New York Bank to the total declined from approximately 40 to 12 per cent; no other reserve banks liquidated at a rate nearly so drastic. If one compares the movements of rediscounts of the Atlanta and Chicago Banks with those of the New York Bank, this conclusion will be evident. Even the Boston and Philadelphia Banks, situated in financial and manufacturing centers, merely liquidated at the same rate as all banks; and the proportion of discounts of the Philadelphia and Cleveland Banks in 1921 and early 1922 shows an upward tendency.

In the latter part of 1921 and in 1922, reserve banks began to purchase securities without giving adequate consideration to the consequences. The New York, Philadelphia, San Francisco, and Minneapolis Banks were leaders in this movement if we are to judge by their increased (rela-

¹ Chart II. Distribution of deposits, United States securities, and rediscounts among reserve banks, 1915-31.

tive) participation in the security holdings of the System. But the decline in the proportion of rediscounts held by the New York Bank must be considered; the reduction of the percentage of securities held by the

CHART II
DISTRIBUTION OF DEPOSITS, UNITED STATES SECURITIES, AND REDISCOUNTS AMONG
RESERVE BANKS: QUARTERLY, 1915-31
(Per cent of total)



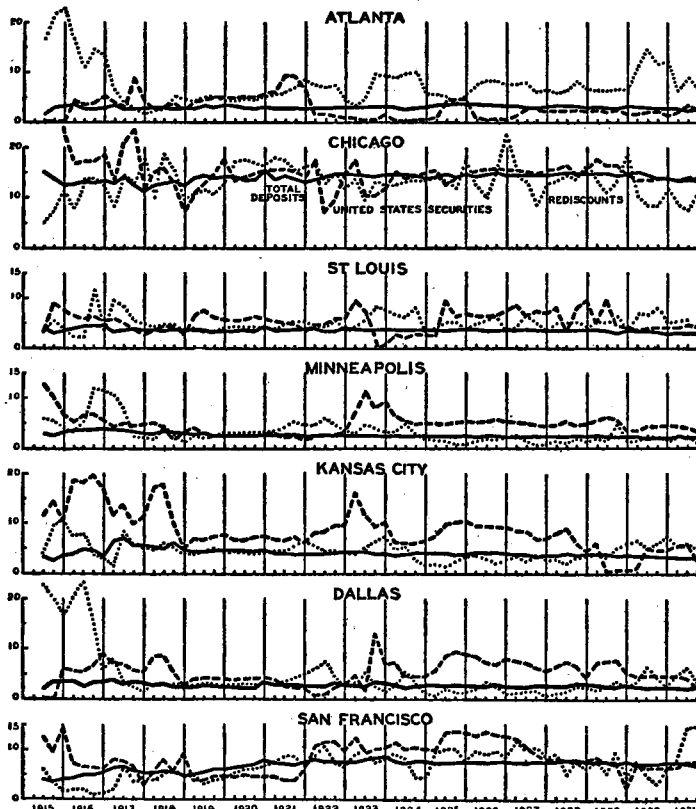
Atlanta and Cleveland Banks, in the latter part of 1921 and the early months of 1922, may also be associated with their increased share of the total paper rediscounted.

During the liquidation of the latter part of 1922 and the early part of 1923, as well as in the expansion of 1923-24, the changes are most clearly revealed by fluctuations in the proportions held by the New York Bank.

CHART II (continued)

DISTRIBUTION OF DEPOSITS, UNITED STATES SECURITIES, AND REDISCOUNTS AMONG RESERVE BANKS: QUARTERLY, 1915-31

(Per cent of total)



In several of the agricultural districts, security holdings were negligible throughout those periods; and there did not seem to be much sympathy between the movements of the Philadelphia, Cleveland, and Chicago

Banks and the variations of the System. In other words, the purchases of these banks — in 1924, say — and the reduction in rediscounts were so small that their shares in the former declined, in the latter increased. Striking indeed are the inverse movements of the percentages invested in securities and rediscounts of the New York Bank on the one hand, and the Cleveland, Philadelphia, and to some extent the Chicago Banks on the other. The explanation probably is in part the fact that easy money in New York appears early as a result of purchases of securities; rediscounts are quickly reduced. Perhaps in part, also, the explanation is that these neighboring banks did not participate in operations to the same degree as did New York. One factor would tend to reduce the proportions of these differences. For example, higher rates in New York following an increase in indebtedness should result in more borrowing, bringing higher rates and additional rediscounts, in the neighboring districts. It is to be observed, however, that the reduction of rediscounts in 1924 for districts predominatingly agricultural was surprisingly large.

In 1927 the percentage of rediscounts held by the New York Bank increased steadily, both in the first half of the year with business conditions not always favorable, and also in the latter part when securities were being purchased. In other words, the New York Bank did not reduce its rediscounts so rapidly in the early part of the year, and, later, even tended to increase its rediscounts in spite of the heavy purchases of securities. Contrast the marked and steady decline in the proportion of rediscounts of the Chicago Bank, or that of the St. Louis Bank in the second half of 1927.

The New York Bank tended to increase its share of the System's security holdings in 1927-28. In other words, purchases were made at a rapid rate in 1927, and sales were not so large as for the System. But early in the year 1928 New York's share dropped precipitately. The Philadelphia and Cleveland Banks participated in the sales only to a limited degree, as is evident in the increased share held by Philadelphia in 1927-29, by Cleveland in 1927-28. In general the proportion of securities held by these banks had declined in periods when securities were being purchased, and had increased when securities were being sold by the System. Several of the agricultural reserve banks reduced their proportion of the System's holdings of securities in 1928-29 — Richmond, Kansas City, and St. Louis, notably.

The increase in New York's share of the total rediscounts was in 1928 not large in view of its large participation in open market operations and the fact that the securities were sold in New York. Moreover, the New York Bank reduced its rediscounts from 35 per cent in the middle of 1928 to approximately 25 per cent in April, 1929; and this reduction was followed by a large increase in July and a marked decline in October. The

easing policy in the latter part of 1928 and 1929 is reflected in a disproportionate reduction of the rediscounts for the New York Bank and pressure from April to July, 1929, in an increased share. Contrast the marked reduction of the proportion of rediscounts held by the Chicago Bank in 1927, the large and steady increase in 1928, and the extensive decline followed by an increase in 1929. It will also be noted that the movements for the Philadelphia Bank were inverse to those of the New York Bank in 1929.

It may be said that a policy of ease was again introduced in October, 1929. The new policy was reflected in a large reduction of the proportion of rediscounts held by the New York Bank and an increase in its share of the securities held. In the first half of 1930, an aggressive open market policy was followed by similar movements. Sluggishness was evident in outside districts; rediscounts were not reduced quite so rapidly, and they assumed not so large a share of the purchases of securities as did the New York Reserve Bank. In part their failure to purchase more freely may be explained by their disapproval of the policy of 1930. But in the second half of that year they began to take a larger share of the securities held by the System, and monetary ease was beginning to spread elsewhere. But it may be noted that in the second half of 1931, the period characterized by monetary disturbances, the New York Bank once more was in the van, as its increased share of securities indicates. Other reserve banks apparently were protecting themselves by pursuing a cautious policy. Liquidation in several agricultural communities was especially evident in 1931 — in the Kansas City District, for example.

An inspection of these graphs will reveal that in general reserve banks in agricultural sections invest a larger proportion of their deposits than do reserve banks in more advanced communities. The small proportion of investments relative to the proportion of deposits of the New York Bank, in particular, but also of the Boston Bank, is especially worthy of comment. (Also note the figures for the Chicago Bank.) In several agricultural districts, the proportion of rediscounts is generally much in excess of the percentage of deposits, and the proportion of securities held is less than their proportion of the total deposits; but in other districts the reverse is true. In St. Louis both variables are as a rule above the percentage of deposits held by the St. Louis Bank.

It may also be observed that the proportion of deposits of the New York Bank tends to increase in periods of monetary ease — in 1924, 1927, and 1930-31, for example. The flow of cash to New York in such periods probably explains that phenomenon. The increase from 38 to 44 per cent from 1927 to 1931 is especially worthy of note. Apparently agricultural districts have tended to lose reserve deposits over rather long periods. The decline of agriculture may be part of the explanation; the with-

drawal from the reserve system of banks in these districts may also be a factor. The proportionately large rediscounts and securities held by the banks in these districts reflect unfavorable conditions and peculiar banking conditions, which in turn bring peculiar interpretations of the theory of central banking.

A study of all earning assets, and of each type of asset for all reserve banks but New York and for the reserve banks of four dominantly agricultural districts, throws light on various questions if these graphs are considered in relation to those of individual reserve banks—New York in particular.¹

(a) *October, 1921–May, 1922 — a period of expansion.*

Earning assets of agricultural banks declined much lower than did those of all reserve banks; the earning assets of all reserve banks but New York also declined more rapidly than did those of the New York Bank. In part the explanation is the moderate extent to which purchases of securities were made by agricultural banks; in part the continued liquidation in agricultural districts. Purchases of securities in financial centers, New York in particular, were not reflected in a corresponding reduction in rediscounts because rediscounts had been reduced to a low level.

(b) *July, 1922–June, 1923 — contraction.*

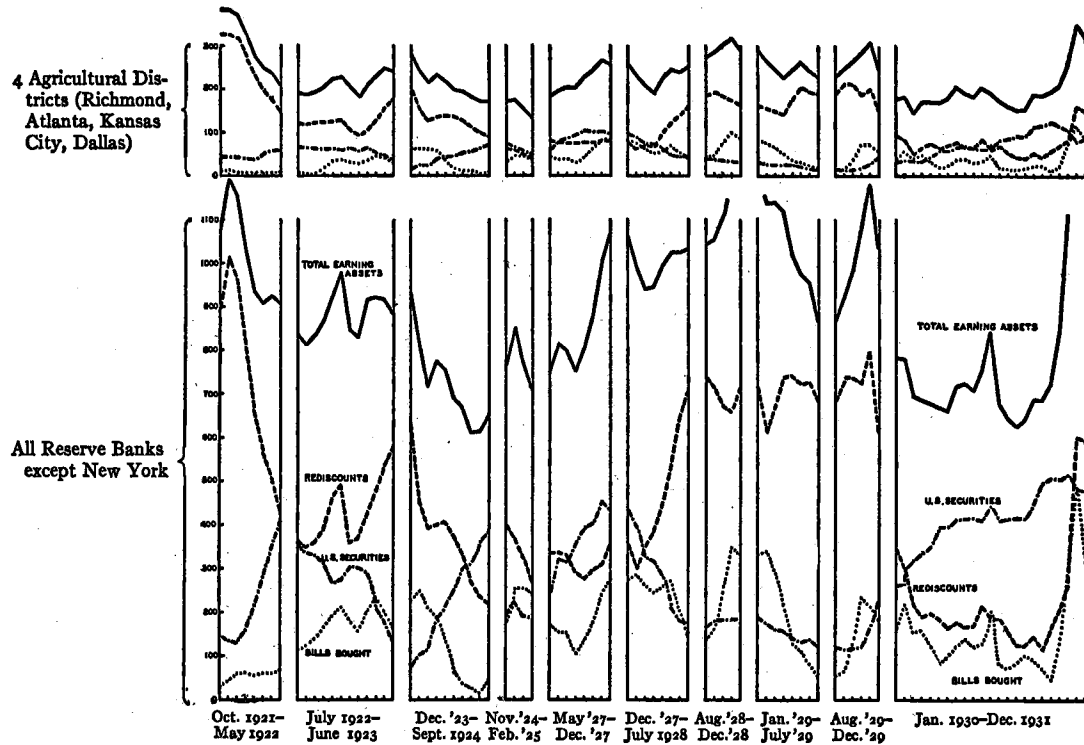
Sluggishness in agricultural districts is once more evident. Thus, in agricultural districts, earning assets and rediscounts tended upward in the second half of this period. Four alternate periods in which earning assets first increased and then declined are to be observed for the group of reserve banks other than New York. The decline of security holdings for reserve banks in agricultural districts was small, and the acceptances held by the banks in the agricultural districts and by all reserve banks but New York increased more rapidly than those of all reserve banks or of the New York Bank. In part the less marked liquidation for reserve banks other than New York may be explained by the delayed effects of the program of expansion of the earlier period.

(c) *December, 1923–September, 1924 — expansion.*

This was an unusual period, for the expansionist operations especially evident in the reduction of rediscounts were as marked in the agricultural districts, and in all districts but New York, as for all districts. The re-

¹ Chart III. Comparison of earning assets of reserve banks in four agricultural districts and those of all reserve banks except New York, 1921–31.

CHART III
MONTHLY EARNING ASSETS OF RESERVE BANKS
(Millions of dollars)



duction of earning assets was larger in districts outside New York than in the city. The probable explanation is that, after three years of liquidation, banks in outside districts were prepared to reduce their rediscounts.

(d) *November, 1924-February, 1925 — liquidation.*

In agricultural districts rediscounts remained remarkably stable, and for all banks but New York the increase was not so large as therefor. Greater inactivity in the New York District and sluggishness in agricultural districts are evident.

(e) *May, 1927-December, 1927 — expansion.*

Divergent movements are clearly revealed in this crucial period. Earning assets and securities of the reserve banks in agricultural districts did not increase so much as those of all reserve banks other than New York nor as much as those of the New York Bank. Agricultural reserve and reserve banks other than New York increased their holdings of acceptances more than all reserve banks or the New York Bank.¹ The latter steadily increased its rediscounts; the rediscounts of banks in the agricultural districts remained relatively stable; those of all banks but New York declined and then rose. An inflationary policy thus was reflected in an expansion of rediscounts and earning assets in New York first and in agricultural districts last; and this in spite of the relatively large purchases of acceptances in districts outside of the city. Once more it is clear that the movements in earning assets, and in each type of earning assets, for all reserve banks conceal important differences for different groups of reserve banks.

(f) *1928 — firm policy followed by easing.*

Agricultural reserve banks and the eleven banks outside of New York (considered as a group) reduced their earning assets early in the year, and the increase for both of these groups was not so marked as for the New York Bank or all reserve banks for the year as a whole. Reserve banks in the agricultural districts were slow to increase their rediscounts early in the year and were ready to borrow later. In less degree, this observation may be applied to the eleven outside banks as a group. On the other hand, in view of the very large sales of securities early in the year and purchases of acceptances later — largely made in the New York District — the rediscounts in outside districts were much greater than might have been anticipated. It is to be observed, however, that purchases of acceptances also involve transfers of cash to the South and West.

¹ A study of the figures for New York and all reserve banks is presented on Chart IV.

(g) *January, 1929–July, 1929 — firm policy once more.*

The increase in earning assets of the New York Bank in the latter part of this period had no counterpart in the movements of the agricultural banks or of all banks but New York. Those in the agricultural districts maintained a relatively stable volume of assets in the second half of this period, while the New York Bank reduced its volume. In this period of severe pressure the agricultural banks increased their rediscounts more than did all banks. The fluctuations in rediscounts of all reserve banks but New York were inverse to the movements in the rediscounts of the New York Bank. The former increased their rediscounts early in the year and reduced them later. The diversity of movements is also evident in the fluctuations in public securities: the holdings of the New York Bank declined in the first half of the period and then increased; securities of all banks but New York declined steadily; the downward tendency of the holdings by agricultural banks was not evident until the second half of this period. The liquidation of acceptances was marked for all groups, but not so large for agricultural banks as for others.

The diversities of movements, especially clear in this period, amply reveal the disagreements, the failure to get unity of action, as well as the effect of decisive policies in some districts on developments elsewhere. Stability for all districts frequently conceals movements in opposite directions for different groups of reserve banks.

(h) *August–December, 1929 — stringency and ease.*

Earning assets of the New York Bank declined at the beginning of this period; but the increase for other groups more than offset this decline. The later increase in earning assets of the New York Bank was offset by a reduction elsewhere. Similar disparities are evident in the movements of rediscounts. Security holdings were stable in the first half of this period; in the second half all groups increased their holdings, but none so much as the New York Bank. The last period is treated elsewhere.

Fluctuations in the percentage composition of reserve credit must be considered in the light of fluctuations in the absolute amount of reserve credit outstanding. It will be observed that the extent of the changes in composition is increased rather than reduced if this additional factor is considered. Thus in periods in which money rates rise, rediscounts constitute an increasing proportion of an increased volume of reserve credit outstanding, and in periods of liquidation securities constitute a larger proportion of a declining volume of reserve credit.

Date	Percentage of Reserve Credit			Reserve credit outstanding ¹	Comments
	United States securities ¹	Acceptances ¹	Rediscounts ¹		
Oct., 1915	13	18	36	79	Easy money
Jan., 1917	23	47	9	235	Reserve banks more inclined to acquire earning assets
July, 1921	13	1	84	2049	Rediscounts in excess of 70 per cent by 1918 and remained at a high level 1918-21
July, 1922	47	13	36	1170	Easier conditions: reduction of rediscounts and increase in securities
Oct., 1923	8	15	73	1204	Dear money policy
Oct., 1924	55	17	23	1057	Easy money; purchase securities
Oct., 1925	25	23	47	1321	Firmness
Oct., 1927	40	23	34	1254	Easier money; but consider increase in reserve credit
July, 1928	14	12	71	1531	Drastic reversal
Jan., 1929	14	29	53	1613	Moderate relief
July, 1929	11	5	80	1380	Reduction of holdings of acceptances forces members to increase rediscount
July, 1931	72	7	19	954	Reduction of rediscounts sensational; change largely effected by the early months of 1930
Oct., 1931	33	33	32	2088	Additional reserve credit provided by rediscounts and purchases of acceptances

(1) Taken from monthly average of daily figures.

(2) Monthly average of daily figures in millions of dollars.

(a) *October, 1921-May, 1922.*¹

Reserve banks purchased large quantities of Government securities. The following conclusions are offered:

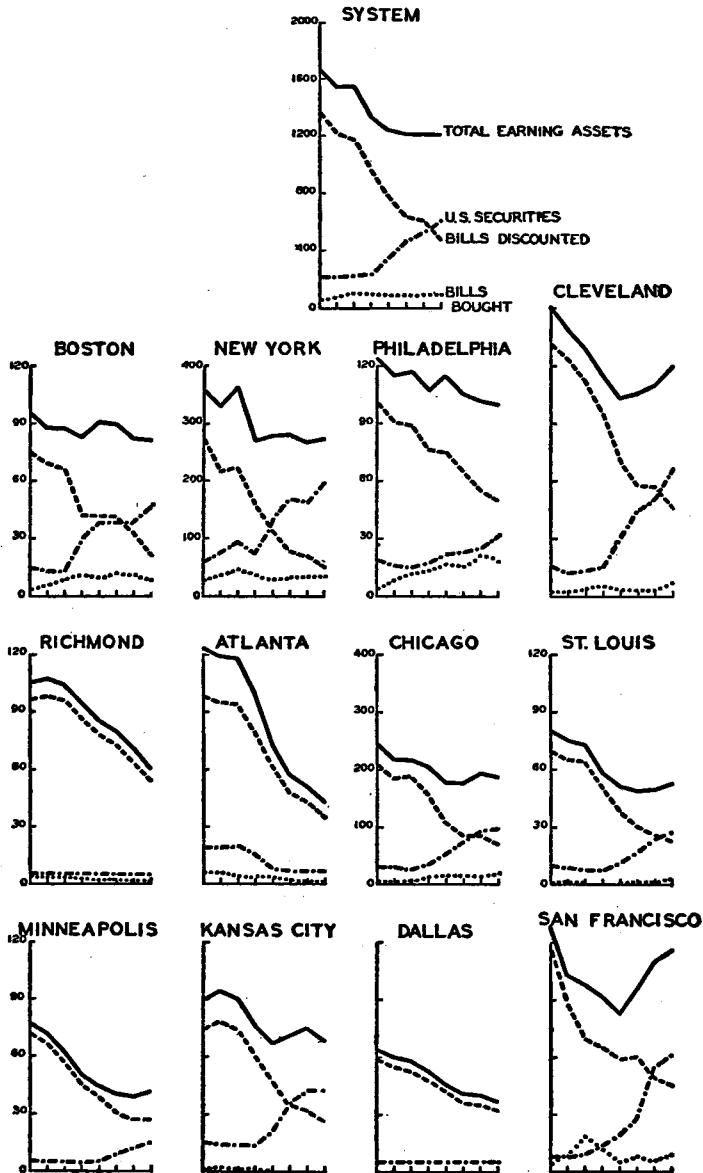
1. Fluctuations in the total earning assets or in the securities, acceptances, or rediscounts of the System are not reflected by closely similar fluctuations in the corresponding variables for individual reserve banks. In particular, note the relative stability of the earning assets of the Boston Reserve Bank, the relatively heavy and steady decline in those of Richmond, Atlanta, and Dallas, and the sharp decline followed by a large increase in the earning assets of the San Francisco Bank.

¹ Chart IV. Earning assets of the Federal Reserve System and of each reserve bank, 1922-31.

CHART IVa

EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, OCTOBER, 1921-MAY, 1922

(Millions of dollars)

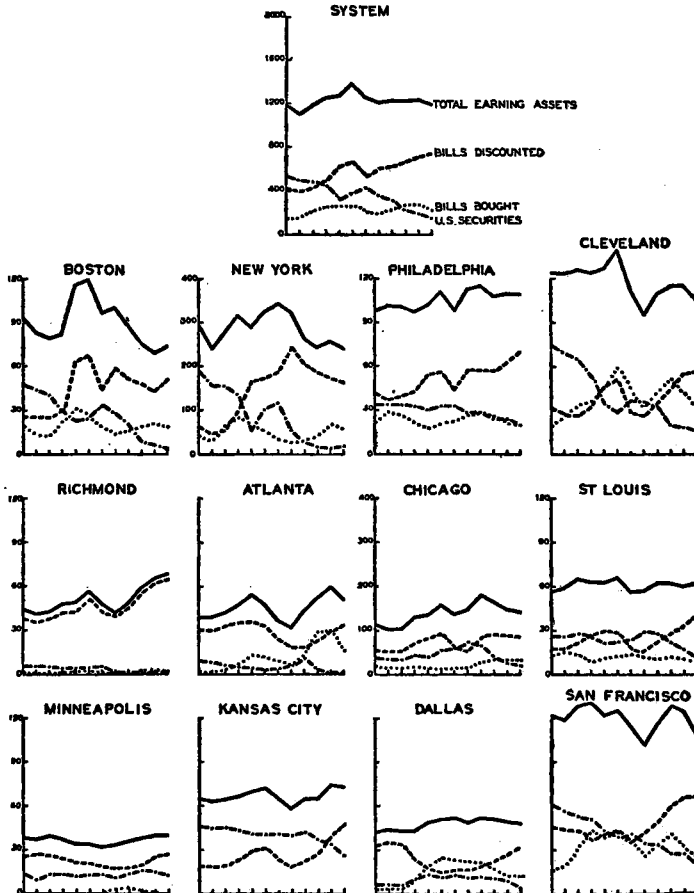


2. Although the developments of the period first attracted attention to stability, earning assets were not yet stable; and if the figures of individual reserve banks are considered, the instability is even more striking. Why should attention be paid only to the System's figures?
 3. The rapid decline in rediscounts, which largely preceded any important purchases of securities, is evidence of the fact that the reduction of rediscounts led to the purchases of securities rather than vice versa.
 4. No concerted open market policy is revealed by a study of the statistics of individual reserve banks. There are dissimilarities in the rate of increase as well as in the timing of purchases by the different reserve banks. Thus the New York Bank was first to purchase large amounts of securities in 1921, and the San Francisco Bank's purchases were excessive in comparison to those of other banks. On the other hand, purchases by reserve banks in the agricultural districts — note St. Louis, Minneapolis, Richmond, and Dallas, in particular — were on a distinctly limited scale. The explanation may be the relatively high level of their rediscounts and the difficulty of reducing them; but the important point is that purchases of securities were concentrated in several reserve banks although the reduction of rediscounts was shared by them all.
 5. A similar observation may be made concerning acceptance policies. The Boston, New York, and especially the San Francisco and Chicago Banks, increased their investments in acceptances in the latter part of 1921. In the agricultural sections, reserve banks disposed of — or at least did not purchase — acceptances throughout this period. During a large part of it their earning assets consisted almost exclusively of rediscounts. The Philadelphia Bank apparently preferred acceptances to securities.
- (b) *July, 1922–June, 1923.*
1. The stability in earning assets of the System is worthy of comment, although large fluctuations are evident in particular months.
 2. Instability is vividly revealed in the figures for the New York, Boston, Richmond, Atlanta, and Chicago Banks. In short, sales of securities by these banks were not offset by inverse movements either in rediscounts or in rediscounts *and* acceptances.
 3. Apparently sales of securities on a moderate scale were followed by large additional rediscounts at the reserve banks in the financial centers and increased holdings of acceptances, with the result that their earning assets increased. The policy of restraint was not

CHART IVb

EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, JULY, 1922-JUNE, 1923

(Millions of dollars)



proving effective in 1922: this conclusion is warranted by the figures for the System and for reserve banks in the financial centers. The developments were not unlike those in 1928-29. Vigorous sales in 1923 were more effective.

4. Significant is a marked increase in earning assets and rediscounts in the Richmond District. Its investments in public securities and acceptances were negligible throughout this period. Was the pressure put upon banks in other reserve districts, as a result of the sale of securities, ultimately felt by the banks in the Richmond District, which now were forced to borrow heavily from their reserve bank? A somewhat similar situation developed in the Atlanta District, although a spectacular increase in acceptances and securities in 1923 is to be considered.
5. Earning assets were more or less stable for those districts in which the fluctuations in individual variables were relatively small; the inverse relation of rediscounts to acceptances *and* securities is apparent. But acceptances frequently played an important part.
6. Hesitation in carrying through the open market policy in the latter part of 1922 and early in 1923 is to be noted both for the System and, especially, for the Chicago Bank. (Contrast the fluctuations in security holdings of the Chicago and New York Banks.)
7. The student is impressed by the peculiarities in the movements of variables of individual reserve banks. Note, for instance, the rate of increase of rediscounts in the Boston and New York Districts in the latter part of 1922; the rate of decline of earning assets of the Boston Bank in 1923; the relative stability of securities of the Philadelphia Bank; the increase of rediscounts and earning assets and the unimportance of the other variables in the Richmond District; the increase of acceptances and securities of the Atlanta Bank in 1923 and of securities of the Chicago Bank in 1922; the relative stability of all assets in most of the agricultural districts; the increase of acceptances and the decline of rediscounts in the Dallas District in 1922.
8. The portfolio of public securities of several of the largest reserve banks, including New York and Boston, was virtually exhausted.

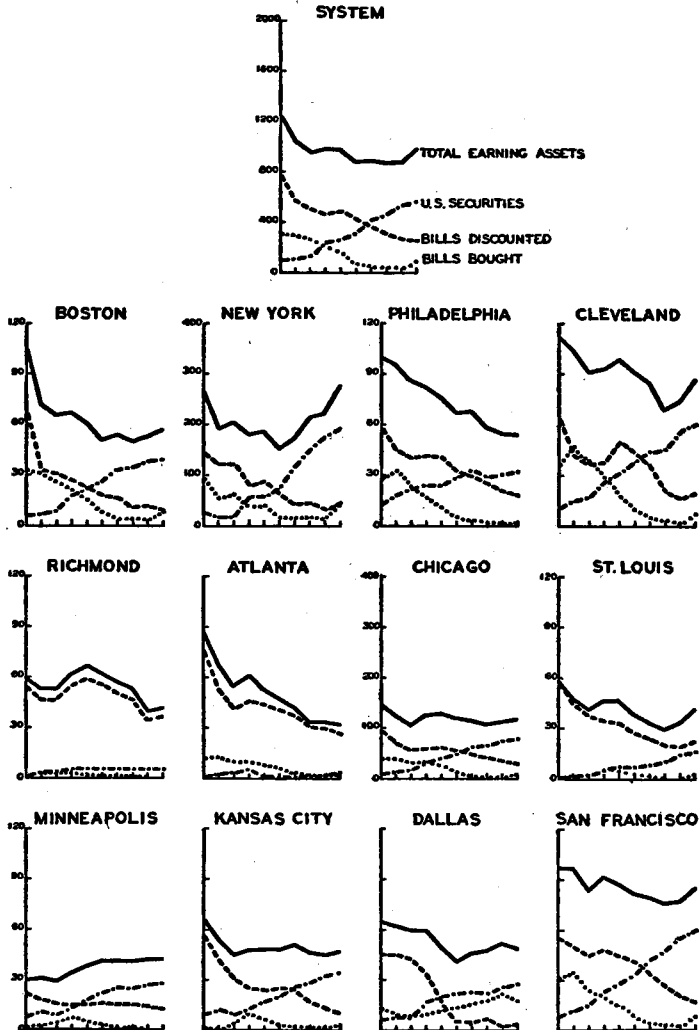
(c) *December, 1923-September, 1924.*

This was a period in which reserve banks reversed their policy of dear money.

1. A marked drop in the earning assets of the System in the first half of this period is to be considered in the light of the theory of stability of earning assets.

CHART IVc

EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, DECEMBER, 1923-SEPTEMBER, 1924
(Millions of dollars)



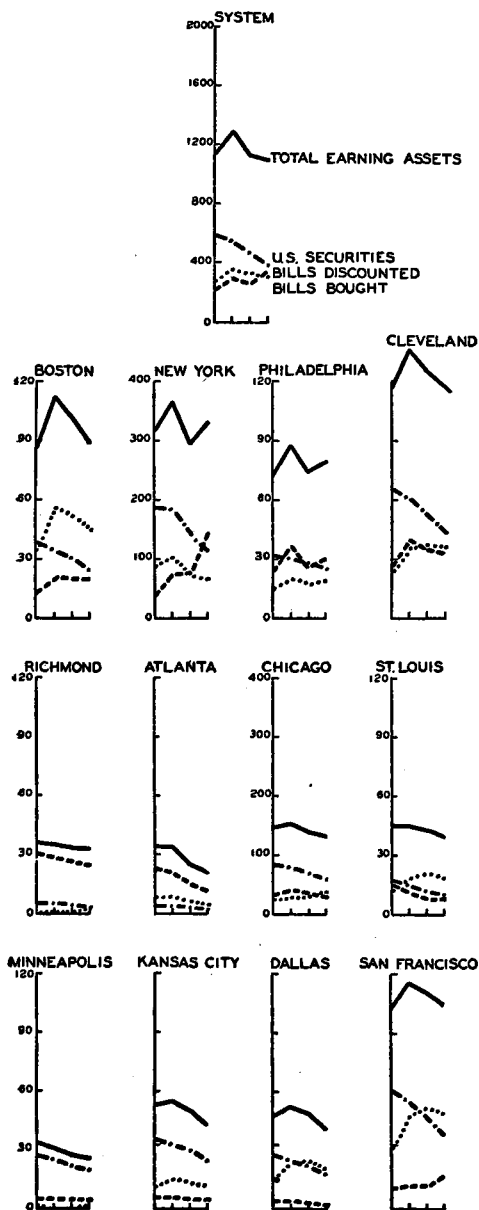
2. In the latter part, rediscounts had apparently reached a minimum in several districts, with the result that further purchases of securities were reflected in increases in earning assets of reserve banks there, although the total for the System remained relatively stable. Apparently the minimum level of rediscounts was approximately 30-40 millions for the New York Bank, 10-15 millions for Boston, and 20 millions for the Cleveland and St. Louis Banks.
3. In the first half of this period, the liquidation of virtually all their acceptances by reserve banks accounted, as much as the reduction of rediscounts, for the loss of earning assets. Purchases of securities did not prevent a severe reduction of earning assets.
4. Perhaps in no other period have the dissimilarities of movements between individual reserve banks and the System been so striking. Compare in particular the movements of the variables of the Richmond, Minneapolis, and Dallas Banks with the others, or New York with Philadelphia or Boston.
5. Rediscounts constituted the only significant asset of several of the reserve banks in the first half of this period; but their decline was as marked as in other districts where the purchases of securities have been held to be the explanation of the reduction.

(d) November, 1924-February, 1925.

This period was characterized by restraint.

1. In the first month a sale of securities was offset by a large increase in acceptances and rediscounts so that the reversal of open market policy was not followed by a movement, in a direction desired, of the total of earning assets. Seasonal requirements of currency may explain in part the upward movement of earning assets; but the failure to obtain the desired effect is the important point, for movements in currency and gold may be decisive in determining that of earning assets.
2. The reduction of earning assets for the entire period was concentrated in the agricultural districts. It seems that the disposal of securities in the northeastern reserve banks was followed by increased rediscounts or purchases of acceptances more than adequate to maintain the level of earning assets. But in most of the agricultural districts sales of securities were not followed by corresponding increases in rediscounts or (and) acceptances. Movements in rediscounts were sluggish, and, peculiarly enough, the important fluctuations were in securities rather than in rediscounts, the former constituting easily the most important assets held by several of the banks. The Dallas, St. Louis, and San

CHART IVd
EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, NOVEMBER, 1924-FEBRUARY, 1925
(Millions of dollars)



San Francisco Reserve Banks, however, made large purchases of acceptances in the early part of the period.

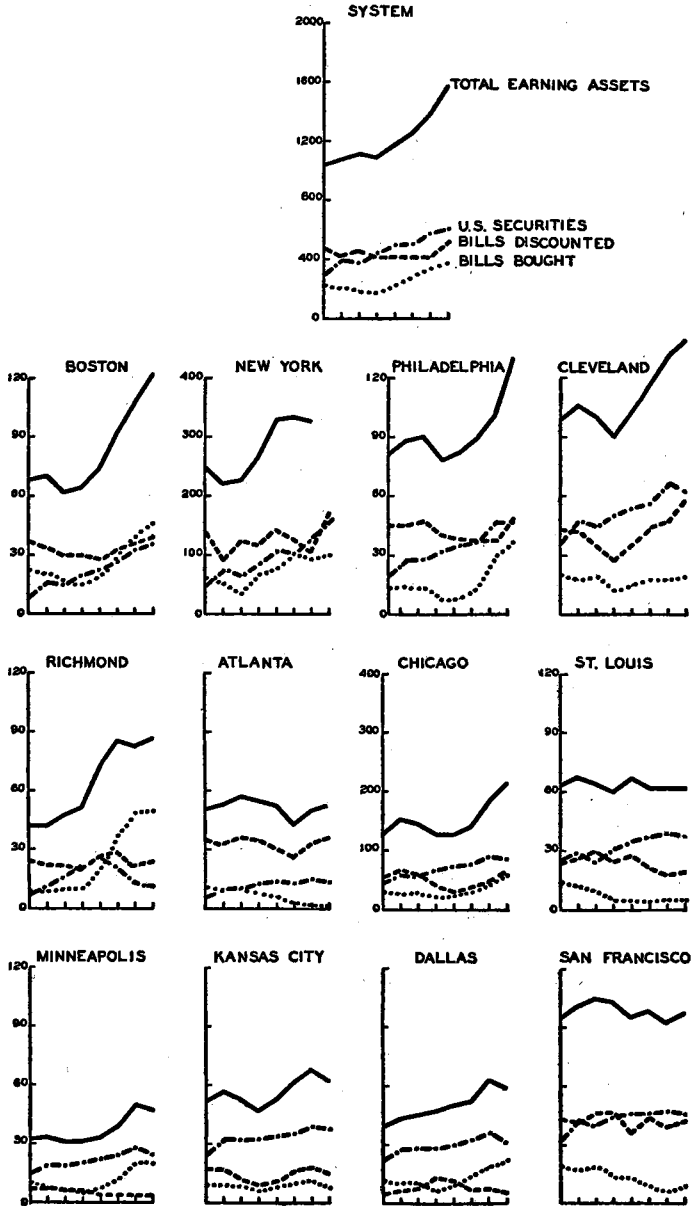
(e) *May, 1927–December, 1927.*

A period of expansion.

1. Movements in the variables of reserve banks in financial and industrial districts do not correspond closely to the movements for the System.
2. Contrast the fluctuations in the volume of public securities held in the early months of this period by the eastern reserve banks, — New York, Boston, and Philadelphia, in particular, — with the fluctuations of the Chicago, St. Louis, and San Francisco Banks. Perhaps the conflict anent policy, revealed by the dispute between the Chicago Bank and the Board over rates, is also reflected in the varying attitude toward open market operations. Compare the holdings of acceptances and securities of the Chicago Bank with those of the New York Bank in the first half of this period. It is also evident that in the last few months of this period several western reserve banks — Chicago and Minneapolis, in particular — purchased securities and acceptances at a very rapid rate, thus making up for their hesitancy in earlier months. Perhaps the relatively easier conditions elsewhere made aggressive action by these banks necessary now in order to maintain a fair share of the System's business.
3. The Atlanta, St. Louis, and San Francisco Banks did not share in the general movement for the period as a whole. The same conclusion holds for the Kansas City Bank, although its earning assets increased somewhat. Over the entire period these banks purchased a smaller volume of securities, relatively speaking, than did the System; but the explanation of the failure of earning assets to increase equivalently with the System lies largely in the reduction of rediscounts and acceptances of these four banks. (In the last two months Atlanta's rediscounts, however, increased appreciably.) The rediscounts and securities of the San Francisco Bank, on the other hand, were remarkably stable; a marked decline in acceptances explains the downward tendency of earning assets over the larger part of this period.
4. Movements in the four eastern banks (District Nos. 1, 2, 3, and 4) were larger than for the System; that conclusion holds particularly for the Boston Reserve Bank. In the first half of this period purchases of securities by these banks were offset only in part by a reduction of rediscounts or acceptances. In the first month or two earning assets, even in the financial centers, tended down-

CHART IVe

EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, MAY, 1927-DECEMBER, 1927
(Millions of dollars)



ward. (However, if the figures of each of the four banks are compared, large divergences will be apparent.) The marked rise in earning assets first appeared in New York, but on the whole the increase in the second half was more rapid in the other financial centers. Particularly striking is the stability of earning assets of the New York Bank in October and November, a stability that is also apparent in the figures for several smaller banks. A few banks purchased securities cautiously, and rediscounts tended downward; perhaps the signs of speculation and the loss of gold were having a restraining effect. But in other districts the effects of the earlier measures taken by the New York Bank were now evinced by continued purchases of securities and acceptances and, frequently, by increased rediscounts.

5. Perhaps it is significant that in the districts not participating in the general movement — Atlanta, Kansas City, San Francisco, and St. Louis — the acceptance market was deserted by the reserve banks. The Minneapolis, Dallas, Richmond, Boston, Philadelphia, Chicago, and New York Banks, on the other hand, lent strong support to the acceptance market. The Richmond Bank disposed of securities in the latter part of the period and purchased acceptances in larger quantities; at the Dallas and Minneapolis Banks rediscounts declined.
6. The extent to which the inverse movements between securities and rediscounts, or even between securities and rediscounts and acceptances, failed to take place is revealed more clearly by a study of the figures of individual banks, although the fluctuations for the System are convincing enough on this point. Over the whole period the inverse relationship was striking for a few reserve banks in the agricultural districts, and in the early months there was a tendency in the financial centers for purchases of securities to be offset by reductions of rediscounts. But on the whole rediscounts were remarkably stable, especially in the financial centers; and the usual sluggishness in the movement of rediscounts evident in agricultural districts was more apparent in financial centers during this period. That earning assets did not rise more rapidly in the early months may be explained by the liquidation of acceptances; that they increased so rapidly in the second half, by the large purchases of acceptances and the moderately large increase in rediscounts in a period in which purchases of securities were extensive. On the whole, the resistance to the inflationary tendencies stimulated by the purchase of securities seems stronger in the agricultural districts; therefore, in periods in which the aim is to stimulate trade by purchases of securities, the

fluctuations in rediscounts, and also in acceptances, may be abnormally large for banks in agricultural districts. The relative stability in earning assets and rediscounts in several of the agricultural districts may also be explained in part by a less aggressive open market policy, although several reserve banks modified their policy of inaction in the later months of this period. It should also be remembered that seasonal movements explain in part the more rapid increase of earning assets in the agricultural districts in the latter part of this period, and the loss of gold partly accounts for the increase in the East.

(f) *January-December, 1928.*

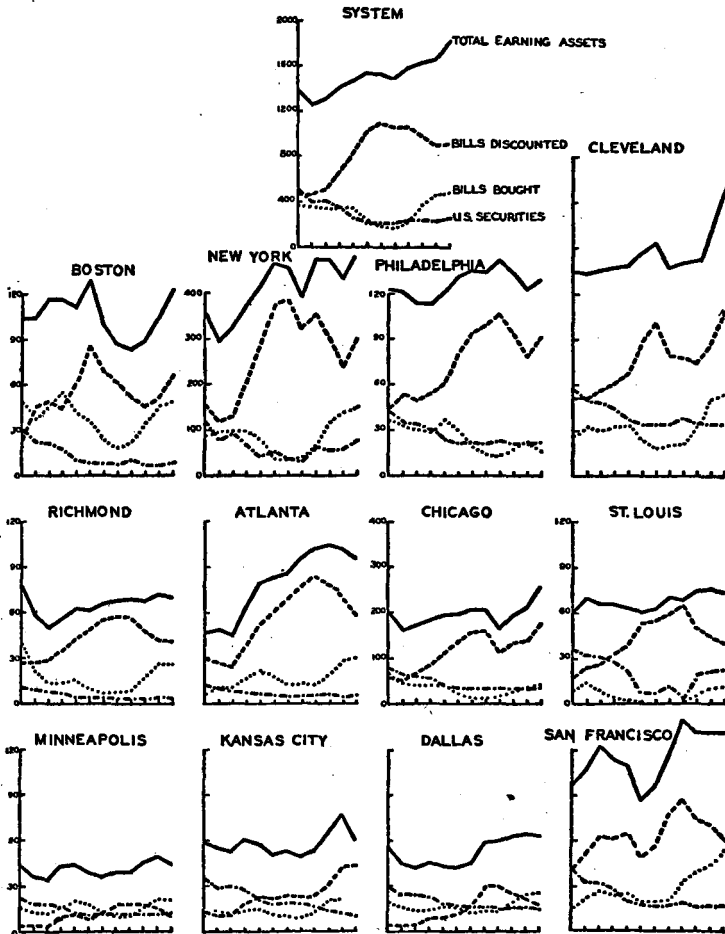
This was, at least until September, a period of restraint.

1. In the first half of this year the reserve banks introduced vigorous measures to curb expansion; but the increase in rediscounts was greater than the reduction of acceptances and securities. The policy was apparently effective in all districts but New York, Atlanta, and Boston, and was partially so in the Philadelphia and Cleveland Districts. Also, in the first half of the year allowance is to be made for seasonal influences; thus during that season the earning assets of the Boston Bank generally decline. The increase in rediscounts and earning assets was disconcertingly large for the New York and Atlanta Banks. New York's position, however, ought to be considered in the light of the large losses of gold; the position of the reserve banks in agricultural districts in the light of the seasonal inflow of currency. The fluctuations in member-bank reserves were probably not so dissimilar as might be inferred from a study of the earning assets of reserve banks. It might be contended that reserve policy was especially effective in the New York District and in the districts that experienced fluctuations similar to those experienced by the New York Bank in their assets, for indebtedness mounted at a very rapid rate. But the weakness of that interpretation is that the higher rates which followed failed to have the desired effect on the volume of bank credit outstanding.
2. The open market policy of individual reserve banks is not easily explained. Undoubtedly the fluctuations in acceptances ought to be considered in conjunction with those for securities. Compare the large liquidation of these assets by the New York Bank with the more moderate liquidation of the Philadelphia, Cleveland, Atlanta (expansion rather than liquidation), Minneapolis, Kansas City, and San Francisco Banks. Boston, Richmond, and Dallas relied more than other banks on the liquidation of accept-

CHART IV

EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, JANUARY, 1928-DECEMBER, 1928

(Millions of dollars)



ances. Although the portfolio of securities held in the System account was virtually exhausted by the middle of 1928, it is worth pointing out that the New York, Philadelphia, Cleveland, Chicago, Minneapolis, Kansas City, and Dallas Reserve Banks still held large amounts of securities at the end of June, 1928. Liquidation of securities by the Kansas City and St. Louis Banks later in the year was not consistent with the developments elsewhere; and an appreciable increase in the holdings of the New York Bank in September is not easily explained.

3. The marked reduction of rediscounts and earning assets of the Boston Bank in the third quarter of the year seems to reflect pressure on the part of the reserve bank; but the increase in the last quarter was large compared to that of the System. The relative stability of earning assets, and to some extent of all variables, was marked for the Philadelphia, Cleveland, Richmond, St. Louis, Minneapolis, Kansas City, and Chicago Banks.
4. In the second half of the year the increase in earning assets was large for the reserve banks that had either maintained a steady volume or reduced their earning assets; the Atlanta Bank was the only important exception.

(g) *December, 1928-July, 1929.*

A period of restraint.

1. Perhaps in no other period were there greater diversities in the movements of earning assets of individual banks. The explanation may be the reliance on moral suasion, which policy puts much discretion on the individual reserve bank, the limited volume of public securities available, and the uneven distribution of the holdings of acceptances liquidated.
2. Peculiarly significant are the spectacular reductions of earning assets and of each type of asset of the New York Bank in January and February, and the notable increase of rediscounts and earning assets of the New York Bank in July. Apparently the New York banks cooperated to a remarkable degree early in the year.

A marked increase in the earning assets (as well as rediscounts) of the Philadelphia Bank in the months February-April was not in line with System policy. Was this the belated response of the banks in the Philadelphia District to the pressure of expansion elsewhere?

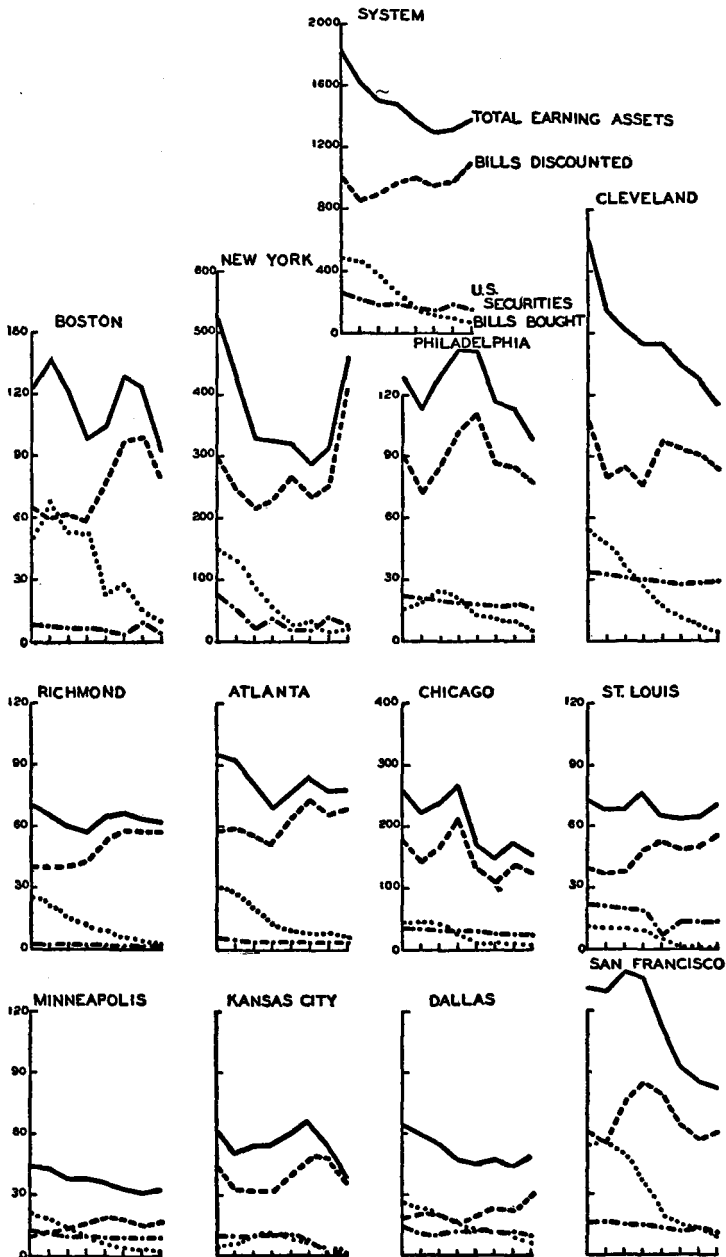
A somewhat similar increase occurred in Chicago in February-March, but this was followed by a reduction of very large portfolios in rediscounts in April. The Chicago Bank applied moral suasion with a vengeance in this period. Also noteworthy are an

CHART IVg

EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK

MONTHLY AVERAGE OF DAILY FIGURES, DECEMBER, 1928-JULY, 1929

(Millions of dollars)



increase in earning assets and rediscounts of the Kansas City Bank from February to May and a marked decline in June-July. Other reserve banks conformed their policy in general to that of the System, although the fluctuations of the variables of the St. Louis and Richmond Banks were rather restricted.

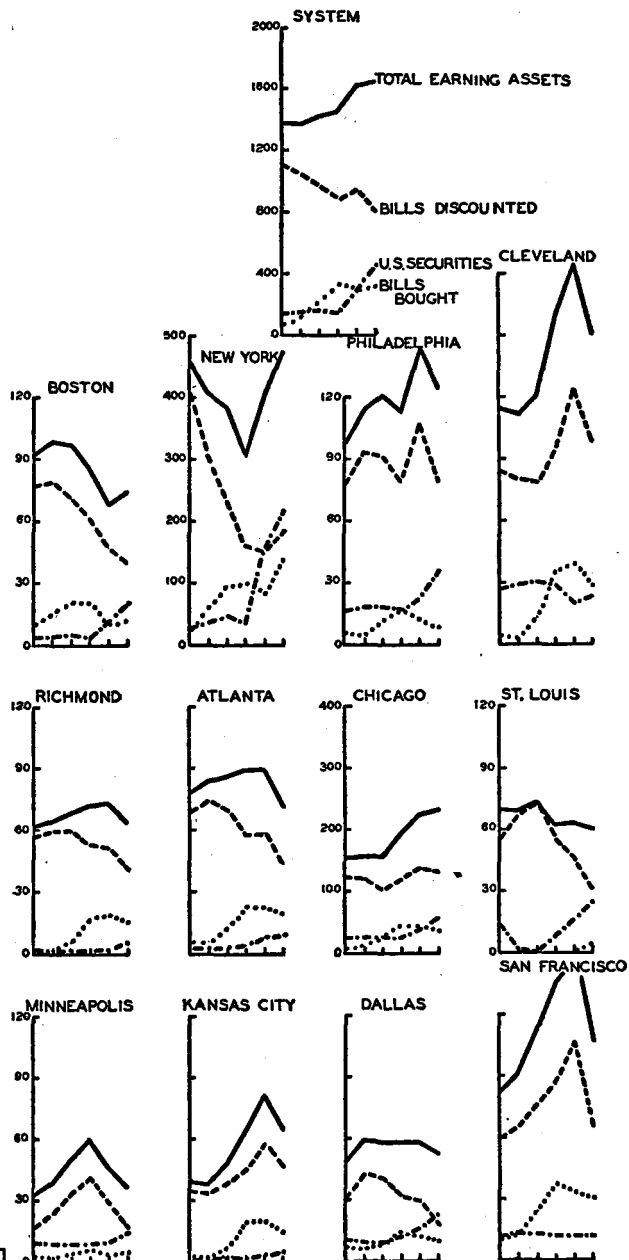
3. In this period fluctuations in rediscounts largely accounted for those in earning assets, but in the first three or four months a considerable reduction of acceptances outstanding, not offset by a corresponding increase in rediscounts, made possible a heavy reduction of earning assets not to be associated with direct pressure on member banks. The liquidation of acceptances by the Chicago Bank, however, was not followed by a reduction of earning assets in February-March.

Although operations in Government securities were not on the whole an important factor in policy during this period, large sales by the New York Bank in January and February and moderate purchases in March and August, a gradual but small liquidation by the Chicago Bank throughout the period, moderate liquidation by the St. Louis and Kansas City Banks — all these deserve mention.

4. The most significant point to be gleaned from the study of this period is the following: Pressure exerted by one reserve bank results merely in demands directed against neighboring reserve banks, and the failure to enforce equally aggressive policy by the latter jeopardizes the success of the policies of the courageous reserve banks. Thus in January liquidation in New York was reflected in an increase of reserve credit outstanding in the Boston District, and pressure in both New York and Boston in February was followed by a marked expansion of the Philadelphia and Chicago Banks. Continued exercise of restraint in Boston in March was accompanied by increased rediscounts and stable earning assets in New York, and expansion of the business of the Philadelphia and Chicago Banks. The violent contraction in Chicago of April and May was followed by marked expansion in Kansas City and Boston, and at least increased rediscounts in Minneapolis and Cleveland. Contraction or stability was the rule almost everywhere in July, but in New York, especially, and Dallas rediscounts and earning assets increased. Apparently pressure in all the neighboring reserve banks was reflected in large additions of reserve credit in New York.

One can scarcely contend that the policy was a System policy. Moral suasion was in part ineffective because uniformity of pressure was not forthcoming.

CHART IVh
EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, JULY, 1929-DECEMBER, 1929
(Millions of dollars)



(h) July-December, 1929.

A period in which reserve authorities attempted to introduce easier conditions.

1. Once more it is difficult to find evidence of a uniform policy. Contrast the very heavy reduction of rediscounts and earning assets in New York and Boston with the upward movements in these variables for most of the remaining reserve banks in the early months of this period. Even in the neighboring districts of Philadelphia and Cleveland the movement was upward. Particularly large were the increases for the Minneapolis and Kansas City Banks. Apparently the New York and Boston Banks were making strenuous efforts to reduce their rediscounts at this late date (August, 1929); a reduction of approximately 60 per cent in the rediscounts of the New York Bank is particularly striking. Increased business by neighboring reserve banks may be explained by the pressure put on its members by the New York Bank.
2. In October the crash on the stock market occurred, and the New York Bank put large additional resources on the market by purchasing public securities. The movement in most other centers was in this instance sympathetic; but a decline of the earning assets and rediscounts in the neighboring district of Boston and a sharp decline of the Minneapolis Bank are to be noted. Also consider the marked reduction of rediscounts at the Dallas Bank from September to December.

Several reserve banks in the agricultural districts possibly were applying moderate pressure in the last four months of 1929, although they were in part neutralizing the effects of their measures of restraint by purchasing acceptances. To some extent the pressure in these agricultural districts was exercised at the same time that the New York and Boston Banks were in a restrictive mood; but their pressure continued when the New York Bank began to apply measures aimed to ease the situation. Perhaps debts of banks were merely being reduced rapidly in the West in response to open market operations.

(i) and (j) January, 1930-December, 1931.¹

1. In general, reserve policy during this period was directed toward reducing the price of money and increasing the available supplies; but unsatisfactory banking conditions were reflected in large withdrawals of cash, many bank failures, and finally losses of gold that made necessary a partial reversal of the policy of cheap money.

¹ The material in Chapter XLIV might be consulted.

CHART IVi
EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, JANUARY, 1930-DECEMBER, 1930
(Millions of dollars)

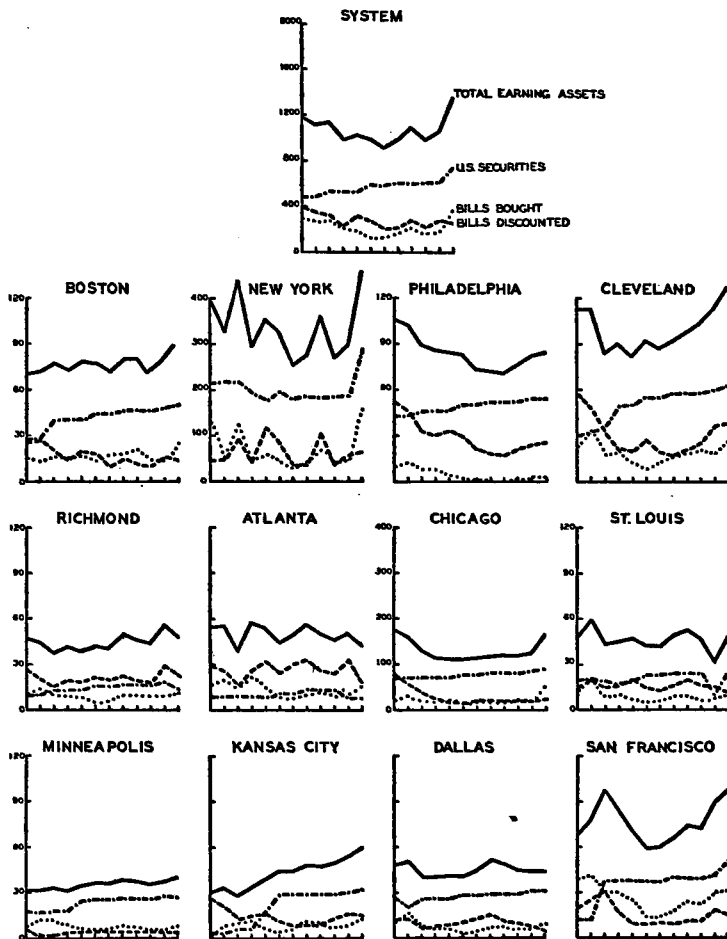
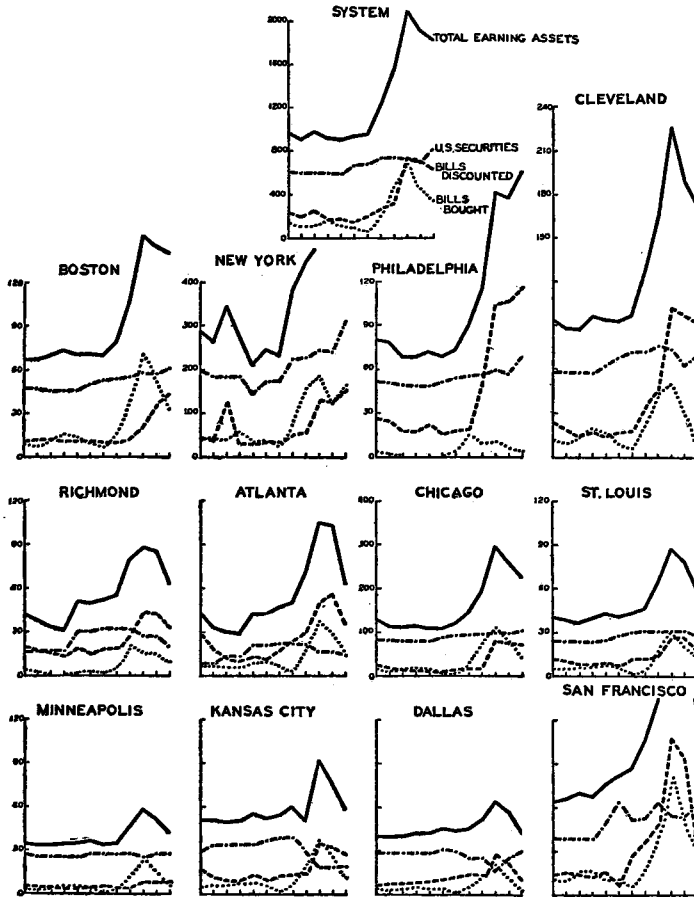


CHART IVj

EARNING ASSETS OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
MONTHLY AVERAGE OF DAILY FIGURES, JANUARY, 1931-DECEMBER, 1931
(Millions of dollars)



2. Reserve banks made large purchases of Government securities during this period, especially in the first half of 1930 and to some extent in the second half of 1931. On the whole the policy was uniform for all the reserve banks; but the relative stability of the holdings of the New York Bank (at least after the first half of 1930), and to a lesser extent of those in Chicago and San Francisco, and the very large increases of the Cleveland and Kansas City Banks are noteworthy.
3. If the reserve banks were intent on increasing their earning assets during this period, they were unsuccessful. The tendency was downward until near the end of the period. An inflow of currency and gold made possible, nevertheless, an increase of member-bank balances in 1930. If the authorities were intent on introducing monetary ease by making possible a reduction of rediscounts, they were successful at least until the latter part of 1931.
4. The earning assets of the Boston, Chicago, Minneapolis, and Dallas Banks were more stable than those of the System. Extreme and frequent fluctuations of the earning assets of the New York Bank probably reflected the violent movements of the security market and fluctuations of confidence in the banking system. The vulnerable and sensitive position of the New York Bank is evident in the sharp reductions and increases of rediscounts, although its holdings of securities were *relatively* stable. Also out of sympathy with the general movements were the large upward movement of the Kansas City Bank in 1930 and the early months of 1931, the downward movements of the Atlanta Bank in the second half of 1930 and the first of 1931, and a somewhat similar movement for the Richmond Bank.
5. The major decline in rediscounts occurred in the early months of 1930, when the holdings of acceptances were also drastically reduced. Movements of gold and currency are probably a more pertinent explanation of the reduction of rediscounts than is open market policy. The System's volume of rediscounts was relatively stable from the early months of 1930 to the last months of 1931, although the tendency was downward. An inspection of the charts of individual reserve banks will reveal wide differences. Reserve banks in agricultural districts generally increased their rediscounts in periods of impaired confidence. The reduction of rediscounts in the Philadelphia and St. Louis Banks was long-sustained and rather severe. Rediscounts of the Chicago and Minneapolis Banks were unusually stable after the first few months.

Evidence is available to prove that reserve banks have frequently been at odds concerning the distribution of acceptances held by the System. Although other markets account for an appreciable proportion of the total, most of the purchases are made in New York. On the accompanying chart is presented a comparison of the percentage of the total of acceptances held by each reserve bank with the percentage of deposits.¹ The results of this study are to be interpreted in conjunction with the results of a similar study of rediscounts and securities. Some objections may be raised to any conclusions based on a comparison of deposits and acceptances. A large volume of acceptances is drawn to finance shipments of agricultural commodities, and it may be held that reserve banks in agricultural districts should support the acceptance market in so far as acceptances outstanding arise in their districts. Comments made here are presented subject to any reservations that may be required by a consideration of that point.

The Boston, Philadelphia, Cleveland, and San Francisco Banks have, more or less consistently, invested in acceptances in excess of the amounts to be expected in view of their share of the System's deposits; on the same criteria the New York, Chicago, and St. Louis Reserve Banks have rather consistently invested a small proportion of their reserves in acceptances; it is to be recalled, however, that several reserve banks, New York in particular, hold earning assets that are small in relation to their deposits. In the war and early post-war periods, the Richmond, Atlanta, Minneapolis, and Kansas City Banks invested less in acceptances than might be expected in view of their proportionate share of the System's deposits; but the investments of the Atlanta Bank since 1921 and of the Richmond, Minneapolis, and Kansas City Banks since 1925 have been considerably above normal.

Banks in the agricultural sections have not given adequate support to the acceptance market; that conclusion holds in particular for the first eight or ten years of reserve history. In more recent years they have invested more liberally in acceptances and perhaps have contributed in proportion to the volume of acceptances arising in their districts.

The problem of attracting adequate reserve money to the acceptance market is not vexing in a period of ease or even moderate activity; but in periods of stringency the pressure to conserve resources for member banks being strong, reserve banks are not so anxious to divert resources to the acceptance markets. It will be recalled that in 1919-20 there was an animated discussion on the subject by the representatives of the New York, Boston, and Chicago Banks. Apparently the Boston Bank lent support to the market in the second half of 1919, but under the pressure

¹ Chart V. Proportion of System's acceptances and deposits held by each reserve bank, 1915-31.

CHART V
 PROPORTION OF SYSTEM'S ACCEPTANCES AND DEPOSITS HELD BY EACH RESERVE
 BANK: MONTHLY, MAY, 1915-DECEMBER, 1931
 (Per cent)

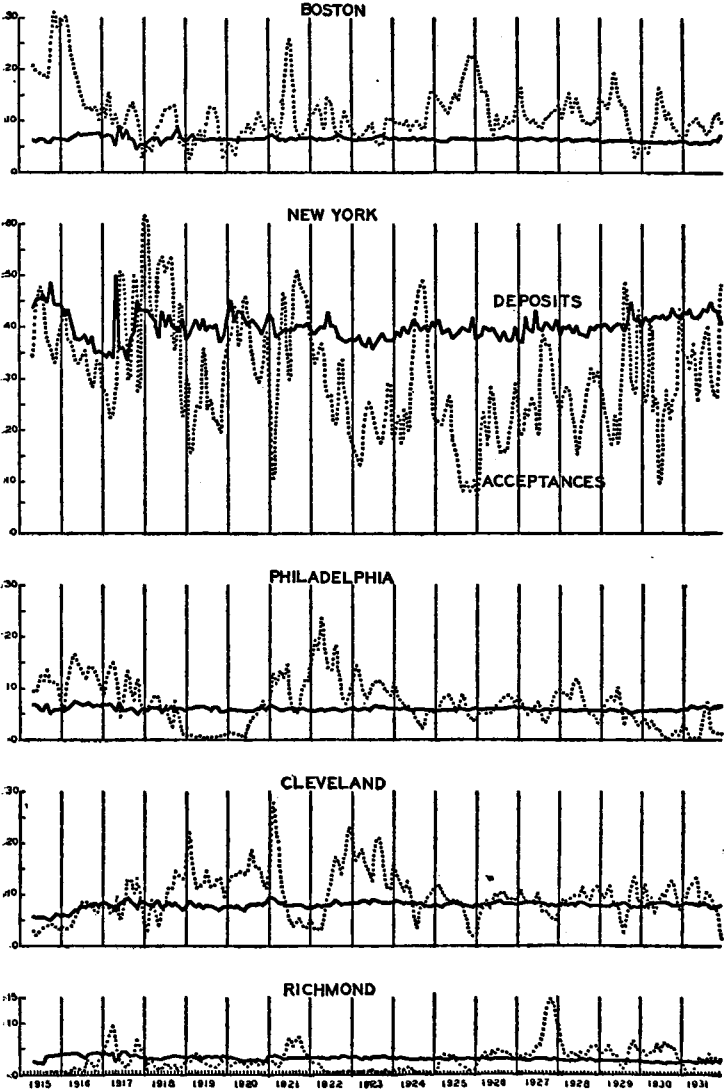
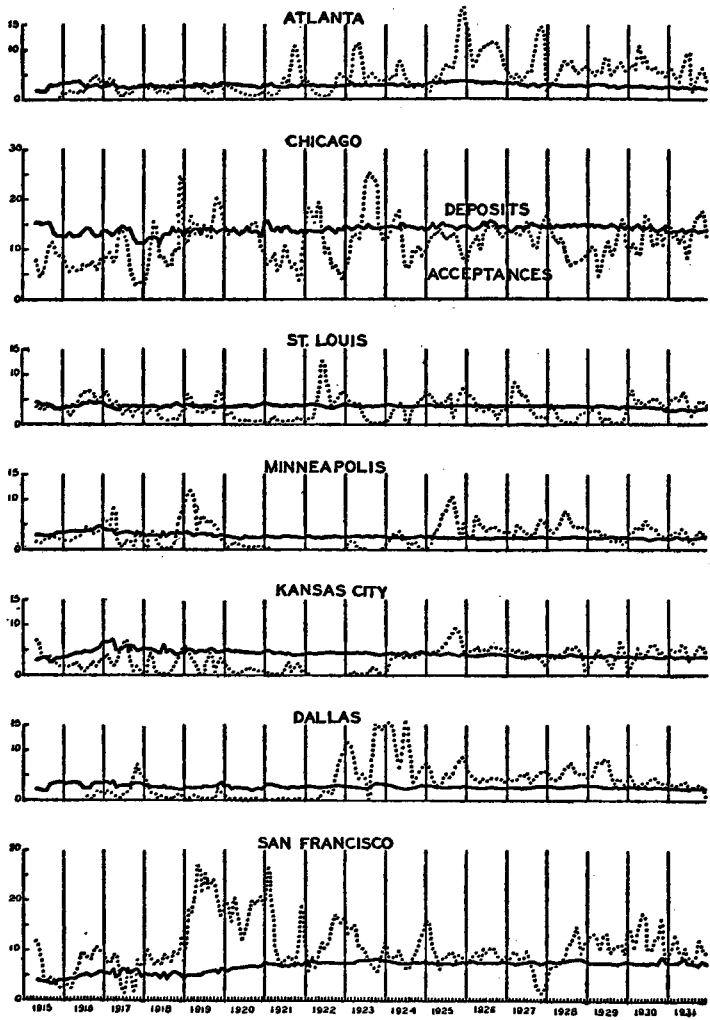


CHART V (continued)



of the first half of 1920, deserted incontinently. The Philadelphia Bank also took protective measures; virtually no acceptances were in its portfolio in 1919 and the first half of 1920. Several reserve banks deserted the acceptance market in the second half of 1919, in 1920, and in the first half of 1921; and in particular the Minneapolis (in 1920), Kansas City, St. Louis, and Dallas Banks made no pretense of supporting the acceptance market. The New York Bank in the first half, the Boston Bank in the second half, of 1920, and the Cleveland, San Francisco, and Chicago Banks in 1919 and 1920, offered increased resources to the market. In particular a disproportionately heavy burden was borne by the Cleveland and San Francisco Banks.

In 1921-22 large purchases of securities were made by the reserve banks. In this period the Boston, Philadelphia, and Chicago Reserve Banks — the latter in 1922 only — in particular increased their share of the System's holdings of acceptances, and the Cleveland and San Francisco Reserve Banks, usually the most active supporters of the market, withdrew part of their support when other reserve banks displayed an aggressive tendency to purchase. Throughout the years 1921-31 there is a remarkable inverse correlation of the holdings of the New York and Boston Reserve Banks; apparently the volume of acceptances available is not adequate to satisfy the requirements of these two large banks.

Contraction was in order from the middle of 1922 to the middle of 1923. The Cleveland, Dallas, San Francisco, Atlanta, and St. Louis Banks now increased their relative participation. In the period of ease in 1923-24 the Boston, Minneapolis, Kansas City, Dallas, and St. Louis Banks increased their share of the total acceptances held by the System. In 1925-26 the Boston, Atlanta, and Minneapolis Banks were particularly active in the acceptance market, and the Richmond, St. Louis, and Kansas City Banks increased their share of the total. New York's share was to a very large degree reduced.

The distribution of acceptances was not materially changed in the first half of 1927. In the latter part of that year and the first half of 1928, a period in which restrictive measures were introduced by the reserve banks, there were important changes in distribution. The Boston, Philadelphia, Minneapolis, and Richmond Banks tended to participate more freely, relatively speaking. Support was withdrawn by the New York, Kansas City, Atlanta, Chicago, and, especially, by the St. Louis Banks. In the second half of 1928 additional support was given, on the whole, by reserve banks that had withdrawn in the preceding period, and vice versa. Thus the New York Bank invested more freely in acceptances, and the Boston Bank to some extent retreated.

In the period in which moral suasion was applied — the first half of 1929 — New York sooner than the Boston, Cleveland, or Philadelphia

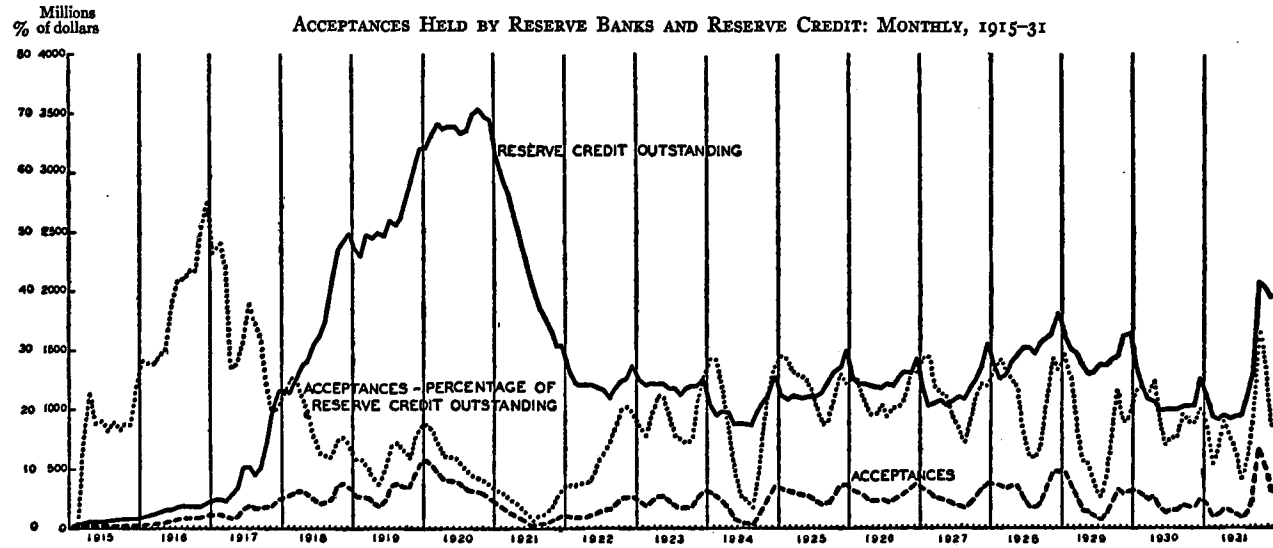
Banks, drastically withdrew support of the acceptance market, whereas the Dallas, San Francisco, and Atlanta Banks increased their relative participation. It may be observed here that, throughout 1928 and the first half of 1929, the Chicago, St. Louis, and Minneapolis Banks held a declining proportion of the acceptances in the portfolios of the twelve reserve banks. Perhaps that reflects their opposition to the policy introduced in 1927. The conclusion does not hold for the Kansas City Bank, however, and the Atlanta Bank was unusually generous throughout this period.

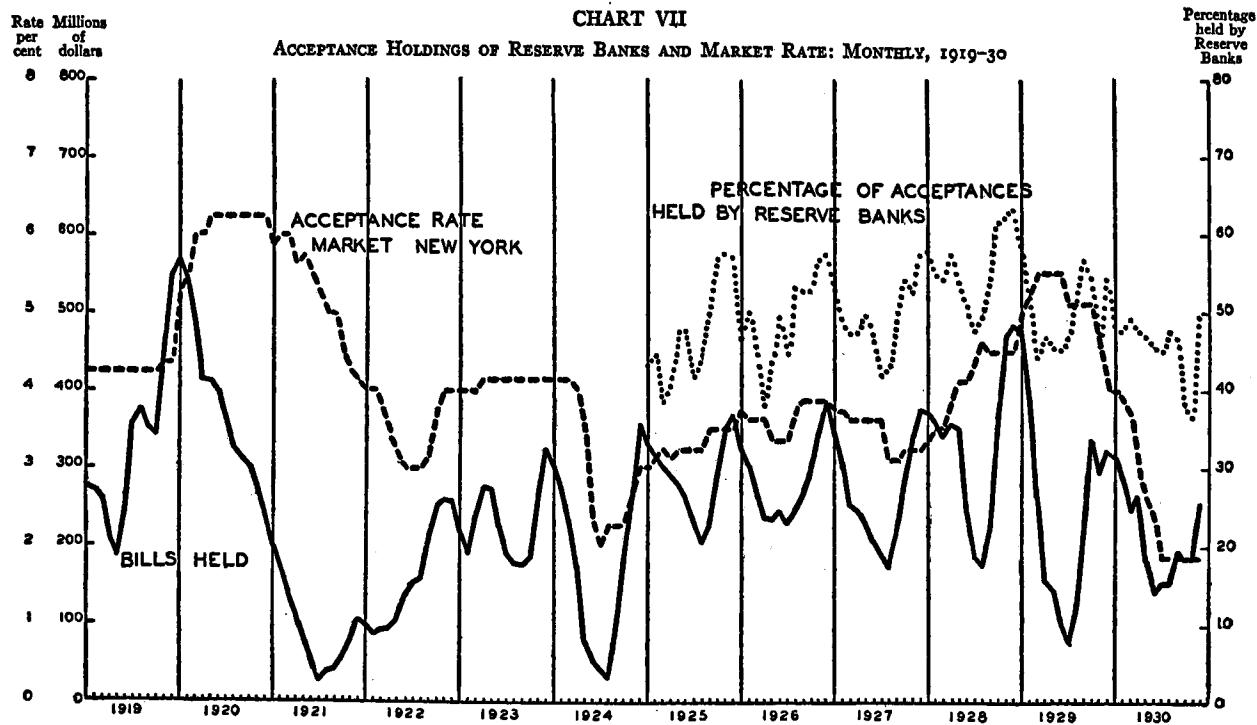
The Chicago and the New York Banks supported the market more freely in the second half of 1929, as did several other reserve banks in agricultural districts, and the Boston, Philadelphia, Minneapolis, and Dallas Banks in particular deserted. In 1930 most reserve banks increased their proportionate holdings at the expense, particularly, of those in New York, Philadelphia, and Minneapolis.

Reserve banks were apparently more courageous in sacrificing their acceptance policy to their credit policy in 1920 than in 1928 or even in 1929.¹ Relatively speaking the reduction in holdings was much greater in 1920-21, even if we allow for the reduction in the volume outstanding, which may in truth be associated in part with the desertion of the market by reserve banks. It is rather significant that the larger part of the reduction occurred in the second half of 1920, although this is the season of the year when reserve banks ordinarily increase their holdings to a very large extent. Also note the large seasonal movements even in relatively quiet years, the large drop in 1924, and the relatively small drop in 1927, as well as the moderate reduction in the market rate in 1927 as compared to 1924.

When the market rate on acceptances rises, reserve banks tend to hold larger quantities, for in such periods the member banks and the market are subjected to pressure for more accommodation from customers and the sale of acceptances to reserve banks is a substitute for rediscounts: an increase in the latter contributes to high rates. Declining rates are generally accompanied by reduced investments in acceptances by reserve banks, for in such periods the money market has large resources seeking profitable employment. Another important factor is the relation of the buying and market rates on acceptances. So long as the reserve banks constitute an important element in the market, the reserve bank buying rate remains the decisive factor in the determination of the market rates; but when the reserve banks raise their buying rates above that of the market, higher rates may attract less rather than more reserve funds.

¹ Chart VI. Acceptances and reserve credit, 1915-31. Chart VII. Acceptances, holdings of reserve banks, and market rate, 1919-31.





Thus the failure to support the market in the second half of 1920 and in the early part of 1929 was reflected in an increase in the buying rate above the market rate, and hence higher rates were followed by a reduction of investments in acceptances by reserve banks.

One additional factor ought to be considered in interpreting these results: the fluctuations in the holdings of the reserve banks should be viewed in the light of the fluctuations in the total acceptances outstanding. Thus the reduced holdings of the reserve banks in 1920 are to be considered in the light of the reduction in the volume of acceptances outstanding, and the increased holdings of 1928 ought to be considered in conjunction with the increased volume outstanding. It will be noted that at the seasonal peak the percentage of the holdings of the reserve banks to the total outstanding increased to a disproportionate degree in 1928, and the proportion at the peak of seasonal activity in 1929 was low. Also observe the relatively small decline in the early part of 1928 (percentage of total outstanding). The significant point, however, is the volume of acceptances held by the reserve banks, for every dollar thus invested is an additional dollar of reserve credit outstanding; the acceptance policy, nonetheless, is to be considered in conjunction with the policy toward all earning assets. The proportion of acceptances outstanding held by reserve banks is an indication of the extent to which the reserve banks have adhered to their policy of supporting the acceptance market.

It is also apparent from Chart VI that members were provided with a larger percentage of reserve credit outstanding through acceptances in 1915-16 than at any other time; the proportion declined until 1919, reaching a low point in 1921. Then there was a gradual increase until 1923 and 1924. At the seasonal peaks in 1926-28 the percentage of acceptance credit of all reserve bank credit was relatively constant, and in 1929 it was low. In truth the seasonal ebb was abnormally low in 1927-29 (on a descending scale). Thus it might be held that the acceptance policy does not reveal the expansionist policy as clearly as does an examination of the total reserve bank credit, or better, rediscounts and balances of members outstanding.

The question may be summarized thus: In the years 1926-29 reserve banks tended to invest a relatively constant proportion of their earning assets in acceptances; and they held relatively stable quantities in dollars (allowing for seasonal movements) except for the large purchases at the peak in 1928 and the relatively small purchases in 1929. High rates attracted increased reserve funds in 1928, but the increases in the buying rate in 1929 proved effective. In the years 1925-28 the reserve banks tended to hold a slightly increasing proportion of all acceptances outstanding.

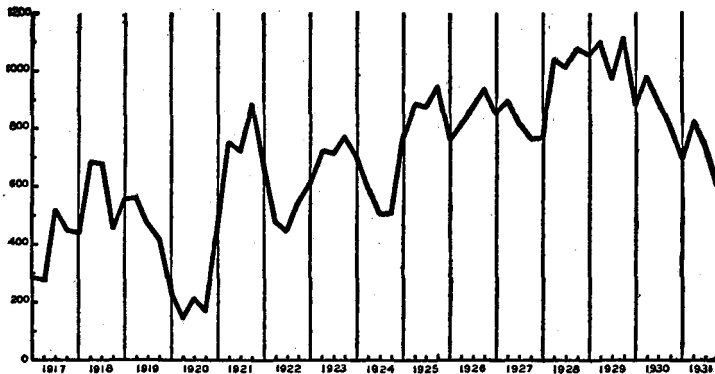
APPENDIX B

GOLD, RESERVES, NOTES

IN THIS appendix, I consider the problem of gold, reserves, and notes. Free gold tends to diminish in periods of monetary ease, to increase in periods of stringency. The decisive factor in its quantitative determination is the amount of paper eligible as collateral. At this juncture it is argued that the popularization of the concept of free gold is unwise and may prove embarrassing in a later period when gold is being exported and

CHART VIII

FREE GOLD OF THE FEDERAL RESERVE SYSTEM: QUARTERLY, 1917-31
(Millions of dollars)



restraint is required; for it may be pointed out, to the embarrassment of officials, that the amount of free gold has increased. In a study of the amount of free gold held by each reserve bank, it is revealed that the fluctuations for the New York Bank have been peculiarly large.¹ Its sensitivity to gold movements, to demands for currency, and to rediscounts explains this fact. The next chart includes a study of the gold in circulation and in reserves, as well as the allocation of reserves by reserve banks.² When losses have become troublesome, reserve authorities have

¹ Charts VIII and IX. Free gold of the Federal Reserve System, 1917-31, and of each reserve bank, 1927-31.

² Chart X. Distribution of gold in the United States, 1915-31.

modified their policy of putting gold into circulation. A final chart includes a study of various aspects of the problem of collateral against notes.¹

The excess of collateral beyond legal requirements has been great in periods when free gold has been abundant and reserves have been more than adequate. In periods of activity a large proportion of the outstanding notes is covered by eligible paper. Tills at the reserve banks tend to decline in periods when the amount of free gold is a source of concern. (Collateral is required against notes held by reserve banks.)

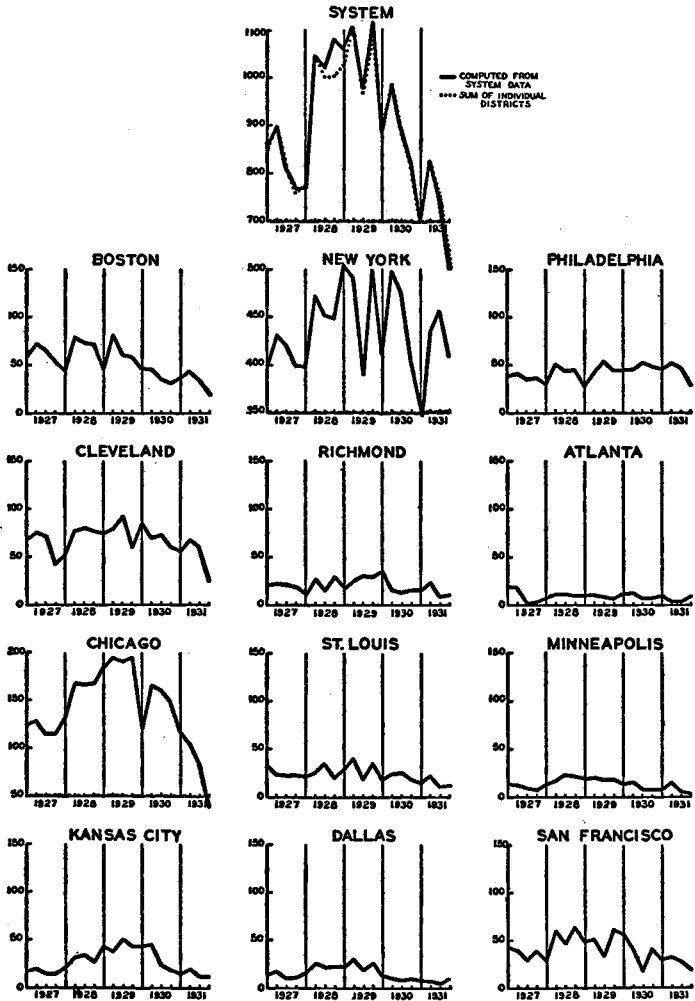
The following movements in the total of free gold are to be observed in Chart VIII:

(1) 1917 to middle of 1918	up
(2) Middle of 1918 to middle of 1920	down
(3) Middle of 1920 to latter part of 1921	up
(4) Latter part of 1921 to middle of 1922	down
(5) Middle of 1922 to middle of 1923	up
(6) Middle of 1923 to middle of 1924	down
(7) Middle of 1924 to middle of 1925	up
(8) Middle of 1926 to late 1927	down
(9) Early 1928 to early 1929	up
(10) Middle of 1929 to end of 1931	down

It is significant that the quantity of free gold diminished in periods of monetary ease and increased in periods of monetary stringency; a significant exception is period (2), when, the monetary demand being unusual, the amount of free gold was reduced. The latter part of 1931 shows another exception. Is it desirable that the attention of the public should be directed toward fluctuations in the amount of free gold, even though such movements tend to invite restraint when ease is desired, and stimulation when conditions call for restraint? If the country should become concerned over the expansion of credit, we might be unwisely reassured by an increase in the supply of free gold. Fortunately little was said concerning the volume of free gold until 1928-29. It was then pointed out that the surplus gold was not all free gold, and since this distinction was new to the public, the announcement probably introduced an additional element of restraint. That the amount of free gold was increasing was not made public; but the reserve authorities will have themselves to blame if they are embarrassed in the future by a growing familiarity with the concept of free gold; they popularized the concept as a weapon of restraint in 1928-29, and as a means of assurance in the second half of 1931.

¹ Chart XI. Reserve notes held by issuing banks, excess collateral, gold and paper collateral held against notes by System, May, 1915-December, 1931.

CHART IX
FREE GOLD OF FEDERAL RESERVE SYSTEM AND OF EACH RESERVE BANK
QUARTERLY, 1927-31
(Millions of dollars)



Reserve authorities have been embarrassed by the fact that their resources have been too large to serve as a guide to policy; now they may face the added obstacle that when the surplus is being reduced the force of the argument of necessity will be impaired because the public will pay some attention to the availability of supplies of gold over and above those of surplus gold. But it may be added that if reserve authorities continue to take advantage of the terms of the Glass-Steagall Act, and the Act is extended, less importance will be attached in the future to the distinction between free and surplus gold.

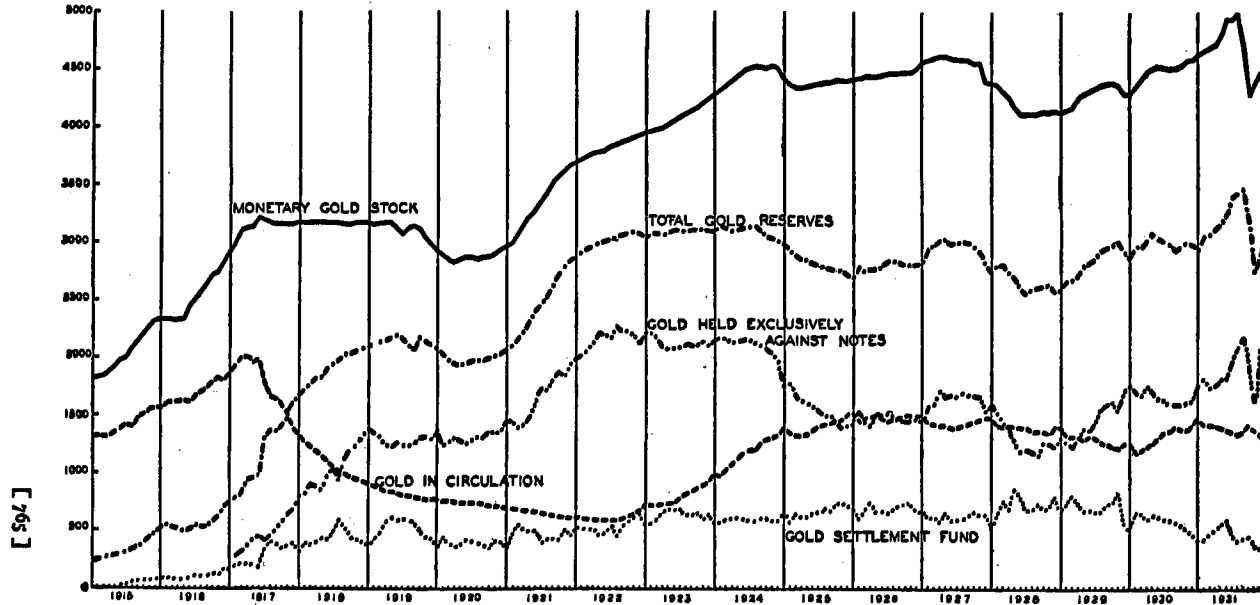
What determines the fluctuations in the amount of free gold? A loss of monetary gold through export or earmark is a loss both of surplus and free gold, unless it is obtained through borrowing or purchasing of acceptances by the reserve banks — a likely assumption — and unless the eligible paper thus received is substituted for gold held as collateral against notes. Such a substitution may take place if supplies of paper are deficient; that is, if part of the surplus gold is allocated as collateral, in which case gold in excess of the supply required to satisfy reserve requirements is tied up. Thus surplus gold may be reduced and the amount of free gold remain unchanged. It should be pointed out that, if reserves are reduced to a point close to the legal limit, surplus gold is not available to be used as a substitute for paper collateral. It is interesting to conjecture what would happen under these conditions. If banks borrow to increase their balances, both surplus and free gold are reduced to the extent that the reserve banks are required to hold larger reserves against deposits; but if the supply of paper eligible as collateral had been less than 60 per cent (approximately) of the notes outstanding, free gold would be increased approximately 65 per cent of the amount by which paper is substituted for it in the collateral account. (The assumption is that deposits of reserve banks increased by the amount of the loan.) If the object of borrowing is to obtain notes, both free and surplus gold are reduced in so far as additional gold reserves are required. But the loss of reserves (surplus gold) need not be reflected in a loss of free gold, for if there were an adequate deficiency of eligible paper, 100 per cent of the additional notes outstanding might be covered thereby. This discussion relates to conditions in January, 1932.

Now let us consider the study of the fluctuations in free gold for individual reserve banks in the years 1927-31. The New York Bank's holdings of free gold fluctuate much more than do those of any other, and it, together with the Chicago Bank, accounts for most of the large movements. Several reserve banks hold so little free gold that this consideration may be a factor in policy, although the amount at the disposal of the reserve system is large. Compared to New York, the fluctuations in the holdings of the Boston, Philadelphia, and Atlanta Banks are moderate.

CHART X

DISTRIBUTION OF GOLD IN THE UNITED STATES: MONTHLY, 1915-31

(Millions of dollars)



The very large fluctuations in the holdings of the New York Bank in 1929 were not paralleled elsewhere. Even the holdings of the Chicago Bank were relatively stable. Perhaps a sharp drop in the middle of 1929 is explained by the reduction of acceptances and rediscounts, the ensuing rise by an increase of acceptances and rediscounts. In general, the amount of free gold tended to increase when gold was leaving the country, and vice versa. The decisive factor seems to be the fluctuations in the volume of eligible paper rather than movements of gold. Possibly, since the movements in rediscounts and acceptances for the New York Bank are large compared to fluctuations in the volume of notes outstanding, it experiences large movements of the amount of free gold more frequently than do other reserve banks. Also the New York Bank bears the brunt of gold movements, which are frequently reflected in fluctuations in the volume of free gold outstanding. In 1931 the large withdrawals of notes were felt particularly by the New York and Chicago Banks.

The curves for the System require a moment's consideration. Reserve and collateral requirements apply to individual reserve banks, and for that reason the calculations of the free gold are made by considering each reserve bank, adding the figures of the twelve. Another curve is derived by studying the figures for the System. The latter method is not consistent with legal requirements. It is evident that the distribution of eligible paper, gold, notes, deposits, and so forth, between the individual reserve banks will affect the results obtained. In general, the results derived by a study of the figures of individual reserve banks and for the System as a whole are, except in 1928-29, surprisingly in accord.

On the accompanying chart (X) are revealed the movements of the monetary gold stock, gold reserves of the reserve banks, gold in circulation, gold held exclusively against notes, and that in the Gold Settlement Fund. The chart throws some light on the gold policies of the reserve banks.

The monetary gold stock increased to a marked degree in 1915-17, 1920-24, and 1929-31. The largest losses occurred in 1927-28, 1931 (latter part), and appreciable losses were suffered in 1919-20 and 1924-25. Gold reserves of reserve banks fluctuated on the whole with the monetary gold stock, that is, the gold used for monetary purposes in the United States; but in 1915-16 a large part of the incoming gold was put into circulation or in the vaults of banks; in 1917-19 the gold reserves increased by approximately 900 millions although the monetary gold stock was relatively stable; in the years 1922-25 the amount of gold in circulation increased rapidly, and gold reserves were first stable and then declined. That gold stock in reserves did not always fluctuate with the gold monetary stock is to be explained largely by fluctuations in the amount of gold in circulation.

Roughly the movements were as follows:

	(Hundreds of millions of dollars)			
	Monetary gold stock	Gold reserves in reserve banks	Gold in circulation	Gold held exclusively against notes
1915-16	+9.5	+2.5	+5.0	?
1917	+3.0 ¹	+12.0	-6.5	+5.5
1918 to April, 1919	no change	+5.0	-5.0	+4.5
To April, 1920	-3.5	-2.5	-1.0	no change
To middle of 1924	+17.0	+11.5	+4.5	+9.0
To end of 1925	-1.0	-4.0	+3.0	-6.5
To April, 1927	+2.5	+2.0	-1.0	+2.0
To middle of 1928	-5.0	-5.0	-0.5	-5.0
To end of 1929	+1.5	+4.0	-2.0	+4.5
To middle of 1931	+6.5	+6.0	+2.0	+4.5

(1) Early months.

The following observations are made on the basis of the chart and accompanying table:

1. Fluctuations in the total monetary gold stock do not explain all the important fluctuations in the gold reserves of the reserve banks. In 1915-16, as a large part of the incoming gold was absorbed by the banks and public, the reserve banks profited by it only to a small extent. In 1917, 1918, and the early part of 1919, the reserve banks added approximately 1.7 billions of gold although the gain in the monetary gold stock was but a few hundred millions. The difference is largely explained by the reduction of gold in circulation. Moreover, the loss of 1919-20 was not so troublesome as it might have been because gold in circulation declined.

In later years the large influx of gold was not so embarrassing as it might have been because the reserve banks began to put gold into circulation. That policy was introduced in the second half of 1922, then apparently suspended for a half year, and large additional amounts of gold were put into circulation once more in the second half of 1923 and in 1924-25. It is perhaps significant that the relatively small exports of 1924-25 were followed by a suspension of the policy of increasing gold in circulation; and the moderate influx of gold of 1926-27 was accompanied by a small reduction of the amount in circulation.

The loss of gold in 1927-28 was the largest in the history of the System until 1931-32. A dear money policy is perhaps the explanation of the fact that the gold in circulation was reduced by but 50 million dollars, approximately, although the loss of gold was nearly a half billion. In the succeeding eighteen months (to the end of 1929) the reserve authorities apparently were concerned with the status of their reserves, for although gold supplies

increased as a result of a moderate influx of gold, the amount in circulation was reduced by 200 millions. In 1930 the reserve authorities once more began to increase the gold in circulation as additional supplies were imported.

2. The figures in the last column throw some light on the attitude of reserve authorities toward the distribution or allocation of their reserve against notes and deposits. In 1917 approximately one half of the additional gold reserves was allocated to deposits, or at least was not allocated to the reserves against notes. The explanation is undoubtedly, in part, that deposits increased rapidly at this time. From the beginning of 1918 to the early part of 1920 the reserve against notes increased more rapidly than the total reserve—a fact to be associated with large increases in notes, but also with the policy that adequate reserves against notes should be assured above all. In later years it is quite clear that almost all fluctuations in reserves are reflected in corresponding fluctuations in the reserves held exclusively against notes. Thus from 1920 to 1924 the reserves increased by 1,150 millions, and those held exclusively against notes by 900 millions, in spite of the fact that notes in circulation had been reduced and deposits had increased since 1920. Apparently this policy was in accordance with the theory that the note should be made virtually a gold certificate, and the banking situation should be sensitive to small movements in reserves; this end may be achieved by allocating a relatively small proportion of the gold against deposits. The relatively large reduction in the reserves against notes of 1924–25 was the exception.

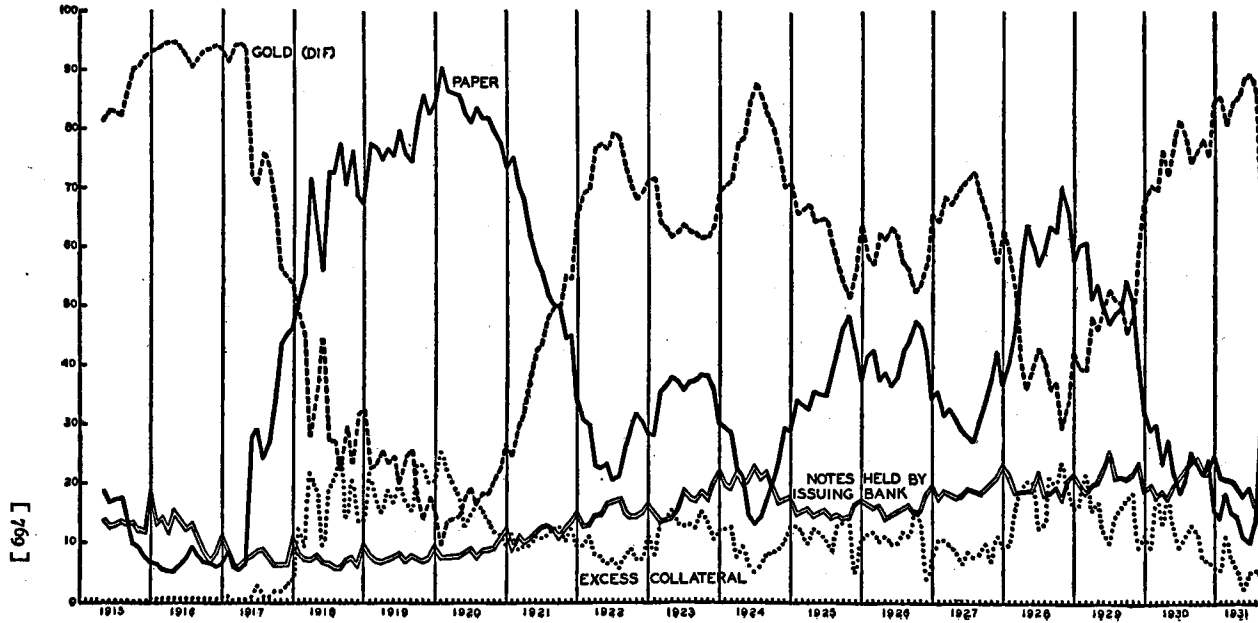
In periods of monetary ease the collateral against notes outstanding consists to a large degree of gold; in periods of activity, with eligible paper being gradually substituted for gold, the amount of free gold is increased in so far as gold is not absorbed as a result of the increased activity. Early in 1920 the proportion of notes outstanding covered by eligible paper was at a maximum. Ninety per cent of the notes outstanding were covered by eligible paper and in addition the banks held 25 per cent of excess collateral. In 1922, 1924, 1927, and 1931, years of monetary ease for the most part, the proportion covered by eligible paper was at one time 20, 13, 27, and 10 per cent, respectively. In 1916 member banks had adequate supplies, both because of the inflow of gold and the modification of reserve requirements, with the result that reserve banks had scanty supplies of eligible paper, and only 10 per cent of the notes outstanding were covered by it. At the end of 1928 almost 70 per cent of the outstanding notes were covered thus.

Excess collateral has tended downward in periods of stringency and

CHART XI

RESERVE NOTES HELD BY ISSUING BANKS, EXCESS COLLATERAL, AND GOLD AND PAPER COLLATERAL
HELD AGAINST NOTES BY SYSTEM: MONTHLY, MAY, 1915-DECEMBER, 1931

(Per cent)



upward in periods in which reserves, and especially free gold, were adequate; or, perhaps more accurately, the reserve system tended to conserve its collateral and thus release gold when an economy of gold was deemed necessary. The reduction of the percentage of excess collateral to notes outstanding in the years 1916-20 and 1930-31, and the upward movements in 1921-24 and 1926-29 are thus explained.

The same consideration probably explains to a great extent the fluctuations in the percentage of notes held by the reserve banks, for notes in the tills of reserve banks are part of the total outstanding and require collateral of paper or gold. In periods when reserve officials are concerned with the problem of the adequacy of free gold, they are inclined to economize on their tills and thus release gold, as an examination of the movements in 1931-32 will reveal. On the other hand, the extent of the fluctuations in the demand for currency is necessarily an important factor in the determination of the notes held in tills by reserve banks. The reserve banks, however, seem to be able to modify their collateral requirements within limits, and hence to some extent their reserve position, by adjustments of supplies of notes in their tills.

The question of excess collateral is rather troublesome. A reserve bank requires gold reserves equivalent to 40 per cent of its notes in circulation plus 5 per cent of the difference between notes outstanding and notes in circulation. Therefore if adequate supplies of eligible paper are available, it is clear why excess collateral will be held: the amount of eligible paper plus the gold required as reserves is greater than the required collateral. That there is an excess of collateral, even in periods when part of the surplus gold is required to be thus used because eligible paper is not available in adequate amounts, seems to prove that the problem is in part an administrative one. Early in 1920 eligible paper constituted 90 per cent, excess collateral 25 per cent, gold collateral 10 per cent, and notes held by the reserve banks 7 per cent of the total of notes outstanding. If we assume that a billion of notes were then outstanding, the total gold reserve required would be 40 per cent of the notes in circulation (372 millions) plus 5 per cent of the difference between notes in circulation and outstanding (3.7 millions). The gold held against notes outstanding was approximately only 10 per cent, although about 41 per cent reserve in gold was required. Apparently the excess collateral is not fully revealed; perhaps the explanation is that reserve agents immediately put aside all paper eligible as collateral, but they put aside gold as collateral on some arbitrary principle except when there is a deficiency of eligible paper. When the amount of gold held as collateral is appreciably above 40 per cent of the notes outstanding, as it was in 1915-16, 1922-27, and 1930-31, the explanation is that gold is substituted for eligible paper because supplies of the latter are inadequate.

APPENDIX C

INTER-BANKING RELATIONSHIPS

MEMBER banks find greater elasticity in the supplies of loanable funds at reserve banks than in those at correspondents.¹ In periods of expansion reserve banks provide most of the additional funds; in periods of contraction reserve banks are repaid more freely than are correspondents. The latter, it is necessary to add, frequently make important contributions during the final stages of a period of expansion, when reserve banks are inclined to refuse, or at least to grant demands for additional credit cautiously.

Bankers' balances (due to banks) and borrowing of member banks are inversely related. Abnormal relations are to be noted in the first half of 1919, when a trade revival was accompanied by an increase both of balances and borrowing, and in the second half of 1920, when liquidation in the financial centers accounted for a reduction of balances at the same time that unsatisfactory conditions in agricultural districts made necessary an increase in advances. It may also be noted that in 1927-28 the reduction of balances was small in view of the very large increase in rediscounts. On the other hand, the reduction of balances was large in the first half of 1929. (The chart is omitted.)

A more satisfactory method of studying this problem is to compare the balances due from banks of reserve city and country bank members with their borrowing.² In this manner, the borrowing and balances of identical banks are considered, and the disturbing effects of the fluctuations in rediscounts of the New York and Chicago Banks, to be associated in particular with gold and currency movements, are ruled out. The correlation is higher than in the preceding study. It is to be observed that balances due to banks (considered previously) include balances due to non-member as well as to member banks. The advantage of studying the balances due to banks is that attention is concentrated on the reactions of the banks in the financial centers, namely, those that *receive* the deposits of other banks. Upon receiving deposits they reduce their debts, and vice versa. This conclusion is made clear in the next chart, which compares the bal-

¹ Chart XIIa. Indebtedness of all member banks to reserve banks and correspondents, 1919-31. (First Differences.) Also consult the following Chart (No. XIIb). *Ibid.*, absolute figures (1918-31).

² Chart XIII. Balances with other banks and borrowing of reserve city and country member banks.

CHART XIIa
INDEBTEDNESS OF ALL MEMBER BANKS TO RESERVE BANKS AND CORRESPONDENTS
CALL DATES, 1919-31
(First differences in millions of dollars)

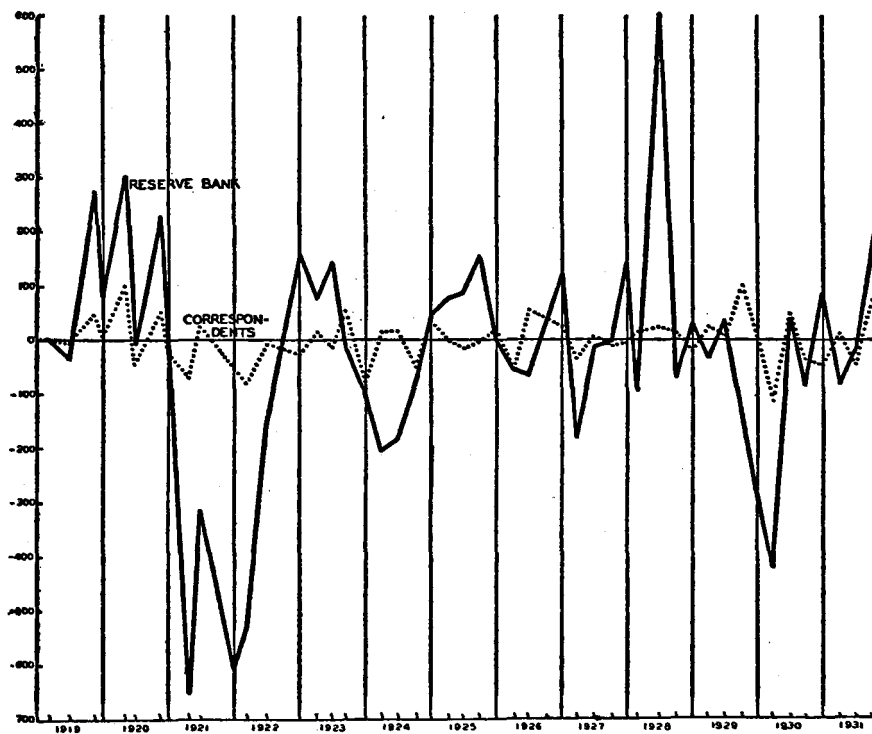
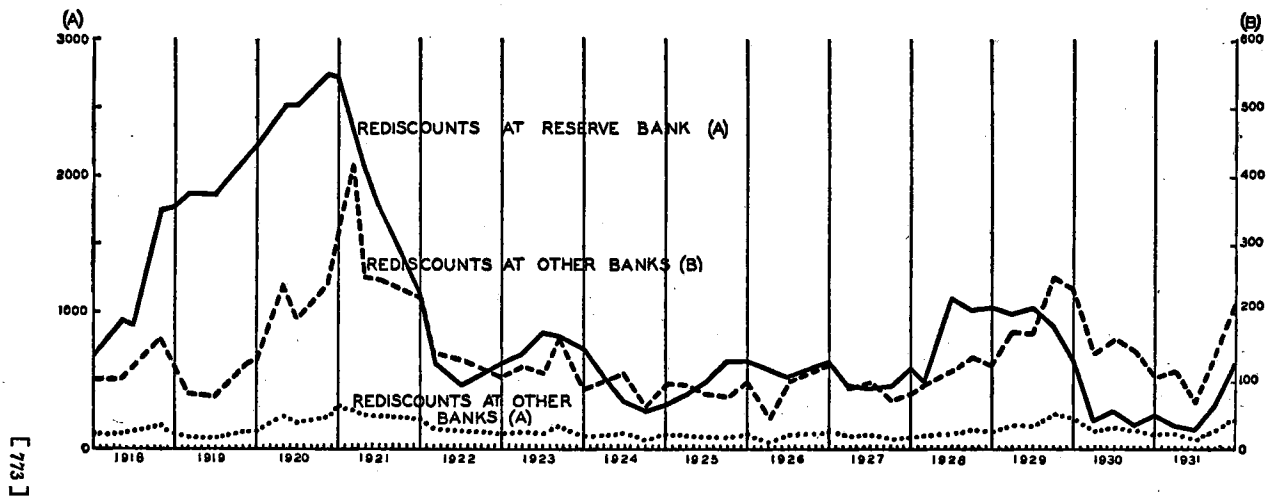


CHART XIII

INDEBTEDNESS OF ALL MEMBER BANKS TO RESERVE BANKS AND CORRESPONDENTS: CALL DATES, 1918-31
(Millions of dollars)



ances due to others of New York City banks with their rediscounts and bills payable.¹

Finally, a study is presented of balances in recent years with reporting members and brokers' loans on account of outside banks.² In 1927 the increase in balances probably would have been larger if brokers' loans of this type had not increased. It is also apparent that the increase in the latter made necessary a movement of balances from outside to New York banks in 1928-29. An easing policy in the latter part of both 1928 and 1929 was reflected in an increase of balances *and* brokers' loans.

Member banks borrow both from reserve banks and their correspondents; it is apparent from an inspection of the accompanying charts that most of the additional funds are obtained from reserve banks.³ But it is also apparent that the banks borrow from correspondents when they are hard pressed by reserve banks, and thus within limits they can free themselves of dependence thereon. I say within limits, because the volume of additional funds thus obtained is not large and also because correspondents, whether situated in the same district as the borrowing bank or in other districts, find it necessary to borrow additional funds from the reserve banks. Large additions to the funds advanced by reserve banks are not necessarily followed by relatively large increases in advances by correspondents, for member banks are inclined to seek correspondents only when increased advances by the reserve banks are granted unwillingly. That conclusion may be verified by comparison of the advances by the reserve and correspondent banks in the first half of 1919 and those of the following six or twelve months, or by a comparison of the advances of the first half of 1928 with those of the first three months of 1929. In the earlier period, in both instances, the large increase in advances by the reserve banks was followed by a small increase of advances by correspondents in 1928 and a reduction in the first half of 1929; but pressure on the part of the reserve banks during later months of both periods revealed a large element of elasticity in the volume of advances by correspondents. (See the table opposite.) The correlation of advances from reserve banks and those from correspondents seems reasonably high. (Compare rediscounts at reserve banks with the borrowings from correspondents on B scale in chart.)

On the whole, the fluctuations in advances of correspondents to members are relatively smaller (in percentage) than advances by reserve banks.

¹ Chart XIV. Borrowing of and balances with New York reporting member banks, 1920-31.

² Chart XV. Bankers' balances and loans on account of outside banks on securities, 1927-31.

³ Charts XIIa-b. Indebtedness of all member banks to reserve banks and correspondents.

Banks prefer to reduce their advances at the reserve banks, rather than at their correspondents, when the necessary resources are available and are forced to rely more largely on the reserve banks in periods of unusual demand, for the latter have larger resources available for this purpose; but in periods of unusual pressure the appeals to correspondents are of much significance. From June, 1929, to March, 1930, advances by reserve banks were reduced from 1,029 to 206 millions while advances by correspondents to members dropped only from 167 to 140 millions. In October, 1929, the totals were 899 and 251 millions: the member banks borrowed

(Millions of dollars)

	Member Banks	
	Borrowing at reserve banks	Borrowing at other banks
May, 1918.....	939	104
June, 1919.....	1851	76
December, 1919	2216	131
December, 1920	2720	316
June, 1922.....	461	131
September, 1923	823	160
October, 1924	265	60
December, 1925	635	98
October, 1927	458	70
December, 1927	583	80
February, 1928.....	486	95
June, 1928.....	1095	114
December, 1928	1041	121
March, 1929	981	172
June, 1929.....	1029	167
October, 1929	899	251
March, 1930	206	140
December, 1930	248	107
June, 1931.....	147	70

freely from correspondents and used the proceeds of the sale of acceptances to reduce rediscounts at the reserve banks.

It is to be emphasized that this discussion relates to advances of correspondents to members. Advances of correspondents, both member and non-member, to non-members — in particular those from members to non-members — are of large dimensions and constitute a more troublesome problem.

The chart on which due to banks on the one hand, bills payable and rediscounts of member banks on the other is studied is omitted. The following observations are made, however, on the basis of an examination of the unpublished chart.¹

¹ Consult Chart XIII, however, where balances with other banks and indebtedness of reserve city and country banks are studied.

On the whole, the movements of these variables are not different from what might be expected. A reduction of rediscounts is generally accompanied by an increase of balances, and vice versa. Banks will withdraw balances with correspondents, rather than increase their borrowing, whenever possible. An increase in both balances and borrowing in the first half of 1919 may be explained by the revival of industry, which made the accumulation of larger balances necessary, and by the liberal policy of reserve banks, which were lending rather freely. In the first half of 1920 banks obtained resources to a very large extent by withdrawing balances and obtained relatively less help than usual from reserve and correspondent banks, as might be expected under the stringent conditions current. In the next year balances tended downward, but moderately, while borrowing first increased and then rapidly declined. The reduction of balances and borrowing in the first half of 1921 may be explained by the extensive liquidation in the financial centers and the absence of any marked liquidation in agricultural communities. Banks in agricultural communities, being pressed to reduce their indebtedness, cut their bank balances to a minimum. From the middle of 1921 to the middle of 1924, fluctuations in both variables were in general along expected lines. Periods of monetary ease were characterized by an increase in balances and a reduction of borrowing, and vice versa. In 1925, 1926, and the first half of 1927, movements were moderate and on the whole the inverse correlation was not high.

In the remaining years the results are approximately those to be anticipated. Economies of balances were not so large in 1927-28, in spite of the decided increase in borrowing from banks, as in 1920; but in the early months of 1929 the pressure on member banks is evidenced by a rather sharp reduction of balances, although borrowing was increased by a relatively small amount. One ought also to consider, in estimating the extent to which banks reduced balances as an alternative to borrowing, the extent to which banks converted balances into brokers' loans during this period.

Banks that customarily hold large balances of other banks are in a position to reduce their debts when balances increase and may be forced to increase their debts when balances are reduced. We may therefore expect an inverse correlation between *due to banks* and rediscounts of banks in the larger cities. But the depositing banks *also* may reduce their rediscounts when they are in a position to increase their balances. In other words, since the growth of balances reflects an improvement in the position of country banks, rediscounts *may* decline both at home and elsewhere (in financial centers) when the surplus cash of the depositing banks becomes large enough to reduce debts *and* increase balances. For this reason we ought not to expect a very high correlation between rediscounts and *due to banks* of *all* members. Another difficulty is that the

CHART XIII

BALANCES WITH OTHER BANKS AND BORROWING OF RESERVE CITY AND COUNTRY
MEMBER BANKS: CALL DATES, 1919-31

(First differences in millions of dollars)

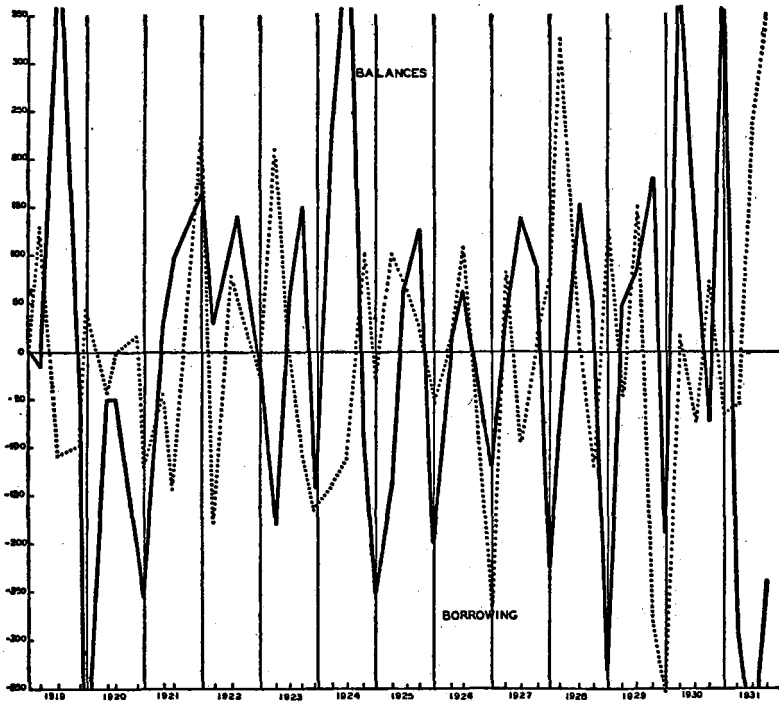


CHART XIV

BORROWINGS OF AND BALANCES WITH NEW YORK REPORTING MEMBER BANKS: MONTHLY, 1919-31
(Millions of dollars)

[78]

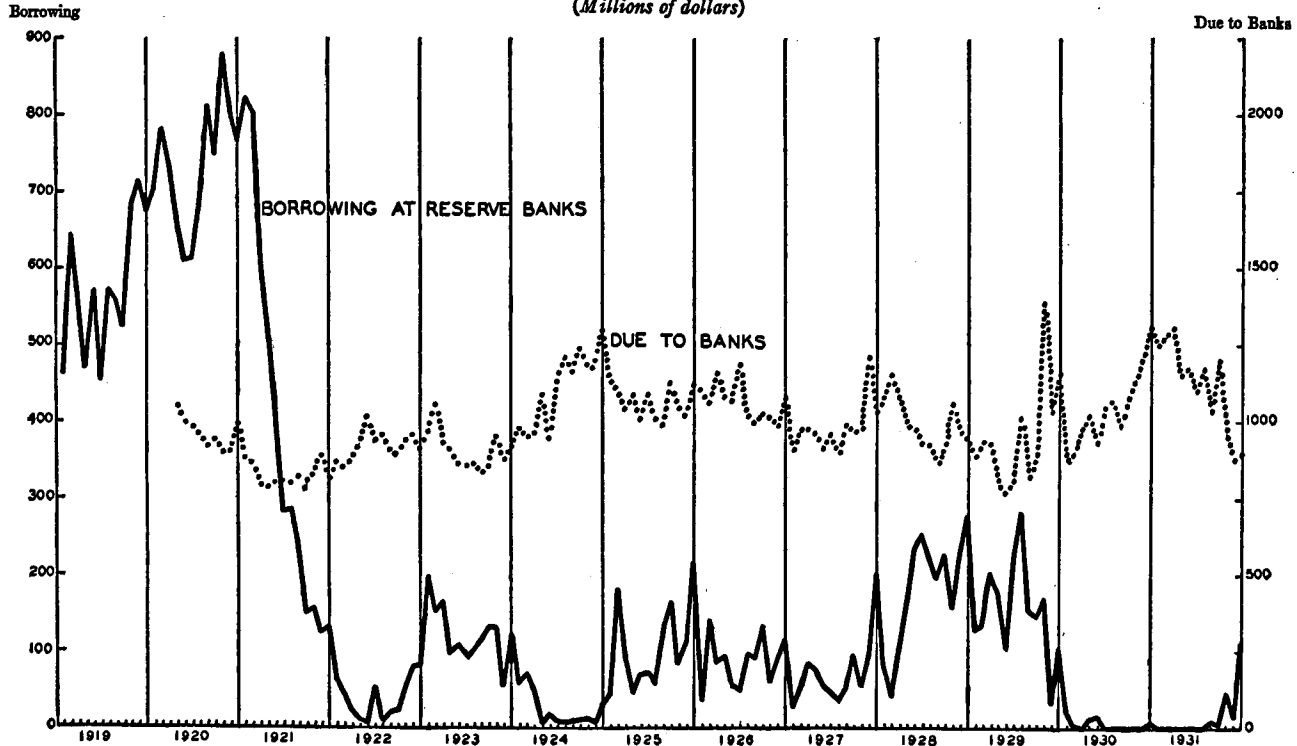
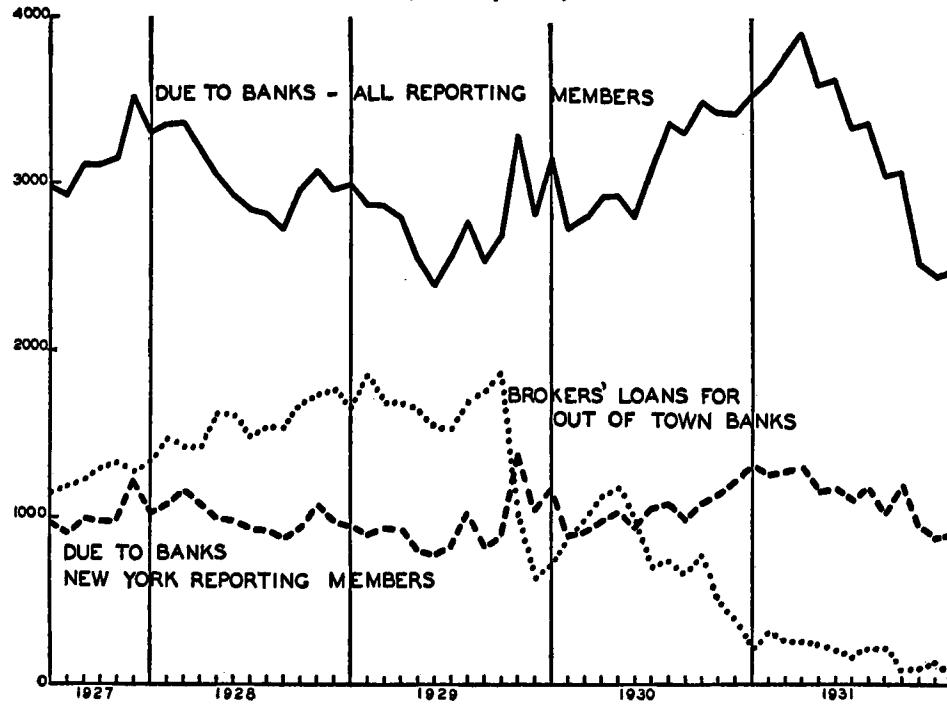


CHART XV
BANKERS' BALANCES AND LOANS ON ACCOUNT OF OUT-OF-TOWN BANKS ON SECURITIES
MONTHLY, JUNE, 1927-DECEMBER, 1931
(Millions of dollars)



balances with members in large part and to a varying degree at different times belong to non-member banks. An increase in balances with member banks will therefore not be likely to result in so large a reduction in rediscounts when the additional funds are largely provided by non-members as when provided by members.

For these reasons, observation of the balances, in reserve cities and smaller places, of member banks and their rediscounts constitutes a valuable supplementary study; the attention is directed exclusively to the relation of balances and rediscounts of identical banks, and the later effects on banks in the financial centers (New York and Chicago especially) are ruled out.

The correlation is higher for these two variables than for the balances due to banks of all members and their rediscounts. Numerous other factors play an important part in determining the rediscounts of the banks in the System; but in studying the rediscounts and balances *held* by members situated outside of New York and Chicago, we concentrate attention to a greater degree on related variables. Easy conditions are likely to be reflected in a reduction of rediscounts and an increase of balances of these banks, and vice versa. We rule out the factors that, operating especially in New York, influence the volume of rediscounts without influencing the balances held therein.

Balances are withdrawn from New York banks when indebtedness is at a high level or is increasing, and they tend to increase when the volume of borrowing at reserve banks and money rates decline. It is evident from Chart XIV that the withdrawal of balances from New York banks is generally followed by increased borrowing by them, and vice versa. It is to be noted that balances with New York banks increased in 1922, 1924, the latter part of 1927, the latter parts of 1928, 1929, and during most of 1930. The sensational rise in the latter part of 1929 (and the ensuing decline) is undoubtedly to be associated with the withdrawal of funds from the stock market. The movement of balances was downward in periods of monetary stringency — 1920-21, 1923, 1925, 1928, and the first half of 1929 and most of 1931.

In the years 1927-31 large fluctuations in bankers' balances were related to large fluctuations in brokers' loans on account of outside banks. Therefore the accompanying chart, on which the fluctuations of bankers' balances with New York reporting member banks and all reporting members, and in brokers' loans on account of outside banks, are presented, is of some significance. The following conclusions are drawn from this chart:

(a) Balances are reduced when loans to brokers on account of outside banks are increased, and they are replenished when brokers' loans on account of outside banks are reduced.

(b) Movements in the balances of reporting banks are too large to be accounted for exclusively in this manner. In the second half of 1927

monetary ease was reflected in a growth of balances that would have been larger if brokers' loans had not also increased. The decline of balances in the period of monetary stringency in 1928 and 1929 was at least twice as severe as the increase in this class of brokers' loans, and the increase in balances after the collapse of the market late in 1929 and in 1930-31 was not so large as the reduction of brokers' loans on account of outside banks. Also, it is to be noted that the increase in balances at New York banks in October, 1929, was not nearly so large as the liquidation of loans on account of outside banks.

(c) The movement of funds to New York, resulting from the increase in loans on account of outside banks, involved losses of cash by outside banks, for the increase of loans was greater than the reduction of balances of New York reporting banks. In other words it was necessary to transfer from outside banks to New York cash which the New York banks advanced on the Street.¹ In the period of liquidation the balances of banks with outside banks were replenished, and hence the New York banks tended to lose bankers' deposits to out-of-town banks. On the other hand, the increase of balances in 1930-31 in New York was in excess of the amount to be expected in view of New York's share of all bankers' balances. All bankers' balances have been approximately three times as large as the balances in the New York Bank, and the amplitude of fluctuations in these two variables was about in that proportion in the years 1927-29. By the middle of 1930 bankers' balances were reduced almost to the level attained just before the crash; but there was a rapid rise later in 1930 and the early part of 1931. Spectacular withdrawals in 1931 particularly affected banks outside of New York.

(d) The downward movement of balances in 1928-29 is explained in part by the efforts of banks to obtain cash in so far as possible by methods other than borrowing from reserve banks. In the third quarter of 1928 and the third quarter of 1929, however, it was possible for both brokers' loans on account of outside banks and bankers' balances to increase because the reserve banks put additional funds on the market. The upward movement of balances in 1929-30 is explained in large part by the reduction of security loans for out-of-town banks; and the resulting movement of balances to financial centers is therefore not *adequately* accounted for by the accepted theory that banks transfer cash to correspondents in periods of depression because profitable employments for surplus cash are lacking at home.

¹ Balances are given for reporting *member* banks only while outside banks advancing money on the Street include virtually all banks lending through members in New York City. Also, loans on account of others involve additional transfers of cash to New York although speculative movements of cash to New York are later followed by movements in the reverse direction as securities are purchased.

APPENDIX D

DEPOSITS AND REDISCOUNTS AND MISCELLANEOUS PROBLEMS

A STUDY is made of the relation of deposits and rediscounts in the years 1927-31, both for the System and for individual reserve banks. When the banks in a district lose deposits, they increase their rediscounts, and vice versa. But this is an over-simplified statement of the theory. Member banks may lose deposits because their earning assets are reduced, and in so far as this is true there is no need for increasing rediscounts. Losses of deposits of New York banks are peculiarly the result of losses to other districts or to foreign countries or of the withdrawal of notes.

A similar study is made of net demand deposits and rediscounts.¹ The inverse correlation is not so high as for demand and time deposits and rediscounts. A special study is presented of the fluctuations in public deposits and rediscounts when such movements were of unusual importance.

Both for the reserve system and individual reserve banks, the inverse correlation of deposits and rediscounts is high.² In the years 1927-29 evidence of a significant relationship is more easily traced than in the years 1930-31. There are periods, it is true, when both for the System as a whole and for the individual districts the correlation is low. That is to say, a reduction of deposits is not accompanied by the expected increase of rediscounts; the last few months of 1929 are an instance.

Why should an increase of deposits lead to a reduction of rediscounts? It can easily be understood that the reduction of rediscounts does not inevitably follow; the decisive point is the occasion for the increase of deposits. An increase of deposits, resulting from an influx of gold or notes or from open market operations, is reflected in an increase of reserves of members which may be used in reducing their indebtedness. But deposits may also be increased because banks purchase securities or advance loans, and additional reserves are then required. If the increase in deposits is greater than that in loans and investments, members have additional cash at their disposal which may be used to repay the reserve banks;

¹ Chart XVII. Demand deposits and bills payable and rediscounts of all member banks, 1927-31.

² Chart XVI. Member bank deposits and rediscounts with reserve banks, 1927-31.

and a loss of deposits more severe than the reduction of loans and investments will require additional borrowing. (Allowance is to be made for changes in reserve requirements.)

Thus the increase of deposits in 1927, explained in part by an influx of gold and later by open market operations, both of which led to increased investments by banks, was accompanied by a reduction of indebtedness over the larger part of the year. In the last part of 1927 and the early part of 1928, deposits of member banks declined appreciably and their rediscounts increased. Losses of gold, sales of securities by reserve banks, and increases of banking capital contributed to the reduction of deposits; the cash position of the banks was adversely affected, for the relief obtained as a result of the reduction in deposits and, therefore, of reserves required, was not nearly so significant as the loss of cash involved. More borrowing was required. On the other hand, a large increase in deposits later in the year was accompanied by increased borrowing; the explanation probably is that the member banks were now expanding and hence required additional resources. Then followed a marked reduction of deposits in the middle of the year, accounted for by losses of gold and open market operations; whereupon member banks increased their rediscounts. In the latter part of the year deposits increased and rediscounts were reduced; the explanation is that the increased activity on the part of banks was more than offset by purchases of acceptances by reserve banks, and hence their cash position was strengthened.

In 1929 deposits declined in the early months and increased later; but with the exception of the violent movements of the late months, they were relatively stable compared to the years 1927-28. In the early months deposits declined and rediscounts increased, and later the movements were reversed; but in the last months of the year both variables declined. In the middle of the year a marked increase of deposits and rediscounts occurred in the New York District that was not on the whole shared by the other banks.

The relation of movements in net demand plus time deposits and rediscounts of member banks is revealed in the following charts. In general a reduction of deposits is followed by an increase in rediscounts, and vice versa. Thus in the first half of 1927, the latter part of 1929, and most of 1930, rediscounts were reduced and deposits increased. On the other hand, during most of 1928 and 1929 rediscounts tended to increase, deposits to decline. A study of the charts for individual reserve banks confirms this conclusion although in varying degrees. For instance, consider the results for the St. Louis Bank: the correlation was high in 1927-29 (along expected lines); and even in 1930 the agreement is not unsatisfactory. But in contrast to the developments for the reserve system, deposits declined and rediscounts tended upward.

CHART XVI
MEMBER-BANK DEPOSITS AND REDISCOUNTS WITH RESERVE BANKS
MONTHLY, 1927-31
(First differences in millions of dollars)

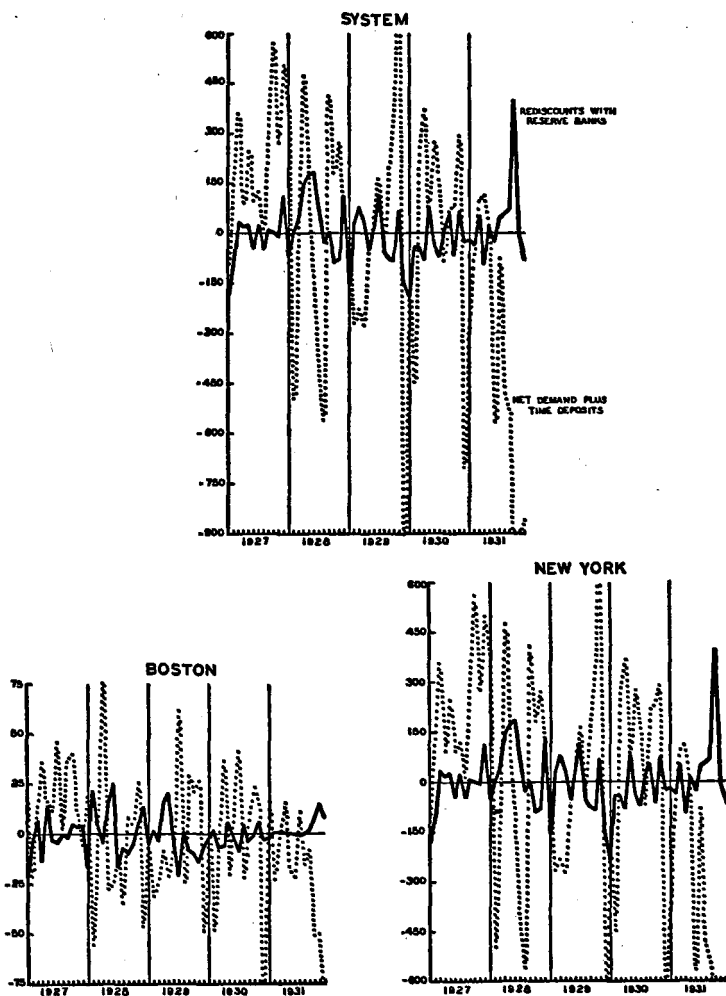


CHART XVI, (continued)

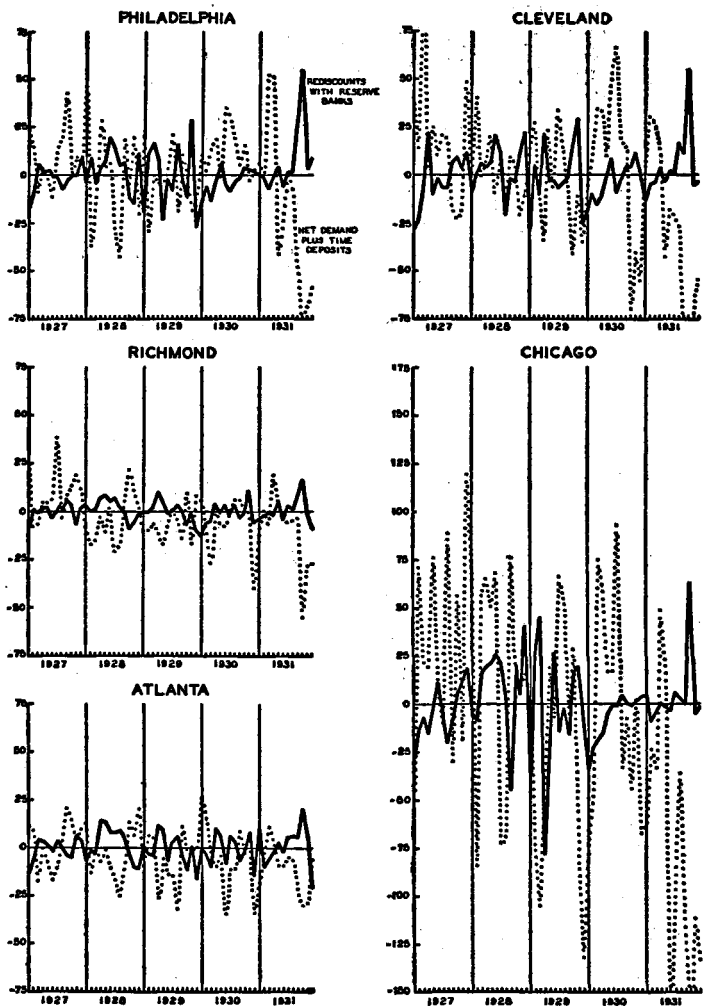
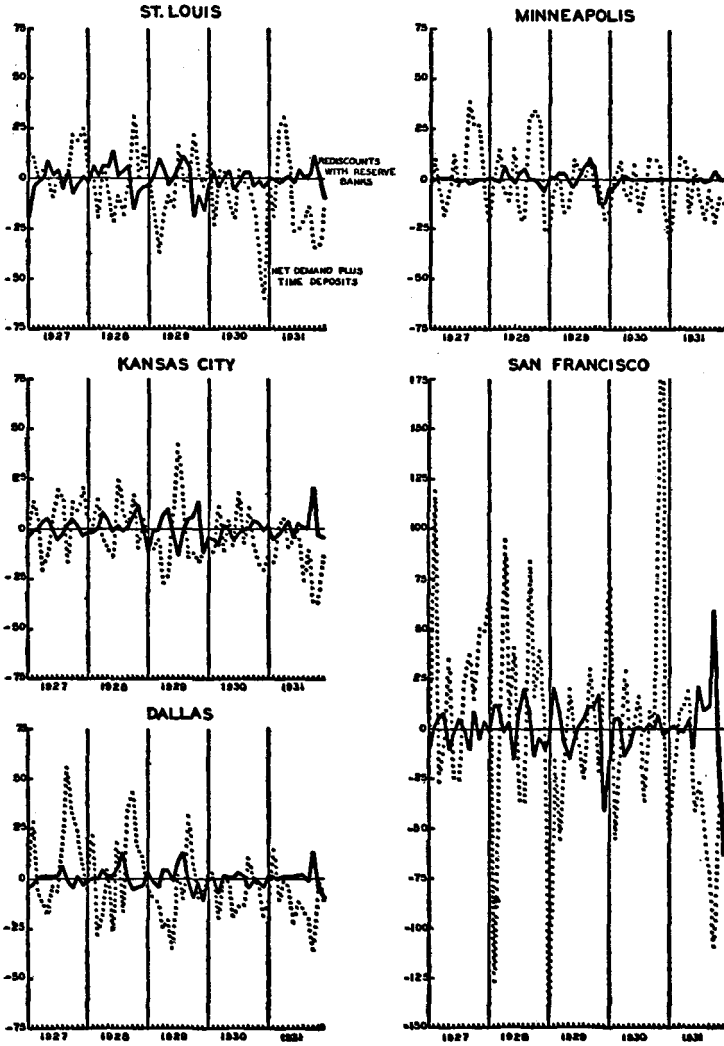


CHART XVI (continued)



Boston: Rediscounts declined and deposits increased in 1927; in the first half of 1928 the inverse correlation was not so high as it might have been, and the deposits rose at a relatively early stage. In 1929 the expected relationship is clearly revealed. In 1930-31 the correlation was not entirely satisfactory.

New York: Deposits increased in 1927; but the expected movements in rediscounts did not occur. In 1928 and 1929 the correlation was more satisfactory; but in 1930-31 the results were not along expected lines. Deposits tended upward in 1930, rediscounts tended downward, and perhaps the movements for the year as a whole are more easily explained than those for shorter periods.

Philadelphia: The correlation was high on the whole.

Cleveland: In 1927, 1929, and 1930 the correlation was fairly high, although the movement of deposits in 1929 was not always in the direction of the movement for the System.

Richmond and Atlanta: The correlation was high throughout.

Chicago: The agreement was high except in 1928.

St. Louis: The correlation was high throughout.

Minneapolis: Movements in rediscounts were small in relation to the movements in deposits.

Kansas City: The correlation was high although the increase in deposits in 1928 was tardy.

Dallas and San Francisco: The correlation was moderately high, but large losses of deposits were suffered in the Dallas District in 1929-31.

The movements of demand deposits and bills payable seem not so clearly related as those between net demand plus time deposits and rediscounts. The correlation seems higher for agricultural districts (Atlanta, Dallas, St. Louis) than for others. The correlation is high for Boston, but only moderately high for New York and low for Chicago.

Reserve officials have frequently contended that the explanation of increased borrowing by banks has been the withdrawal of public deposits. An attempt is made to study this question by comparing movements of public deposits in national banks and their borrowing, and by considering the movement of public deposits between national and reserve banks in the years 1918-22, when movements in public deposits were an unusually important factor in the money market.¹

From 1918 to 1920 the inverse correlation between public deposits at, and borrowing of, national banks was high; that is to say, a withdrawal of deposits was followed by increased borrowing, an increase by reduced borrowing. Apparently in 1921-22 other factors, of greater importance

¹ Chart XVIII. United States deposits and borrowing of national banks, 1917-22.

CHART XVII

DEMAND DEPOSITS, AND BILLS PAYABLE AND REDISCOUNTS OF MEMBER BANKS
CALL DATES, 1927-31

(First differences in millions of dollars)

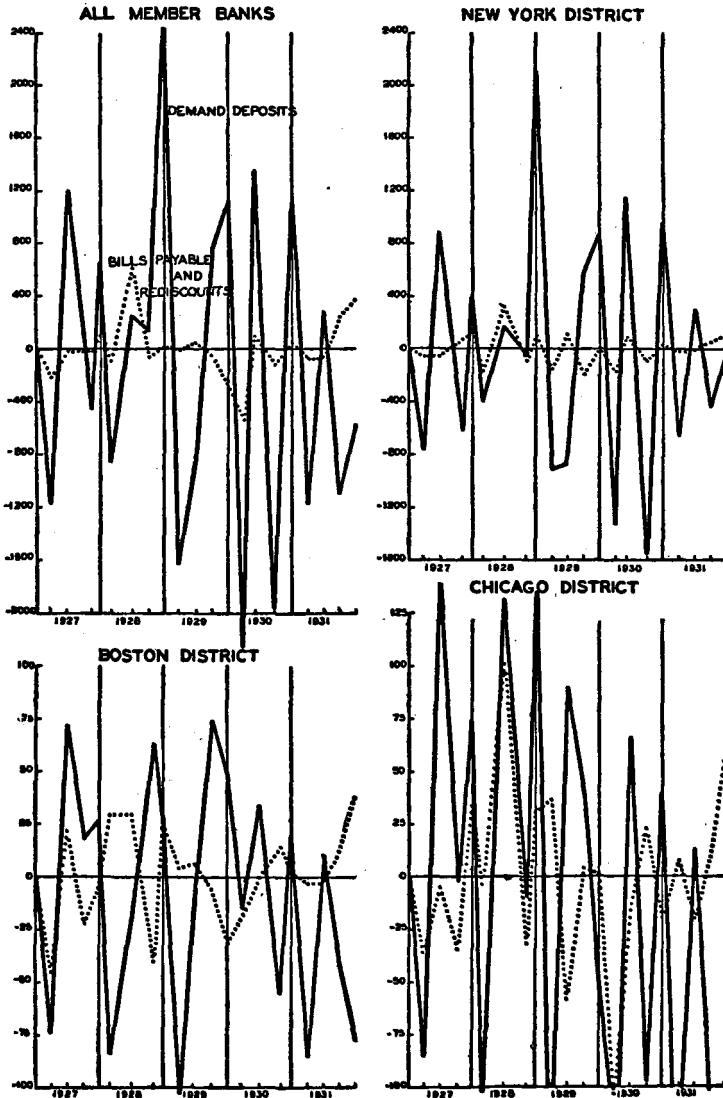
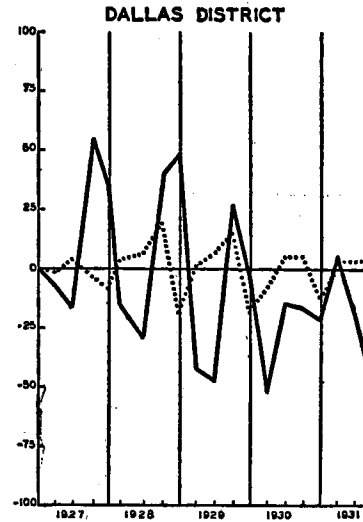
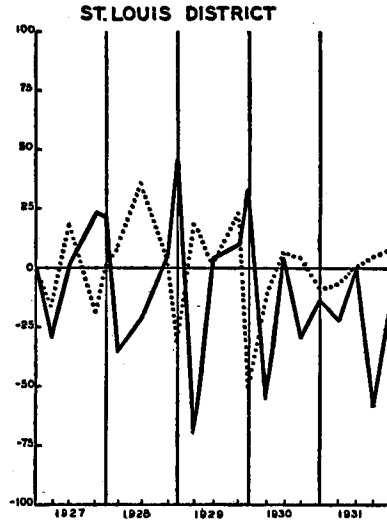
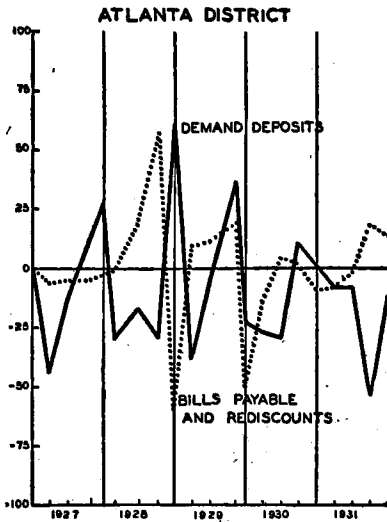


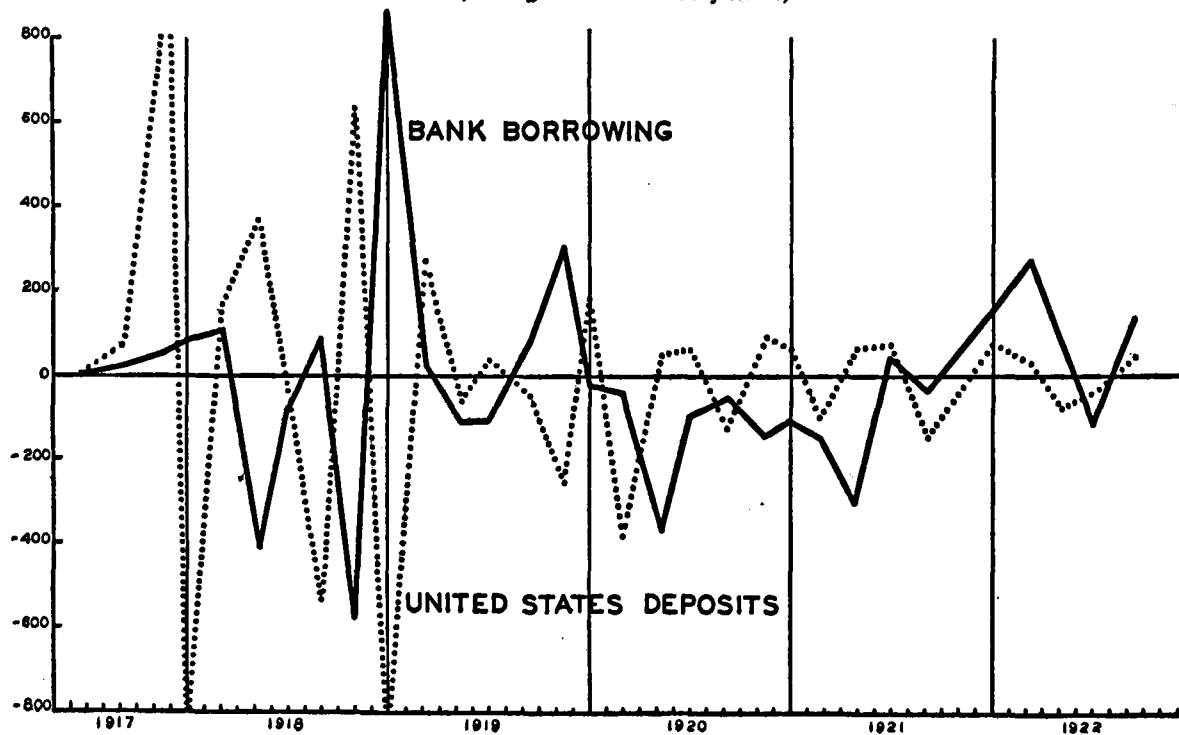
CHART XVII (continued)



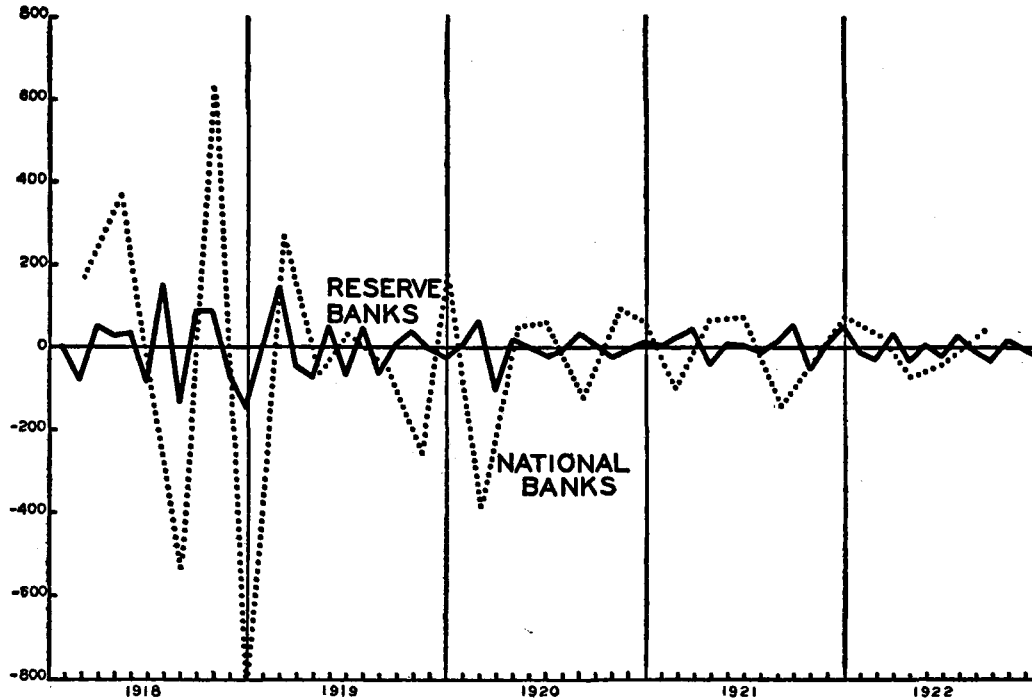
[790]

CHART XVIII

UNITED STATES DEPOSITS AND BORROWING OF NATIONAL BANKS: CALL DATES, 1917-22
(First differences in millions of dollars)



PUBLIC DEPOSITS WITH NATIONAL AND RESERVE BANKS: 1918-22*
(First differences in millions of dollars)



* Monthly figures for Reserve Banks; call date figures for national banks.

in the determination of fluctuations in rediscounts, frequently tended to influence the volume of rediscounts in a direction opposite to that to be anticipated from a consideration of the movement of public deposits. Why should member banks increase their borrowing when public deposits are reduced? One important explanation may be that the deposits are transferred to the reserve banks, and thus member banks lose cash. The next chart reveals an inverse correlation in the holdings of public deposits of banks and reserve banks.¹ It may be noted here that the increase of public deposits at the reserve banks in the early part of 1920 was undoubtedly an important cause of stringency in that crucial period; and on the later call dates, the monetary stringency was reduced by the transfer of public deposits from reserve to national banks. It is also possible that, when Treasury deposits at the commercial banks are transferred to private accounts, banks in general may be forced to borrow additional funds. For when the government disburses its cash, private deposits at banks are increased; but for any bank or group of banks, the gain may not exactly offset the loss, and those obtaining additional cash in a period when the demand for bank funds is unusual, may use the additional cash to increase their earning assets rather than to repay the reserve banks. Other banks, of course, would then be forced to borrow. A loss of public deposits by banks is also inconvenient because no reserves are required against them.

MISCELLANEOUS

For the most part the charts in this part of the study relate to the period 1927-31. Net demand deposits and brokers' loans of New York reporting banks on their own account are related variables, though a high correlation is not to be expected.² Other factors also influence the movement of net demand deposits. It has often been argued that net demand deposits of New York reporting members and loans on account of others are related in an inverse manner; for an increase in the latter is at the expense of the former. The inverse correlation is not high. Other factors played a more important part in the determination of net demand deposits, though one important factor, the movement of bankers' balances, is related to the movement of brokers' loans on account of others. In the latter part of this period the liquidation of loans on account of others and on account of outside banks, is reflected in an increase of bankers' balances and hence in net demand deposits.

Stock market loans on account of private banks, foreign agencies, and the like, give an indication of the advances by foreign banks on the stock

¹ Chart XIX. Public deposits with national banks and reserve banks, 1919-22.

² Chart XX. Deposits and brokers' loans of reporting New York banks, July, 1927-June, 1931.

market, although loans on account of others also include to an appreciable extent loans by foreigners.¹ In 1927-28 the United States lost gold; but losses would have been larger if investments on the Street had not increased and acceptances had not been purchased in large quantities by foreign central banks. On the other hand, other short-term investments were sold. In 1929, before the crash, gold flowed to the United States although foreigners increased their investments in the market and purchased more acceptances. In 1930-31 gold flowed in, and foreigners sold acceptances to meet the demands for gold; and for the latter part of this period, acceptances were sold for the purpose of withdrawing gold.

The correlation between net demand deposits and brokers' loans on own account for New York reporting members was high in 1927-29; but apparently in 1930-31 other factors were more important in determining the movements in net demand deposits. One should not conclude that over the period as a whole fluctuations in net demand deposits were determined by this factor exclusively. When brokers' loans on own account tended upward, net demand deposits tended upward and vice versa; but reductions in deposits are also to be associated with losses of gold, open market operations, and fluctuations in other variables which occurred at the same time that the New York banks liquidated their advances on the Street.

It will be noted that in 1927-29 increases in loans on account of others were not invariably accompanied by reduction of deposits. In 1930, however, the inverse movements are striking. In so far as an increase in loans on account of others involved a reduction of bankers' balances in New York, the reduction of net demand deposits may thus be explained. The assumption is that the deposits are then shifted in large part to other parts of the country. But, of course, other factors are not to be neglected in any explanation of the movements of net demand deposits. In 1929-30 the liquidation of loans on account of others undoubtedly contributed to the increase in net demand deposits; but other factors also help account for the increase.

Brokers' loans to private banks, and so forth (reported by the New York Stock Exchange) include loans advanced through foreign banks on the stock market. One cannot, of course, conclude that the movements in foreign advances to the stock market parallel those for the advances of all lenders included in this category; but fluctuations in the latter may give some indication of the advances by foreigners.

¹ Chart XXI. Gold, brokers' borrowings from private banks, and acceptances held for foreign correspondents, 1927-31.

CHART XX

DEPOSITS AND BROKERS' LOANS OF REPORTING NEW YORK BANKS: MONTHLY,
JULY, 1927-JUNE, 1931
(First differences in millions of dollars)

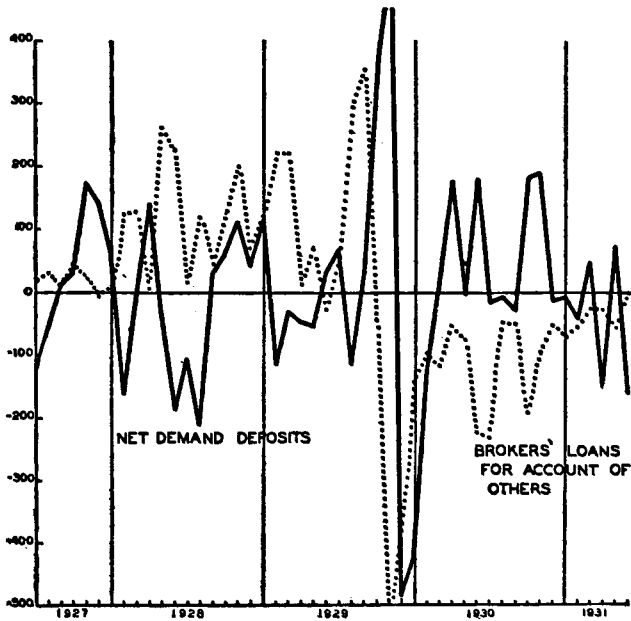
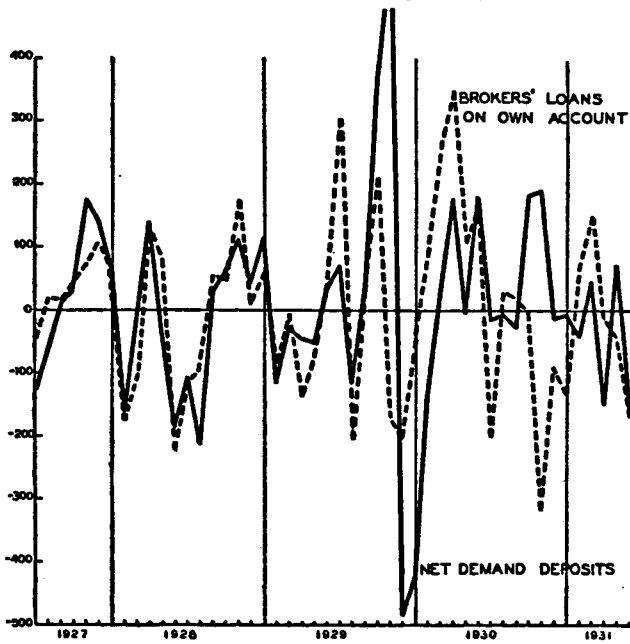
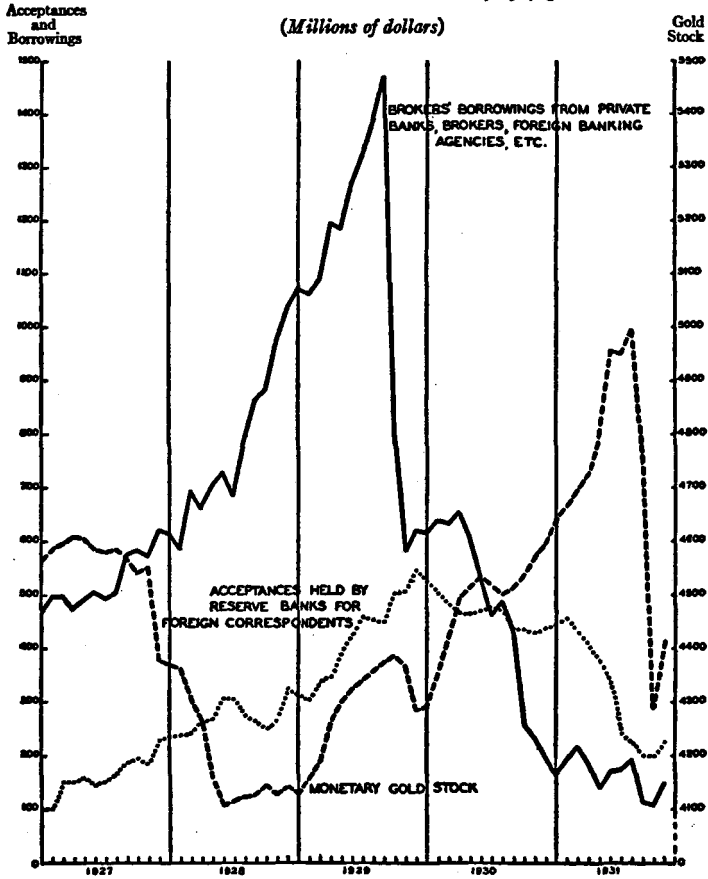


CHART XXI

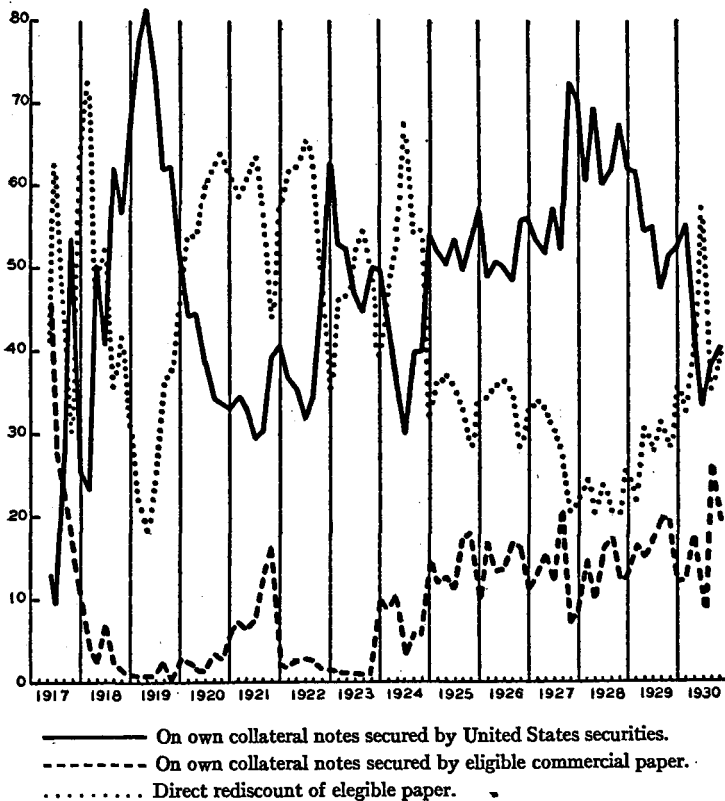
GOLD, BROKERS' BORROWINGS FROM PRIVATE BANKS, ETC., AND ACCEPTANCES HELD FOR FOREIGN CORRESPONDENTS, 1927-31



The volume of acceptances held by reserve banks for their correspondents increased steadily in 1927-29 and declined in 1930 and 1931. There was a temporary decline in the latter part of 1928 and early in 1929, when the pressure on European exchanges was severe; but there was no corresponding decline in brokers' loans by private banks, and the like. Per-

CHART XXII

DISTRIBUTION OF BORROWING AT RESERVE BANKS: BI-MONTHLY, 1917-30
(Per cent of total)



haps the large influx of funds from abroad for the use of the stock market and the failure to lend more liberally for long periods were reflected in losses of reserves by foreign central banks, which were, therefore, now forced to dispose of acceptances held in the United States. It will also be noted that the holdings of acceptances for foreign correspondents tended to increase so long as America lost gold in 1927-28. Probably losses of gold would have been larger if foreign central banks had not purchased

acceptances in this period. In the first ten months of 1929 foreigners lost gold, and *in addition* the foreign central banks purchased more than 200 millions of acceptances. High money rates and the unwillingness of America to lend resulted in an influx of gold and attracted foreign funds for the purpose of purchasing acceptances and lending on the Street. On the other hand, it is undoubtedly true that foreign central banks purchased acceptances in part in order to be prepared to meet demands for cash: they could sell acceptances for gold in New York; and foreigners converted other forms of short-term money in New York into Street loans and acceptances.

In 1930 lower rates and a large influx of gold into the United States were reflected in a reduction of acceptances held by foreign central banks. In 1931 both a large influx of gold into the United States and an even larger efflux of gold were reflected in extensive liquidation of acceptances on account of foreign correspondents. In other words, foreign central banks met a gold drain by selling acceptances on the New York market and also sold acceptances for the purpose of withdrawing gold.

The War was in large part responsible for the introduction of the practice of borrowing on notes of members collateraled by Government securities;¹ preferential rates could be obtained by borrowing in this manner. A tendency to reduce the importance of preferential rates resulted in a less frequent recourse to this type of borrowing in the years 1920-24; undoubtedly the tendency on the part of banks to dispose of these securities also explains this fact. In later years the proportion of credit obtained in this manner increased in periods in which the volume of rediscounts increased, that is, in periods of firm money — notably, in 1923, 1925, 1928. In 1929, however, the proportion of cash thus raised declined rather unexpectedly. The explanation may be the use of moral suasion which attracted attention to the method *used* in borrowing; it may also be the tendency of banks to dispose of securities. It will be noted that this method of borrowing has been of least importance in periods of monetary ease — 1922, 1924, and 1930.

Borrowing on notes of member banks secured by eligible paper has constituted a relatively unimportant part of the total. From 1918 to 1923 this method was scarcely used at all except for a brief period in 1921, when a modification of the rate structure may explain its use.

The volume of borrowing through the direct use of eligible paper has generally varied inversely with the advances on notes secured by Government securities. Its popularity in 1920-22 was of short duration. The tendency has been downward in recent years although there are signs of increased popularity in 1929-30.

¹ Chart XXII. Distribution of borrowing at reserve banks, 1917-30.

SOURCES OF MATERIAL FOR STATISTICAL TABLES

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1. Not useful (omitted here),¹
2. Useful,
3. Valuable (asterisk),
4. Most valuable (two asterisks).

I have economized comments as much as possible. Most items in the bibliography are referred to in the text. Congressional documents (hearings — Banking and Currency Committee in almost every instance; Senate reports and documents; House reports and documents; legislation; and Congressional debates) are given rather fully because it has been necessary, because of the limitation of space, to devote little time to the study of the evolution of the Act. It is still my hope to bring together in a separate study the material that I have collected on the Federal Reserve Act. Unimportant legislation (actual and proposed) and the accompanying documents have not been mentioned.

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Vault cash as reserves, acceptances rediscountable — a limitation removed; collections extended; authority of Board over bills receivable rediscounted and purchased is increased; domestic acceptances and dollar exchange; foreign branches of national banks.

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ADDENDUM

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THE CRISIS : MARCH, 1933

I. INTRODUCTION

SO MUCH has happened since this book was put into press in December, 1932, that, despite comments added here and there to the proofs, nothing short of a section on the crisis itself seemed adequate. I shall attempt to relate what follows to the trends of earlier years discussed in this book.

Banks, obligated to pay their deposits in dollars, suffer from an appreciation in the value of the dollar in the same manner as do other debtors; and since they are forced to hold assets for long periods of time when business is depressed and prices are declining, a divergence, which gradually increases, occurs between the dollar value of deposits and that of assets held against them. This dangerous condition can be concealed so long as the public does not withdraw deposits in large quantities and, therefore, so long as the *market* value of assets is not revealed. A method of appraising the assets and liabilities of the banks accurately under these conditions is to write down both the capital account and the assets to their actual value. But an impairment of capital assets, even when unacknowledged, is for banks a most perilous condition. Another possible remedial measure is the exchange of assets for cash, the exchange being made on the basis of an optimistic evaluation of the assets — optimistic at least in the sense that the *normal* rather than market value of assets is assumed. Perhaps the reserve banks and the Reconstruction Finance Corporation (R. F. C.), by purchasing assets from banks at their normal value, have aided the banks. But such measures inevitably fail when prices continue to fall, one decline in the value of assets being followed by another. A widespread recognition of the depreciated value of assets as compared with the value of deposits must necessarily lead to a crisis, for the pressure to dump assets on the market, as the public withdraws deposits and forces banks to realize the former, only involves the banks in further losses; and such large sales only accentuate the prevalent movement from securities and other non-cash assets to cash, a movement which

tends to raise the value of the dollar and depress the value of non-cash assets. There are very few banks which hold assets to-day (March, 1933) equal in value to the deposits which were first used to purchase them; and therefore, in that sense, all banks are insolvent. A proper monetary policy, however, which will raise the value of assets relative to deposits, can make most banks of the country once more sound. Of course no banks are solvent, even if abetted by a proper monetary policy, if they are forced to dispose of a large proportion of their assets at once.

2. LIQUIDATION, 1932

In the last few chapters of this book, I have discussed the process of liquidation from 1930 through the first half of 1932. When those chapters were being written, it seemed that the process might be in its last stage; but the large open market operations of the first half of 1932, whatever we might conjecture concerning the extent of liquidation in their absence, evidently did not succeed in stopping that process. In fact, the developments of the succeeding eight months (to March, 1933) have only strengthened my conviction that open market operations were not an effective method to be used at that particular time for the purpose of infusing activity into bank deposits.¹ There are some who argue that a bolder policy would have been decisive; but operations on a scale never before attempted (purchases of securities of approximately 1,000-1,100 millions in a period of five months) were not strikingly successful, to say the least. In the light of the problem of liquidating these securities later; in view of the restrictions set by the need (real or assumed) of staying on the gold standard, the practical difficulties of finding investments (now definitely restricted by law) acceptable to Congress, and the question of the expediency of introducing into the market for Government securities an artificiality most embarrassing to the Treasury; and, finally, in view of the losses likely to accrue as a result of purchases of Government securities at an artificially high price (above the long-time normal), it is extremely doubtful whether reserve authorities could safely have carried their operations much further.

¹ At this late date, I am pleased to find confirmation of my views on the effectiveness of open market operations in the remarks by Professor Kemmerer at the meeting of the American Economic Association, December, 1932. *Papers and Proceedings, Supplement*, 1933, pp. 132-134.

For the year 1932, the decline in deposits (demand and time) of all member banks was 7 per cent and in loans and investments 10 per cent. The comparable figures for 1931 are 17 and 12 per cent. For the second half of 1932, however, loans and investments dropped only 2 and deposits actually increased by 3 per cent. Apparently open market operations reflected in surplus reserves were beginning to have telling effects; but several other considerations are relevant. In the first place, deposits figures are inflated by the process of pumping cash into the market so that the favorable reaction on deposits reflects in large part an increase in open market operation, as well as in an increase in balances with correspondents. These two account fully for the increase in deposits. Secondly, the liquidation of loans continued at a disconcerting rate even in the second half of 1932; and liquidation of *all* assets continued outside of New York. Deposit figures do not give an accurate indication of liquidation when a large part of the reduction is explained by withdrawals of currency notes and gold (as in 1931) and phenomenal increases in bankers' balances, and when open market operations contribute to the inflation of deposit accounts, as in 1932. It is rather significant that in spite of the prevalent fear in the latter part of 1931, banking debits for the second half of the year came to 211 billions as compared to 149 billions in 1932. (Compiled from the *Bulletin*.)

We can conclude that open market operations did not succeed in preventing drastic liquidation in 1932, although the results for the second half of that year appear in a more favorable light than those for the first half. But if we allow for the increase in deposits resulting directly from open market operations (and not from increased business activity), for the excessive amount of liquidation in the latter part of 1931 resulting from the crisis following upon the abandonment of the gold standard, then we cannot be certain that the liquidation in 1932 or even in the second half of 1932, was less dangerous than that of 1931. At least, even if we grant that the reduction in indebtedness following upon open market operations removed some pressure for liquidation — as it undoubtedly did — we can conclude only that the liquidation was nevertheless drastic in 1932 — peculiarly so outside of New York City — and that it might have been even more drastic in the absence of open market operations. But their results, by no means phenomenal, were, to say the least, disappointing. Liquidation in the first quarter of 1933 only confirms that judgment.

Nor can we associate the reduction in the rate of liquidation, in the second half of 1932, entirely with open market operations. The most important results of an increase, totalling 1,000 millions, of securities held by the reserve banks (from February 3, 1932 to February 1, 1933) was a reduction of borrowing by member banks of 600, and an increase in their reserves of 500, millions.¹ But I should like to point out that an increase in the monetary gold stock of 600, an increase in Treasury circulation of 120, a reduction of money in circulation of 120, millions (from July, 1932 to January, 1933), all of which increased the cash resources of the banks, were at least as important as were open market operations in inducing an easier state of affairs. Thus, from February to July, the period in which the securities in the portfolio of the reserve banks increased by 1,060 millions, borrowings of members declined by but 325 and their reserves increased by but 100 millions. Reserve authorities were frustrated by losses of gold and withdrawals of money for hoards and circulation amounting to approximately 600 millions; and thus was the additional cash they had provided consumed. But from July, 1932, to January, 1933, the inflow of gold and currency made possible an increase of reserves of 500 and a reduction of rediscounts of more than 250 millions — and this in the period in which success in stemming the tide of liquidation seemed at least possible. And what are we to say of the contributions of the R. F. C. in 1932?

3. THE RECONSTRUCTION FINANCE CORPORATION

When the public is turning from commodities and securities to deposits, is even using cash (deposits) to reduce debts of banks, and is, finally, beginning to convert deposits into currency notes and even into gold, heroic measures, which will reverse the movement to one from deposits to commodities and securities, are imperative. The R. F. C. is an heroic measure of this type; by infusing life into inactive deposits, the R. F. C. is contributing in an important degree to recovery. When the public hoards its cash and deposits and is unwilling to spend or invest freely, the Government, which alone inspires the confidence of investors, should by selling securities freely tempt the public to release their hoards; and the Treasury then should put the cash thus received into the hands of potential

¹ *F.R.B.*, 1933, p. 60.

spenders. Cash is thus taken largely from *saving* deposits and transferred to people who are likely to spend.

Unfortunately, however, the R. F. C. has so far made inconsiderable advances for public works and only moderate ones for relief purposes.¹ Restrictions imposed by Congress on the terms of lending, in particular the high rate of interest demanded and the narrow limitations on amounts to be expended on non-self-liquidating projects, prevented the disbursement even of the modest sums voted by Congress.

But it does not follow that the large expenditures made to save banks and trust companies, and even the loans to railroads, did not improve the economic situation. Direct aid to banks is preferable to open market operations because the cash is put at the disposal of the banks in distress, whereas open market operations on a fantastic scale would be necessary before the needs of a large proportion of banks losing deposits would be satisfied. Long before that point is reached, strong banks and even relatively weak banks would find themselves with uncomfortably large surplus balances of cash.

Six hundred million dollars advanced to banks by the Treasury (outstanding December 31, 1932) through the R. F. C. made it possible for our banking system to continue to function in 1932; for the failure to help the 5,600 banks involved would have closed all our banks and immobilized 45 billions of deposits.² Nor need these

¹ Figures are taken from the Quarterly Report of Reconstruction Finance Corporation to Congress Covering Periods October 1 to December 31, 1932, inclusive, and February 2 to December 31, 1932, inclusive, pp. 6-7.

FOR THE PERIOD FEBRUARY 2 TO DECEMBER 31, 1932

(Millions of dollars)

	Loans authorized	Advanced	Outstanding
Banks and Trust Cos.....	950	851	595
Railroads.....	337	284	272
Total loans under Sec. 5 of R. F. C. Act *.	1624	1428	1128
Emergency Relief and Construction Act of 1932			
Self-liquidating projects (under Sec. 201) .	147	16	16
Amounts made available for relief and works relief.....	113	80	80

From December 31, 1932 to February 21, 1933, the additional authorizations of loans to banks was but 63 millions; the additional advances 113 millions. *New York Times*, March 21, 1933.

* Includes advances to insurance companies, mortgage loan companies, building and loan associations, etc.

² Apparently, numerous banks borrowed more than once, for the number of loans to banks was in excess of 8,400.

Ibid., pp. 27, 33.

activities of the R. F. C. have involved the Government in large losses; that they may be costly to the Government is to be explained by the fact that the R. F. C. was not allowed, through more liberal disbursements, to exercise a decisive influence on the economic situation, that is, by stopping the decline in prices and in the value of the assets of banks. Moreover, even the loss of these 600 millions, and perhaps an additional 600 millions, in 1933 would have been a small price to pay for the continued activity of 45 billions of deposits. In what manner could a few hundred millions of Government money be used more advantageously in stimulating expenditures and employment? Criticisms of politicians, in particular the plea to humanize the R. F. C., necessarily resulted in a curtailment of these activities.

It is undoubtedly true that the activities of the R. F. C. have involved a transfer of cash from the strong to the weak; and I have argued along those lines in this study; yet that argument is not necessarily conclusive. Thus it is pointed out in the *Bulletin* that the net transfers of cash on Treasury account to districts other than the New York Reserve Bank District were 400 millions in 1931 and 950 millions in 1932.¹ Later, open market operations and perhaps even transfers on Treasury account were to prove embarrassing; but that the existence of banks in the East and in New York and financial centers in general was not yet jeopardized is revealed by the fact that out of an increase in surplus reserves of 600 millions in the year ending January 25, 1933, 346 millions accrued to reporting member banks in New York City, whereas the amount accruing to country banks was insignificant. That the banks outside of New York had elements of strength, in spite of the need for aid, is evidenced by the increase, for the same period, in bank balances at correspondents in leading cities of 1,213 millions, of which 772 were deposited with reporting banks in New York City.² Is not the weakness of open market operations revealed by the fact that they made possible this unhealthy increase in bankers' balances, which was to prove so embarrassing later, at the same time that the R. F. C. had to pump 900 millions into the banks at 6,000 points of danger? This point is discussed more fully later.

Thus, although numerous banks situated outside of New York City were in distress, all out-of-town banks accumulated balances

¹ *F.R.B.*, 1933, pp. 60-61.

² *Ibid.*

with correspondents in an unprecedented manner. Perhaps the R. F. C. made possible a more even distribution of the cash resources of the country, enlarged as a result of the earlier open market operations, the inflow of gold, and the quest for liquidity. Member banks outside of the large financial centers preferred to build up balances in New York rather than hold excess reserves; but the large increase in bankers' balances in New York, which undoubtedly would have been smaller in the absence of the activities of the R. F. C., was bound to invite trouble once banking confidence was shattered.

Thus through open market operations undertaken in the first half of 1932 and a fortunate inflow of gold in the second half of that year, the total amount of cash available was increased; and through the advances of the Federal reserve banks and the R. F. C. part of the additional cash was distributed to banks actually in distress. But although the activities of the R. F. C. made necessary transfers of cash (its contributions were not *additional*, as was the cash provided by the reserve banks through net purchases of assets and by imports of gold) from the strong to the weak, the large accumulation of bankers' balances in financial centers invites the conclusion that banks in distress were losing cash, not only to banks in other sections of the country, but perhaps also to stronger banks nearby; and it is also clear, as we shall see, that the operations of the Federal reserve banks and the R. F. C. were required to improve the balance of payments of the South and West with the East. Thus we may conclude that the balance of payments of the West and South was unfavorable, but the banks in a relatively strong position were aided sufficiently by the open market operations, and to some extent by the advances of the R. F. C. to other banks, to be able to deposit large amounts of cash with their correspondents in the East.

4. REMEDIAL LEGISLATION

Before we turn to the statistical aspects of the crisis, it seems appropriate to inquire more fully into the economic and banking situation and to suggest some remedies.

A guarantee of bank deposits financed in part by the Treasury and in part out of banking profits, present and future, seemed an acceptable program before the Michigan banks were closed on February 14. A month later, with Treasury credit severely jolted, a guarantee financed in part by issues of securities seemed out of the

question; and in fact the remedy under consideration is not practicable in so far as it involves the strengthening of weak banks by weakening the strong, e. g. by a direct transfer of cash or by purchases of Treasury securities.

Another form of guarantee of bank deposits, more worthy of consideration because *additional* cash is directed to the weak points, has not been given adequate attention by the Administration. The Government might well have announced that all existing deposits of banks open on February 13 were guaranteed and that they were prepared to issue currency in some form or other to meet all withdrawals. It is possible and even probable that issues would have been of moderate dimensions. Moreover, the Treasury could have forced all banks to clean house as effectively under such a program as under that now being carried through.

The advantage of this proposal over that sponsored by the Administration is that an important part of the total bank deposits would not have been immobilized at a critical juncture; for can we afford a further reduction of deposits, possibly from 10-15 per cent, and an accompanying decline in prices? True enough, the decline in prices need not be in the same proportion as the reduction in deposits, for saving accounts of individuals and corporations would be especially affected; and the reduction of expenditures would not be of the same proportions as that in deposits. Nevertheless a deflationary factor is introduced into our economic life which will be felt for many years to come: those whose savings accounts have been reduced below a normal level will, in an effort to replenish them, save more and spend less. It may also be observed that the decision to allow the weak banks to close gives to those sections of the country in which a large proportion of banks remain open, a command over commodities, land, securities, and goods much greater than that maintained by other sections, and more widespread than would have been possible in the absence of such measures. Hypothetically speaking, they retain their deposits in full, whereas the banks in the West must write down their deposits by, say, 25 per cent; therefore, in so far as deposits accumulated or created in the past give command over commodities and other forms of wealth, the East retains the strong position already evidenced in the relatively high value of the assets held by the banks. In so far as banks in a weak condition have remained open, depositors in the West and South have not been forced to curtail their expenditures in proportion to the reduc-

tion in the value of assets held against their deposits. It is to be observed, however (as we shall see), that at least as far as resources of members are concerned, the banks in the West and the South seem to have suffered less than eastern banks.

Nor does it seem likely that the provisions allowing issues of preferred stocks by banks in distress or the purchase of such stock by the R. F. C. (legislation of March 9) will constitute a form of guarantee of bank deposits of dominant importance. The unfortunate depositors of these banks, it is true, may acquire the cash for the market value of the assets held against the deposits somewhat sooner than would have been possible otherwise (at the expense of cash resources of other banks); but in view of the pronounced views of the Administration on balancing the budget, is it likely that large investments in preferred stock of these banks will be made by the R. F. C. even at a conservative valuation of these assets? The marketability of the preferred stock of banks in liquidation will be limited. By subscribing, however, to the preferred stock on the condition (1) that additional contributions are made by stockholders and depositors and (2) that where the value of deposits as well as capital is impaired, deposits be written down, the Government is taking some action toward hastening recovery.

Again, such a willful destruction of purchasing power may yet be justified if the Treasury were prepared to step in with a large program of inflation to *offset* the deflationary forces at work — a program which would involve large expenditures for public works and relief, farm aid, and even military outlays and other normal projects, all to be financed by borrowing. To-day, however, the Administration, still unduly disturbed by the need of balancing the budget, does not seem disposed to go further in the direction of inflation than the inelasticity of our tax revenues forces them; though there is much to be said for directing Government expenditures, not to aid bank depositors, who are, economically speaking, a favored class, but to those actually in distress. But the Government seems disposed to hold its powers of relative inflation in abeyance.

Nor is it likely that the banks still solvent will be able, by lending aggressively, to fill the gap left by the disappearance of weak banks; for the destruction of purchasing power of such proportions will tend to reduce prices further and make business enterprise less profitable.

Large issues of currency notes may be made under the provisions of the Act of March 9; notes may be issued against Government se-

curities of all kinds and against other assets acquired by the reserve banks under its provisions. Since reserve banks are empowered, upon approval of the Board, to lend on paper not hitherto eligible or acceptable, and since issues may be made on all types of United States Government paper, large additional circulation may be forthcoming. But such issues are no more inflationary than issues of 40 billions to replace bank deposits would be inflationary at a time when the public is determined to hold its cash in notes rather than in bank deposits. The imposition of a tax on all new issues, it may be noted, may constitute a deflationary factor of some importance: banks facing withdrawals of deposits will also be weakened by the drain of cash suffered in their capacity as tax-payers.

In accordance with the tendency evident for many years, the Emergency Banking Act of March 9 further liberalizes eligibility regulations or virtually discards them entirely. Any bank deemed solvent — but what is a solvent bank when confidence is at a low ebb or prices are steadily declining? — may borrow on assets neither *eligible* nor *acceptable* hitherto if the Federal Reserve Board approves. Apparently the Government is prepared to guarantee banks against losses by issuing notes against this paper. The refusal to liberalize the collateral requirements against *Federal reserve notes*, it may be noted, undoubtedly is to be traced to the influence of Senator Glass, who still adheres to the theory of note issue acceptable in 1913.

If the Government is desirous of limiting losses resulting from its increased stake in banking, it ought to turn from the aims of a balanced budget, deflation, and maintenance of the gold standard, at least temporarily, to those of an unbalanced budget, inflation, and a national standard. Deflation, which has had an opportunity to purge the economic system of its bad blood, was a necessary step to recovery; but it is necessary to avert the destruction of business and farming units which under a system of stable prices could easily survive, but totter under the double burden of falling prices and reduced expenditures. A temporary, if not permanent, repudiation of the gold standard would leave us free to pursue monetary policies aimed to maximize output and employment, not toward taking account and correcting gold movements sensitive to the fears engendered at home and abroad by policies inherently sound but distrusted by the world. Unfortunately the gold standard, not of 1913, but one envisaged by economists, in a world so strongly nationalistic

is a dream: the heavy burden imposed on gold reserves as a result of rigidity of costs, large short-term capital movements and tariff barriers, together with an unwillingness to cooperate, make a workable gold standard seem far distant; in the meanwhile the danger of competitive devaluation, in the absence of a gold standard, as a means of capturing export markets has attracted more attention than it deserves.

One word on the problem of central bank control in relation to the issues raised by the crisis of March, 1933. Banks of the country have assumed for many years the right to rediscount with reserve banks, and the tendency has been to restrict assets acceptable less and less. The result of the emergency legislation will be that reserve banks will find it very difficult to refuse accommodation to any large number of banks that in the present crisis are declared solvent by banking authorities. Nor is it desirable that they should do so at the present juncture; but when restraint is called for once more, not to protect the sanctity of the dollar but to prevent unwise inflation, the reserve banks once more will find their position trying. It may also be noted that if aid is offered freely to state banks (non-members) either through correspondents (members) or the R. F. C. (or as provided more recently, directly through the reserve banks) as proposed by the Administration, member banks may be weakened by the extent that aid is given; and the Treasury may conceivably be forced to dump securities upon the banks of the country.

To balance the budget, or at least to give the pretense of a balanced budget, may be a necessary price to pay for the confidence of business. But can business confidence be attracted merely by the saving of a billion or two per year to the tax-payer, a relatively small part of which is levied on business profits, even if as a result of locking up bank deposits and an unwillingness to spend, business receipts continue to decline and prices to fall? Would it not be preferable to stop the decline in prices by means of a more liberal guarantee of bank deposits and freer Government spending, thus giving the business man a measure of relief in a reduction of unit costs (resulting from relative inflation) as well as an increase in receipts, and a reduction of other expenditures on relief, all of which may result from increased expenditures by the Government directly or through Government subsidies to industry?

One hopeful sign is evident as I write this, late in March, 1933. There is a spirit of inflation rampant which, however, may be frus-

trated in the absence of large additional issues of currency, the anticipation of which has given rise to such hopes of higher prices. In spite of the closure of 25 per cent of our banks, the amount of cash and deposits available is adequate to give us a large measure of inflation, if our deposits once more begin to move as in 1929. And fortunately the world does not consist exclusively of economists: a mistaken impression that only inflation can result from the legislation of March 9 may have more influence on the actual situation than the correct interpretation, that the developments of the first quarter of 1933 have been clearly deflationary.¹

5. AN ANALYSIS OF THE BANKING CONDITION ON THE EVE OF THE CRISIS — REGIONAL MOVEMENTS

The following results, which sum up the situation for the twelve months ending January, 1933, are based on the monthly Gold Settlement Figures (G. S. F.) published by the Federal Reserve Board and available in Washington.

FEBRUARY, 1932 TO JANUARY, 1933 (INCLUSIVE)

(Millions of dollars)

	Transit clearings (a)	Government transfers (b)	Government deposits (c)
1. New York, Boston, and Philadelphia	+1199	-1012	+211
2. New York	+967	-821	+180
3. Chicago	-249	+399	+110
4. San Francisco	-311	+192	+146
5. Western districts (Cleveland, Chicago, St. Louis, Minneapolis, Kansas City, San Francisco)	-1045	+993	+380
6. Southern districts (Richmond, At- lanta, Dallas)	-158 ¹	+21	+75

(1) There is a small error in the April figures which explains the discrepancy between 1(a) and the sum of 5(a) and 6(a).

¹ Unfortunately, as I look this over on March 27, my early fears seem well-founded: the public has regained its composure too quickly; the banks are considered safe once more, with the result that additional issues of notes have not been made and the public realizes that the anticipations of inflation were not justified; moreover, 5 billions of deposits or thereabouts have been locked up. Might it not have been preferable if the public's confidence in the banks and the world's confidence in the dollar had not been restored so quickly? The trouble is that there has been too much confidence in the dollar; that is why it continues to appreciate.

It is at once apparent that the western districts, much more than the southern districts, were losing cash to the East at a disconcerting rate. (See column 1.) Moreover, the losses accrued not only over the entire period but in each month of the period; and both these losses on transit (clearing) account and the transfers of cash by the Government to the West were especially large in the four months February to May, 1932, a period in which the reserve banks carried through very large open market operations. Thus in these four months, the three eastern districts gained 710 and the six western districts lost 574 millions on transit (clearing) account.

It is helpful at this point to study the condition of individual reserve banks at the end of January, 1932, when open market operations on a large scale had not yet been introduced; at the end of June, 1932, when the active open market policy was suspended; and in January, 1933, by which time some beneficial results of the episode ought to be evident.

I should like to draw the attention of the reader to the following observations:¹

1. In the first period considered (February to June, 1932, inclusive), the New York Reserve Bank and the Philadelphia and Boston Reserve Banks, despite the favorable balance on transit (clearing account) were not so strong as the reserve banks in the West and South. I conclude this fact from the larger losses of reserves suffered by the eastern reserve banks. In large part the explanation is undoubtedly the movement of cash on Treasury account from the East to the West. Also, a large outward movement of gold especially affects the New York Bank adversely; and it is to be noted that the eastern reserve banks were affected unfavorably by an outward movement of Federal reserve notes. These factors, unfavorable to the East, were not offset by any large increase in bankers' balances, a factor which might have strengthened the position of the East. On the other hand, it is to be noted that reserve banks in the West and South more than maintained, in a period when the portfolio of reserve banks increased by more than a billion dollars, their proportion of the total securities held by the System. They increased, indeed, their share of the System's holdings of acceptances, and this at a time when the supply offered to reserve banks was dwindling.

¹ Figures compiled and calculated from *F.R.B.*, 1932, pp. 68, 460; *ibid.*, 1933, p. 99.

2. In the second period considered (July, 1932, to January, 1933, inclusive), eastern banks more than held their own, and this despite the fact that, on the whole, the second half of the year was not so

TABLE LXXXII¹

Assets and Liabilities of Reserve Banks	End of January 1932		End of June 1932		End of January 1933	
	(1)	(2)	(3)	(4)	(5)	(6)
1. Reserves — total	3169		2777		3457	
3 eastern reserve banks		46		43		45
New York Reserve Bank		32		28		30
9 western and southern reserve banks		54		57		55
2. Borrowings of members — total ..	899		440		274	
3 eastern reserve banks		43		44		42
New York Reserve Bank		24		22		21
9 western and southern reserve banks		57		56		58
3. Bills purchased — total	153		67		31	
3 eastern reserve banks		46		34		48
New York Reserve Bank		32		23		31
9 western and southern reserve banks		54		66		52
4. Securities held — total	783		1789		1767	
3 eastern reserve banks		54		52		52
New York Reserve Bank		39		38		40
9 western and southern reserve banks		46		48		48
5. Notes — issued to reserve banks — total	2923		3028		2937	
3 eastern reserve banks		38		38		36
New York Reserve Bank		22		22		21
9 western and southern reserve banks		62		62		64
6. Deposits of members with reserve banks — total	1947		1982		2446	
3 eastern reserve banks		56		58		59
New York Reserve Bank		44		45		47
9 western and southern reserve banks		44		42		41

(1) Columns (1), (3), and (5) in millions of dollars. Columns (2), (4), and (6) in percentage of total. Based on figures in *Federal Reserve Bulletin*.

favorable to the East on transit (and seasonal) account as the first period had been. This conclusion is derived from the observation that, while eastern reserve banks strengthened their reserve position more than did the others, there was at these reserve banks a some-

what more rapid reduction of borrowing and a tendency for the New York Reserve Bank, at least, to hold a larger proportion of the System's supply of securities and acceptances. Rather significant, also, is the larger proportion of notes outstanding issued to western and southern reserve banks.

But perhaps the most important single explanation of the relatively rapid improvement in the condition of eastern reserve banks is the increase in bankers' balances in this period.¹ The amount due to member banks in the United States, although it remained relatively stable in the first period, increased by no less than 737 millions from *June 30, 1932*, to *December 31, 1932*. That this increase in cash accrued largely to New York Banks is evident from the following:

INCREASE IN "DUE TO OTHER BANKS" IN UNITED STATES
(Millions of dollars)

Member banks	December 31, 1932 to December 31, 1932
System.....	775
New York City	575
Chicago	4
Other reserve city banks	228

Here we undoubtedly find the explanation of the tendency, evident in Table LXXXII, for reserves of member banks in the East to increase more rapidly than those of other members. On the other hand, this is not an adequate explanation of the relative changes in this variable in the first period, which may perhaps be explained by more rapid liquidation in the West, a movement explicable in part by seasonal considerations.

In February, however, the Gold Settlement figures reveal the effects of the unusual events of that month, in which banking holidays became quite fashionable. The three *eastern* districts lost 156 millions on transit account, while the six western districts gained 103 and the three southern districts 55 millions. For the New York District alone the loss was 74 millions and for the Chicago District the gain 122 millions. Now the Government intervened on behalf of the New York District, which was being drained by western banks, transferring 59 millions to New York (30 millions to the three eastern districts) and taking 46 millions from the Chicago Reserve Bank.

¹ Member Bank Call Report No. 57, pp. 2, 5.

It may also be noted that the Agents' accounts (reserves against notes) of the New York and Chicago Banks were credited, in this period in which withdrawals of notes were so large, with 74 and 80 millions drawn from the G. S. F.

Undoubtedly, losses on transit account are not explained merely by withdrawals of bankers' balances; large corporations and others drew freely on deposit accounts in the East, and the sale of securities by the public in areas without banking facilities was of large proportions.

6. LIQUIDATION, DECEMBER 28, 1932-MARCH 1, 1933

Unfortunately, figures are available only for weekly reporting member banks, comprising two thirds of member banks' resources.¹ There is no reason for assuming, however, that fluctuations in the assets and liabilities of these banks in the larger cities do not give a fairly accurate picture of what was occurring in the country as a whole. In one respect, this statement may require modification: amounts due from banks for all members (relatively to amounts due to banks for all members) probably declined much more rapidly than is indicated by the figures for weekly reporting member banks. A large proportion of balances held with reporting member banks belong to non-reporting members and to *non-members*.

Loans and Investments. Liquidation proceeded at a very rapid rate, the reduction being no less than $5\frac{1}{2}$ per cent for the period of two months for all reporting members and 7 per cent for reporting member banks in New York City; the liquidation for reporting members was more marked for loans ($6\frac{1}{2}$ per cent) than it was for investments (4 per cent). So far as the New York City banks are concerned, advances to non-banking customers probably declined more than 11 per cent, the percentage by which all loans were reduced, for an increase in advances of 67 millions for the week ending February 15 is probably to be explained by an increase in loans to banks. Liquidation for the period as a whole prevailed in every district, although its extent was relatively moderate for Boston and several of the less important agricultural districts.

At a late day, signs of impending disaster were not apparent. For the week ending February 1 (the Michigan banks closed on Febru-

¹ All figures from condition of Weekly Reporting Member Banks (mimeographed memorandum issued weekly by the Federal Reserve Board).

ary 14), loans and investments of reporting members increased by 106 millions ($\frac{1}{2}$ per cent); the large proportion of the increase accounted for by New York banks, however, seems to indicate that these may have been in part inter-banking loans. But it may be pointed out that balances with New York banks increased by 40 millions during this week.

In the next four weeks (ending March 1), all reporting members reduced their loans and investments by 900 millions, and those in New York City by 700 millions. Out-of-town banks, by withdrawing balances in New York, were thus able to impose upon New York banks the task of liquidating. Reporting member banks in the Chicago District (which includes the Detroit section) actually increased their loans and investments in the first three weeks of February, and for the period as a whole the liquidation was unappreciable. Liquidation prevailed in most districts only in the final week; for the four weeks under consideration, either liquidation was *negligible* or there was net expansion, in all districts but New York (decrease of 9 per cent), Cleveland (5 per cent), St. Louis (4 per cent), and Dallas (4 per cent).

Deposits. As might well be expected, net demand deposits for the period December 28–March 1 declined (10 per cent) more rapidly than did loans and investments ($5\frac{1}{2}$ per cent): the explanation in part is the withdrawal of currency notes and gold and in part the withdrawal of bankers' balances. Net demand deposits for all reporting member banks declined 10 per cent as compared to 13 for those in New York City. The decline in time deposits was of smaller proportions. In districts where the reduction in net demand deposits was large, that in bankers' balances was usually also large. The explanation of the decline in net demand deposits may be very largely that bankers' balances declined; and in view of the reduction in loans and investments, it might be held that banks were in fact *gaining* deposits in the important sense. But that conclusion is of doubtful validity for districts other than New York, where the reduction in balances due from banks was generally as large as, or larger than, that in balances due to banks. Net demand deposits may not be reduced to any great extent by a reduction of balances due to banks, if the credit item due from declines as does the debit item due to, banks. It may also be observed that the net demand deposits of reporting member banks in the Boston District actually increased in this exciting period, which might well be considered a

symptom of remarkable strength; and there were insignificant declines for those in the Dallas, St. Louis, and Minneapolis districts.

The reductions in net demand deposits for all reporting member banks and for the New York banks were 1,160 and 740 millions respectively, as compared to losses of 1,100 and 550 millions in balances due to banks; the reduction in loans and investments, 1,000 and 500 millions respectively. It may be concluded, for the New York City banks at least, that the reduction in net demand deposits may be accounted for by the reduction in bankers' balances and loans and investments. This conclusion is not clear for out-of-town banks because their balances due from declined more rapidly than did their balances due to banks. It is to be recalled, however, that a reduction in balances due from banks may not prevent net demand deposits from declining as a result of the reduction of balances due to banks when (and this is frequently true) the changes in *due to* relate to other banks than those which suffer changes in *due from*. Currency withdrawals probably played a larger part in western districts than in New York for the nine weeks ending March 1.

Reserves. Reporting member-bank reserves declined by 22 per cent (450 millions) for all, and 38 per cent (420 millions) for the New York City banks. New York banks used up surplus reserves as out-of-town banks withdrew their cash balances. It is a remarkable fact that in this period, when the reserves of reporting member banks in New York City declined by 38 per cent, those of the banks in the Boston, Richmond, St. Louis, Minneapolis, Kansas City, and Dallas districts increased by 39, 35, 37, 35, 29, and 74 per cent respectively. In truth the surplus reserves which had been accumulated in New York belonged to out-of-town banks and had been attained in large part through the activities of the R. F. C. Thus the unfavorable balance of the West and South in relation to the East, and to New York in particular, had been offset by transfers on Treasury account; and the additional cash thus received ultimately found its way in large part to New York banks as balances belonging to those out-of-town. Thus the East, in purchasing securities sold by the Treasury, which made possible the attempts of the R. F. C. to bolster up the financial position of the West and South, also contributed to its own undoing when these banks later were forced to strengthen their position at the expense of New York banks: the out-of-town banks preferred their surplus reserves in the midst of the crisis.

Due to and Due from Banks. The reduction in *due from banks* for all reporting members was approximately 850 millions, or 50 per cent. (New York banks hold relatively small balances with other banks and therefore need not be considered at this point.) The decline in bankers' balances (due to banks) for all reporting banks was 1.1 billion, or 33 per cent; that for those in New York City, 550 millions, or 38 per cent. Uniformly large was the reduction of balances *due from banks* for almost all districts; but the decline in *due to banks* was relatively small for the Boston, Richmond, Atlanta, St. Louis, Minneapolis, Kansas City, and Dallas districts.

Contrast the losses of the banks in New York City with those in the Chicago and a few other financial districts. Changes in *net* bankers' balances (due to minus due from) in millions of dollars:

New York City	-540
Chicago	+38
Chicago District	+69
Cleveland District	-41
Boston District	+43

As late as the week ending February 8, reporting members reduced their debts at the reserve banks by 111 millions, although they reduced their balances at banks by 98 millions (due from) and lost 118 millions of balances (due to). Even in the following week, the increase in borrowings at reserve banks was but 30 millions (42 per cent), while all balances at member banks were reduced by 222 millions and balances at other banks (due from) declined by 171 millions. Apparently, also, New York banks increased their inter-bank loans. The New York City banks, however, were not indebted at the reserve banks as late as February 21, although the Michigan banks had been closed just about a week and the former had lost 242 millions of bankers' balances in the preceding week. Member banks, out-of-town, apparently still preferred (as they had in 1913) to lean on their correspondents by withdrawing balances and perhaps borrowing from them, rather than to borrow from the reserve banks. As late as the week ending February 15, banks in the Chicago District increased their borrowings at the reserve bank by but one million. It may also be noted that on March 1, when all *reporting* member banks were indebted to reserve banks for almost 500 millions, the reporting banks in the Boston District were indebted for but one million; and in that week, when the indebtedness of re-

porting banks increased by 358 millions, the increase was but 5 millions for banks in the Chicago District and 2 in the Kansas City District. Apparently the reserve banks were not lending much in these districts and it has already been observed that additional authorizations by the R. F. C., at least until February 21, were not large.

7. THE RESERVE BANKS AND THE CRISIS

The following table is compiled and calculated from figures published in the *Bulletin* and the weekly mimeographed statements of the condition of reserve banks published by the Board.

(Millions of dollars)					
	System Total (End January) (1)	End of January, 1932 to March 8, 1933		March 8-22, 1933	
		System (12 reserve banks) (2)	New York Reserve Bank (3)	System (12 reserve banks) (4)	New York Reserve Bank (5)
		(1)	(2)	(3)	(4)
Reserves	3457	-648	-309 ¹	+562	+142
Borrowing at reserve banks	274	+1140	+716	-743	-525
Bills bought	31	+386	+70	-65	-16
Securities	1767	+119	-181	-17	+110
Reserve notes in circulation	2725	+1490	+414	-299	-72
Reserves of members	2446	-646	-389 ²	+118	+6
Foreign bank deposits with reserve banks	40	+9 ³	...	-34	...
Inter-reserve bank redis- counts	..	+210	+210	-210	-210

(1) Also, a decline of 88 millions in January.

(2) A decline of 110 millions in January.

(3) An increase from 19 to 40 millions in January.

A very large part of these movements from the end of January to March 8 occurred after the Michigan banks had been closed in the middle of February, and in truth in the ten days ending March 3, on which day banking activities were suspended. Thus, perhaps two thirds or more of the increase in money in circulation occurred in these ten days.

Apparently these large withdrawals of notes were financed for the most part by borrowing at reserve banks, to a relatively small degree by purchases of bills, and even less by purchases of securities. Withdrawals of bankers' balances held in New York are reflected in the relatively large proportion of the additional rediscounts made at the New York Reserve Bank, as well as in the liquidation of 181 millions of securities by the New York Reserve Bank in a period in which the

portfolio on System account increased by 119 millions. Also, symptomatic of this weakness of New York banks is the increase of inter-reserve bank rediscounts of 210 millions, entirely accounted for by the borrowings of the New York from other reserve banks. That the borrowing of the New York Bank was not of larger proportions is explained by the marked reduction in member-bank deposits at the New York Bank: withdrawals of correspondents were met in part by the utilization of excess reserves.

The strain on the reserve banks resulting from the domestic demands for currency is not fully explained by the additional issues of currency notes; for an important part of the loss of gold and other reserves of reserve banks is also relevant. It may also be pointed out that foreign depositors at the reserve banks became wary long before American banks or American depositors, as is evident in the increase in deposits at reserve banks of foreign correspondents from 19 to 40 millions in January. They were apparently accumulating cash in order to be prepared to convert deposits into gold.¹

If the 210 millions procured from other reserve banks are deducted from the total reserves of the New York Bank, its reserves were approximately 30 per cent of its note and deposit liabilities on March 8. It is also conceivable that its reserves reached an even lower point, if securities sold to other reserve banks are considered. It might be assumed that the free gold of the New York Bank declined in an even more precipitate manner; but an increase of 786 millions of bills rediscounted and bought made it possible to cover virtually all notes outstanding with paper and thus release several hundred millions of gold tied up as collateral against notes and required as reserves therefor. Apparently the reserve system seems in honor bound to refuse to use public securities against notes as freely as is allowed under the Glass-Steagall Act.²

In the two weeks ending March 22, the banking situation has improved. It is to be noted that the New York Bank reduced its advances at a more rapid rate than did the System; that it repurchased securities from other banks, or at least increased its portfolio

¹ The contingent liability of reserve banks on bills purchased for foreign correspondents was 335 millions on March 23, 1932, and but 43 millions on March 22, 1933. Foreign central banks were frightened both by low rates and (later) by unsatisfactory banking conditions.

² But Government securities deposited as collateral by all reserve banks rose from 313 millions at the end of January to 662 on March 1 and one billion on March 22, 1933. From weekly mimeographed statements of reserve banks.

while that for the System declined; and that it has repaid its indebtedness at other banks. Thus is explained the relatively moderate increase in reserves of the New York Reserve Bank. Also, of significance here is the negligible increase in reserves of member banks in the New York District, as compared with that for the System. Bankers' cash has not been redeposited in New York in large volume as yet; although the marked reduction in borrowing at the New York Bank, in so far as it is not explained by the inflow of *gold* and currency notes, probably is to be explained by a favorable balance on transit or Government account.

It may be advantageous to inspect the table below:

PERCENTAGES OF THE TOTALS FOR THE SYSTEM

	End of January, 1933		March 8, 1933	
	New York Reserve Bank	Chicago Reserve Bank	New York Reserve Bank	Chicago Reserve Bank
1. Reserves	30	26	26	22
2. Borrowing at reserve banks by members	21	7	55	8
3. Bills bought	31	12	19	24
4. United States securities	40	14	27	22
5. Bills and securities	37	13	37 ¹	17 ²
6. Reserve notes in circulation	20	26	23	27
7. Deposits (reserves) of members ..	47	17	42	13

(1) 31 per cent if allowance is made for 210 millions rediscounted with other reserve banks.

(2) 21 per cent if allowance is made for 150 millions rediscounted for the New York Bank.

From the end of January, 1932, to March 8, 1933 (the banks were closed on March 4), the New York Reserve Bank did not increase its proportion of the System's earning assets (roughly its reserve credit) and its proportion of the System's reserves declined from 30 to 26 per cent. In truth, if the allowance is made for 210 millions of rediscounts obtained from other reserve banks, the burden borne by the New York Bank in the midst of the crisis seems to be less, relatively, than it was at the end of January.* One may therefore ask for evidence of excessive dependence on New York banking facilities; but the relief obtained by reducing the participation in open market operations resulted from the very large increase in rediscounts (from 21 to 55 per cent of the System's total) that in turn reflects the pressure to which the district as a whole was subjected. Thus consider the decline in the proportion of member bank and reserve bank reserves, which clearly reveals the calls made upon the New York District.

The contrast with conditions in the Chicago District is revealing. True enough, the reserves of the Chicago Bank declined from 26 to 22 per cent of the total; but if allowance is made for the 150 millions advanced to the New York Bank, its proportion actually increased. Because the additional rediscounts were relatively small, the Chicago Bank was able to buy bills and securities in a generous manner. A decline in the member-bank balances, symptomatic of unsatisfactory banking conditions, is not so conclusively explained as in the New York district by losses of bankers' balances. Apparently the vulnerability of New York was responsible not only for a relatively greater loss of strength for New York banks but for the New York Reserve Bank as against the Chicago Reserve Bank and other reserve banks, although banking conditions were less satisfactory in other districts than they were in New York.

Also consider the following table:

MEMBER-BANK RESERVES — PERCENTAGE HELD BY EACH RESERVE BANK TO
THE TOTAL FOR SYSTEM

Reserve District	End of January 1933	March 8 1933	March 22 1933
Boston	7	7	6
New York	49	42	40
Philadelphia	5½	6	6
Cleveland	6	7½	7
Richmond	2	2	3
Atlanta	2	1½	2
Chicago	17	12½	14
St. Louis	2½	3	3½
Minneapolis	1½	2	2
Kansas City	3	4	5
Dallas	1½	4	3
San Francisco	6	7½	7½

It is clear that, at least so far as member banks are concerned, the destruction of banking resources has been at a relatively rapid rate in the New York and Chicago districts, and that most of the agricultural districts have done remarkably well. These results are, however, to be used with caution. Particularly in the New York District, and to some extent in the Chicago District, the withdrawal of bankers' balances goes a long way toward explaining the extent to which losses of reserves of members were in excess of those suffered elsewhere. Large depletion of surplus reserves is also an important consideration for the New York banks. Perhaps the amount

of banking liquidation, that agricultural districts had already suffered may explain their relative immunity in February and March.

The manner in which the crisis was met by the reserve banks is amply revealed by the following:

	(Millions of dollars)			
	February 21, 1933	March 1, 1933	March 8, 1933	March 22, 1933
Borrowing at reserve banks	327	712	1414	671
Bills purchased	180	384	417	352
U. S. Government securities	1834	1836	1881	1864
Reserve bank credit	2351	2936	3644	2887
Monetary gold supply	4460	4344	4243	4264
Money in circulation	5988	6720	7538	6608
Member bank reserves	2271	2038	1800	1918
Reserves of reserve banks	3304	3066	2809	3371
Reserve notes in circulation	3000	3579	4215	3916

Credit was provided in the main by advances to member banks. In 15 days (or in truth 10 days ending March 3), the amount of money in circulation increased by 1,550, and reserve bank credit by 1,300 millions; reserves of reserve banks declined 500 and of members 470 millions. As late as March 22, reserve credit was still apparently at the level of March 1, as was the money in circulation; reserves of reserve banks had increased to the level of February 21, and those of members had increased somewhat. A reversal of the flow of cash accounts for the recent reduction in rediscounts and the improved reserve position of reserve banks.

Recently published figures for weekly reporting member banks in New York City and Chicago for the period March 1 to March 22, help to explain the tendencies of the last few weeks. Bankers' balances at member banks in New York City were on March 22 below the level of March 1, though at a higher point than on March 15, and net demand deposits had fallen by 7 additional per cent from March 1 to March 22. Investments increased by 3 per cent, and loans and investments declined by $\frac{1}{2}$ of 1 per cent. In Chicago, however, a spectacular increase in loans and investments of 12 per cent occurred: the increase in the latter was no less than 23 per cent. Net demand deposits were relatively stable, and time deposits actually increased.

8. CONCLUSION

In the year ending January, 1933, the balance of payments, as evidenced by transit clearings, of the West with the East, was consistently and strongly unfavorable to the former; the Treasury, however, by advancing cash through the R. F. C. continued to offset these losses. The activities of the R. F. C. have been more effective than the open market operations of the reserve banks, because the former applied aid to the 6,000 banks that required it, rather than attempting to flood the market with large supplies of additional cash. Through open market operations the reserve banks flood the strong banks with additional resources (deposits) which are in fact required by the weak banks. The result is that although the balance of payments of the West was clearly unfavorable, the stronger banks in that section of the country were able to accumulate bankers' balances in New York at an unhealthy pace, as was to be demonstrated in the early months of 1933; and in so far as the loans by the R. F. C. made it possible for deposits and cash to move from weak to strong banks in the same section of the country — such movements are possible, for example, when weak banks are provided with enough cash to repay bank loans — this movement was accentuated. Thus, at one and the same time, strong banks in an economically weak section of the country were being provided with cash in an embarrassingly large amount, while measures introduced to aid weak banks were proving only partly effective.

Open market operations of 1932 were disappointing in their results. It has been argued that deposit figures are to be used with caution, and that gold and currency movements as well as the R. F. C. played a large part in any retardation of the rate of liquidation.

Again, New York banks, when confronted with large withdrawals of bankers' deposits in the first nine or ten weeks of 1933, were compelled to effect a drastic liquidation of both loans and investments. The shock was absorbed in part by the utilization of surplus reserves, and in large part, but not wholly, by borrowing at the reserve bank. Reserve banks, moreover, already heavily stocked with open market investments, were in no position to put forth additional credit that would prove to be costless to the banks. Although the reserves of member banks in New York, largely as a result of withdrawals of

bankers' balances, were being sadly reduced in this period, those of member banks in numerous other districts, in spite of liquidation, actually increased in a spectacular fashion. Thus did the East pay the penalty for its attempts to bolster up the western banks.

In short, reserves of reserve banks as well as those of member banks, and the amount of borrowing by the latter, give evidence of the strength or weakness of different sections of the country. Thus movements of bankers' balances in the second half of 1932 strengthened both the reserve and member banks in the East, just as the withdrawal of balances had the opposite effect in the early months of 1933. At the latter time, New York banks were forced to increase their borrowing more rapidly than was the rest of the country and the New York Reserve Bank, although it sold securities to other banks and borrowed from them, lost gold more rapidly than did other reserve banks.

Of the future we can say little now. The emergency legislation reassured the public and immobilized perhaps 5 billions of deposits. Thus in a few days deflation of 10 per cent or more was introduced; and in the future, those who have lost may well attempt to build up their savings deposits to a normal level, strengthening the destructive forces of deflation, however beneficial those forces have been in 1930-32 and however beneficial they might continue to be in the absence of rigidity of costs. Having introduced, or at least sanctioned, this last dose of deflation, Congress ought to be consistent and by means of a thoroughgoing revision of banking laws, provide the country with a more workable banking system. The Glass Bill, in spite of some unwise provisions (I refer especially to those which assure more political control of the System) ought to be approved; but we should go much further. (Political control of the reserve banks may be necessary; but it is unfortunate, nevertheless.) Though careful not to strengthen further the forces of deflation, we should support Senator Glass in his *attempt* to make impossible a recurrence of the speculative excesses of 1922-29; and Senator Glass himself might well recognize that we have moved far from the ideas about central banking prevalent in 1913.

I have urged in this essay increased activity on the part of the Treasury; for the reserve banks have done more than can reasonably be expected of them both to stop the decline in prices and to keep the banks open. Additional sums expended by the United States Government with a view to infusing activity into bank deposits *may*

be interpreted as inflation; but in truth, the Government, if it could offset all or some of the deflationary forces active to-day, would accomplish much; and there need not be *net* inflation and *ought* not to be any large measure of inflation. For years now, Treasury deficits have been inflationary; yet who would maintain that inflation has been rampant? As I add these last few words early in April, 1933, President Roosevelt, with a remarkable display of courage, has been able to give the impression of a balanced budget. The Administration ought to take advantage of the resulting return of confidence to borrow and spend freely; and large expenditures accompanied by an amortization program would be possible without destroying the bond market. Although the economic program of Keynes, Robertson, and other members of the Cambridge School has been unacceptable to England, their proposals have found favor here.

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¹ Miss Doris L. Benz prepared this Index, and I am also indebted to Mr. A. P. L. Turner, Jr., for help with it.

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