

AN ANALYSIS
OF EARNING
ASSETS OF
CHICAGO BANKS.

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UNIVERSITY OF ILLINOIS

ISSUED WEEKLY

VOL. XXVII

JANUARY 14, 1930

No. 20

[Entered as second-class matter December 11, 1912, at the post office at Urbana, Illinois, under the Act of August 24, 1912. Acceptance for mailing at the special rate of postage provided for in section 1103, Act of October 3, 1917, authorized July 31, 1918.]

BUREAU OF BUSINESS RESEARCH
COLLEGE OF COMMERCE AND BUSINESS
ADMINISTRATION

BULLETIN No. 28
Distributed December, 1929

21750

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OF CHICAGO BANKS



PRICE 50 CENTS

PUBLISHED BY THE UNIVERSITY OF ILLINOIS, URBANA
1929

It is the purpose of the Bureau of Business Research of the University of Illinois—

- (1) to study and as far as possible to explain economic and industrial conditions within the State;
- (2) to direct attention to experience-tested practices of good business management; and,
- (3) to investigate methods for securing the best executive control of business.

BUREAU OF BUSINESS RESEARCH

CHAS. M. THOMPSON, Ph.D., LL.D., *Director*

A. C. LITTLETON, A.M., C.P.A., *Assistant Director*

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PREFACE

In Bulletin No. 21, which is one of a series of studies of the money market, an analysis was made of deposits, and particularly of bankers' deposits, in Chicago banks over a period of twenty-six years; in Bulletins Nos. 23 and 24 a study was made of capital stock, surplus, and undivided profits for a like period to ascertain what the owners of the banks themselves had contributed to the funds of the banks.

The present analysis turns from a study of the sources of banking funds to a study of the way the funds of Chicago banks have been employed. To that end the earning assets as reported by the banks have been divided into two groups, loans and investments. The first class includes the typical loans and discounts which, in the case of commercial banking, have been traditionally made up of short time loans. The theory has long obtained that the commercial banker whose deposit liability is demand rather than time must employ his credit in the form of loans of short duration; they must be very liquid. On the other hand, the banker receiving savings deposits has been expected to direct a considerable portion of these funds into long time obligations which are classed under the category of investments. "Investments," being used here to cover the earning assets of the strictly savings bank, obviously includes real estate mortgages. However, throughout the present treatment of earning assets, real estate mortgages are classed as loans.

The present analysis does not permit of isolating commercial banking from savings banking. One of the most noteworthy features of the development of modern banking is that of the "department store" type of institution. To-day practically all banks regardless of name carry on almost precisely the same functions. For a long time the national banks have been considered as typically commercial banks; but with the passage of the Federal Reserve Act in 1913, and subsequent legislation, particularly the McFadden Banking Act, provision has been made for the introduction or expansion of real estate loans and of savings departments by national banks. In Illinois the state banks have had these privileges for some time. Strictly speaking, there are relatively few banks to-day which may be specifically designated either commercial or savings.

This is less true in the East than in the Middle West, however. In New York, for example, trust companies, state banks, and savings banks, all coming under the supervision of the state superintendent of banks, have more or less specialized functions. But there are no

strictly savings banks in Illinois. Trust companies in Illinois are briefly treated in Bulletin No. 24 on page 13. It is to be noted, however, that national banks in a number of instances carry on exclusively commercial operations, the savings and trust functions being handled by affiliated state institutions. At the close of 1928 it was found that this was the situation in the case of five national banks in Chicago. Nevertheless, even here the directorates and management of the affiliated banks are so nearly identical that they may be considered as a single institution.

In the present study the movement of the earning assets of Chicago banks has been traced through the sixteen-year period, from 1913 to 1928, inclusive. Comparison has been made with New York bank figures and also with those of all the banks in the United States. The same plan is followed as in the previous analyses, that of first grouping the banks of Chicago as national and state banks, and then considering them as a whole.

As in former cases, the Bureau takes this opportunity to acknowledge the generous cooperation given by bankers and business men in supplying such information as was desired as well as most helpful criticism, and the assistance of D. M. Dailey of the Bureau staff in preparing the manuscript.

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I. THE MOVEMENT OF THE EARNING ASSETS OF CHICAGO BANKS

In the first group of earning assets, that is, what has been here termed loans, are comprised loans and discounts, overdrafts, and customers' liability under letters of credit and on account of acceptances. Overdrafts have been included in this analysis because in effect they are simply forced loans from the bank. Though national banks are prohibited from voluntarily permitting them, and their use is frowned upon by most state-chartered banks, this item of overdrafts is sufficiently large to have considerable significance, particularly in periods of credit stringency. Customers' liability under letters of credit and on account of acceptances is not always the result of a loan, but such a mode of origin of these liabilities undoubtedly prevails to such an extent that only a negligible error is made by treating these items as loans.

Only one item is subtracted from the loans and discounts. This is the item covering rediscounts. It is removed because these do not contribute to the volume of credit which banks extend to business in the form of loans. When a bank rediscounts any paper with a correspondent or with its Federal reserve bank (if it is a member of the Federal Reserve System), an inter-bank loan arises, not a loan from a bank to a customer.¹

The investments of banks, on the other hand, comprise holdings of bonds and stocks.² In the reports of both the Comptroller of the

¹From 1913—the beginning of the period covered in this study—through to the fall call date of 1916 the Comptroller of the Currency included among the liabilities of banks "notes and bills rediscounted"; the same figures were included in the assets under "loans and discounts" although they were not so indicated. Beginning with the call date of September 12, 1916, and continuing through 1921, rediscounts were not shown in the statements proper of the banks but appended in a footnote under the title, "liabilities for rediscounts, including those with Federal reserve bank." From 1921 to the present time, rediscounts have been included with loans and discounts, being so designated in parentheses; these figures have also been shown among the liabilities. For both this last period and the first, "rediscounts" were deducted from loans and discounts for the purposes of this analysis.

From April 12, 1926, to the present time the Comptroller has shown "notes and bills rediscounted" and "acceptances of other banks, and foreign bills of exchange or drafts sold with indorsement" separately. That the figures may be comparable with those preceding, these two items were taken in the aggregate.

²The McFadden Banking Act, approved February 25, 1927, provides that "the business of buying and selling investment securities shall hereafter be limited to buying and selling without recourse marketable obligations evidencing indebtedness of any person, copartnership, association, or corporation, in the form of bonds, notes and/or debentures, commonly known as investment securi-

Currency and the State Auditor of Public Accounts, Government bonds and other United States obligations are shown separately. In this analysis the term "investments" is used in the restricted sense of security ownership only. It does not include the fixed assets of the banks such as buildings and real estate.

The present study covers the period from 1913 to 1928, inclusive. As in the preceding bulletins, use is made of indexes, and in this analysis the average of the 1913 data is employed as the base. The figures are those as of dates of call for both the national and state banks.

A. CENTRAL RESERVE CITY BANKS

Following the same plan as that adopted in the previous bulletins of the money market series, the group of the largest national banks is analyzed first. At present these banks numbering 10—not quite 4.5 per cent of all in the city—report close to 40 per cent of the aggregate resources. These banks, as of the first date of call in 1913, reported approximately 367 millions in earning assets.³ By the close of 1920 these assets had increased by 71 per cent; and by the end of 1928 they amounted to about one billion—an expansion of not far from 170 per cent over 1913. These interest-bearing assets of the large Chicago banks gained somewhat less than those of the corresponding group in New York. December 31, 1920, loans and investments of the New York banks stood at a figure 173 per cent above the 1913 average; by the close of 1928 they had increased to almost 2½ times what they were in 1913. The country banks of the United States, however, did not show the expansion of those in Chicago.⁴ At the close of the period under survey the earning assets of the country banks were 138 per cent above the average of 1913. When all of the national banks of the United States are considered, it is found that the expansion of their loans and investments showed the influence of the larger banks; during the period studied the earning assets of the national system increased 178 per cent.

As was stated at the outset, interest-bearing resources of banks consist of loans and investments. The present purpose is to analyze

ties, under such further definition of the term 'investment securities' as may by regulation be prescribed by the Comptroller of the Currency . . ." Thus national banks are not permitted to purchase stocks; they are obliged, however, to subscribe to the capital stock of the Federal reserve banks of their respective districts; and they may purchase a certain amount of stock of corporations engaged in foreign banking.

³For complete list of dates of call throughout the period under study see Appendix A.

⁴Country banks of the United States numbered 7,244 December 31, 1928. See Appendix C.

TABLE I
 AMOUNT OF LOANS AND INVESTMENTS REPORTED BY THE CENTRAL RESERVE CITY
 BANKS OF CHICAGO ON DATES OF CALL NEAREST THE MIDDLE AND
 THE CLOSE OF EACH YEAR

Year	Amount of Loans in Millions		Year	Amount of Investments in Millions	
	June 30	December 31		June 30	December 31
1913.....	\$323	\$302	1913.....	\$ 45	\$ 48
1914.....	346	321	1914.....	38	50
1915.....	348	391	1915.....	43	43
1916.....	430	474	1916.....	35	37
1917.....	472	504	1917.....	53	65
1918.....	535	531	1918.....	96	94
1919.....	548	607	1919.....	137	100
1920.....	604	577	1920.....	73	58
1921.....	568	543	1921.....	50	55
1922.....	543	552	1922.....	83	130
1923.....	555	590	1923.....	115	127
1924.....	603	589	1924.....	128	125
1925.....	609	656	1925.....	109	105
1926.....	645	609	1926.....	115	98
1927.....	676	745	1927.....	136	184
1928.....	803	824	1928.....	185	167

these component parts. Loans reported by the central reserve city banks of Chicago mounted steadily from 302 millions December 31, 1913, to 824 millions at the close of 1928 (Table I). Investments fluctuated in a marked fashion from 48 millions to 167 millions. Chart 1 shows graphically the movement of both loans and investments. By the end of 1920 loans had expanded by 76 per cent over the average of 1913; at the close of 1928 they were 152 per cent above the 1913 figure; this growth was very uniform. It is to be observed, however, that the gain made in loans during the last three years of the period studied was especially notable. A rather pronounced gain was also made from 1915 through 1917.

Investments, on the other hand, showed decided deviations. With the exception of the abrupt increase in the latter half of 1914, they tended slightly downward until 1917. From the beginning of 1917 through to the autumn of 1919 they increased from 35 millions to 136 millions. This rise was occasioned almost exclusively in connection with Government obligations. The banks were to a large extent aiding the Government in its war financing by serving as distributing agents and had to hold bonds until they could be sold to clients. The sale of short term obligations, chiefly in the form of treasury certificates of indebtedness, contributed to the tying up of bank funds in war paper. A decline in the investments of Chicago banks set in during the middle of 1919 and continued until September, 1921, at which time they reached a figure approximately the same as the 1916

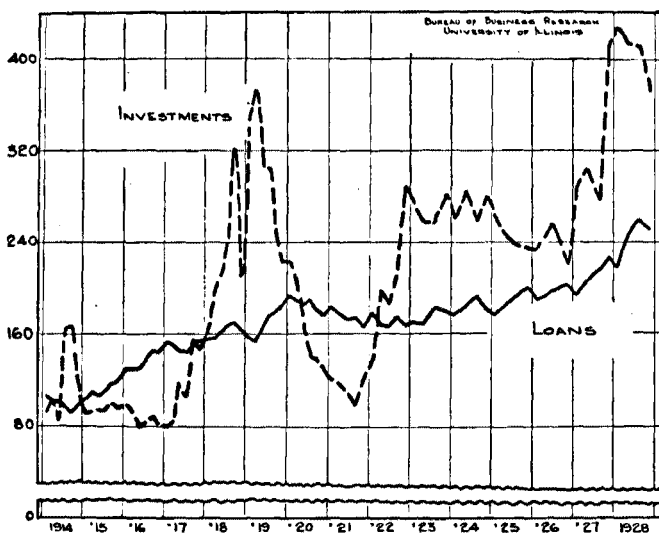


CHART 1—INDEXES OF LOANS AND INVESTMENTS OF THE CENTRAL RESERVE CITY BANKS OF CHICAGO: DATES OF CALL, 1914-1928 (AVERAGE OF 1913 = 100)

level. Then between 1921 and 1922 a significant recovery was made, although business generally was at a low ebb and bank loans were falling off. From 1922 on, investments continued to maintain a relatively high level. A noteworthy increase took place in 1927 which, however, was partially lost by the close of 1928. It appears that there was a tendency for the large national banks of Chicago to add to their security holdings when a decline was taking place in business loans; this tendency was least true, however, during the last two years of the period studied.⁵

Investments reported by the central reserve city banks of New York took very much the same course relative to loans as in the case of the Chicago banks. The former banks' investments, however, remained at a considerably higher level compared with the 1913 average than those of the Chicago group.⁶ It is to be observed that the New York banks showed their investments and loans to parallel each other in movement; there was not the same degree of inverse tendency as in the case of Chicago institutions.

⁵See also page 42.

⁶Index numbers of investments for New York banks based on 1913 figures fluctuated between 146 and 513 from 1917 through 1928; the corresponding indexes for the Chicago banks were 78 and 428, respectively.

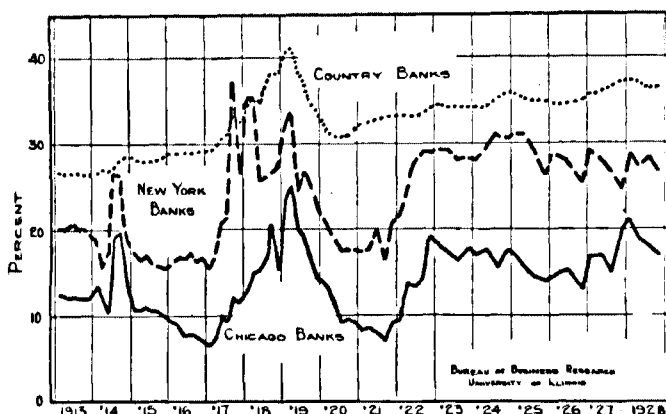


CHART 2—RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS OF THE CENTRAL RESERVE CITY BANKS OF CHICAGO AND NEW YORK, AND OF THE COUNTRY BANKS OF THE UNITED STATES: DATES OF CALL, 1913-1928

The position of investments reported by the Chicago banks relative to total earning assets did not take a definite course during the years studied. At no time⁷ during the sixteen years did they go below 6.5 per cent (March, 1917) of the aggregate earning assets, and at one time (May, 1919) they constituted as much as 25 per cent of the assets. See Chart 2. During the early part of the period, from 1913 through 1916, there was a tendency for investments to decline relative to loans. Since 1921 the position of investments strengthened from 7 per cent to approximately 17 per cent of the total earning assets. The banks of New York showed their securities to have a consistently larger position in the aggregate earning assets than the corresponding group in Chicago. For example, the investments of the New York group did not fall below 15.3 per cent of the assets compared with the low of 6.5 per cent for the Chicago institutions. The highest position for investments of the former banks was 37 per cent (November, 1917). This means that the New York banks, under identically the same regulations and restrictions, received more of their income from long time obligations than was the case in the Chicago banks.

Even greater disparity is observed when the Chicago institutions are compared with the country banks of the United States. The latter showed their holdings of investments to bulk consistently higher than either those of the Chicago or New York banks. At no time during

⁷Throughout this analysis figures are as of dates of call of the Comptroller of the Currency.

TABLE II
 PERCENTAGE DEVIATIONS FROM ONE DATE OF CALL TO THE NEXT OF LOANS AND
 INVESTMENTS REPORTED BY THE CENTRAL RESERVE CITY BANKS OF
 CHICAGO AND NEW YORK FOR SELECTED YEARS

Year	Chicago Banks		New York Banks	
	Loans	Investments	Loans	Investments
1913.....	+ 4.1 - 3.5 + 2.1 + 0.3	- 0.5 - 1.4 - 2.2 + 0.8	- 4.5 - 2.6 + 5.6 - 2.8	- 3.3 + 1.0 + 0.6 - 3.6
1916.....	+ 9.5 - 0.7 + 1.1 + 4.8 + 6.3 + 1.1	+ 2.2 + 6.2 -14.7 + 7.2 + 3.5 - 6.5	+ 1.0 - 0.6 - 2.8 + 1.5 + 6.3 - 5.5	+ 6.1 + 4.4 - 3.9 + 7.7 - 2.0 - 0.8
1919.....	- 4.0 - 1.7 + 9.4 + 5.3 + 0.8 + 4.2	+67.0 + 7.4 -18.3 - 0.6 -19.3 - 9.3	- 6.7 + 1.2 +12.3 - 0.7 + 5.2 + 3.2	+19.2 + 9.4 -29.7 +13.2 - 0.1 -13.1
1922.....	+ 8.2 - 6.9 - 0.8 + 6.2 - 4.3	+12.4 +42.8 - 6.2 +17.1 +34.4	- 5.9 - 1.2 + 2.0 - 7.5 +10.6	- 1.1 +17.1 +19.5 - 2.7 +10.1
1925.....	- 1.3 + 4.8 + 3.6 + 4.0	- 6.0 - 7.0 - 2.8 - 0.9	- 4.3 + 1.0 + 4.4 +12.3	- 0.7 - 3.7 - 2.2
1928.....	- 4.2 +12.5 + 5.9 - 3.2	+ 4.1 - 3.4 - 0.8 - 9.2	-13.9 +12.1 - 6.3 + 8.7	+ 6.4 + 4.5 - 1.2 - 0.9

the sixteen years studied did the securities of the country banks fall below 26 per cent of aggregate earning assets, and in the spring of 1919 they reached a figure slightly in excess of 41 per cent of the assets.

Throughout the period there was a persistent tendency for the security holdings of the country banks to constitute a larger portion of the assets. Since 1921 practically one-third of the earning assets of these banks consisted of investments.

Deviations in terms of percentages from one date of call to the next were calculated for both loans and investments for the group of large national banks in Chicago and New York. These figures are shown in Table II. It is quite clearly indicated that the degree of fluctuation was considerably greater in the case of investments than in that of loans for both the Chicago and New York banks. The former banks showed slightly larger deviations than did the New York institutions, particularly from 1919 through 1922.

TABLE III
 RATIOS OF STOCK COLLATERAL LOANS, ORDINARY COMMERCIAL LOANS, AND ALL OTHER LOANS TO TOTAL LOANS OF THE CENTRAL RESERVE CITY BANKS OF CHICAGO AND NEW YORK. JUNE 30, EACH YEAR

Year	Chicago Banks			New York Banks		
	Percentage of Aggregate Loans			Percentage of Aggregate Loans		
	Stock Collateral Loans	Ordinary Commercial Loans	All Other Loans	Stock Collateral Loans	Ordinary Commercial Loans	All Other Loans
1913.....	38.1	61.8	0.1	57.0	43.0	.....
1914.....	32.0	68.0	.....	59.1	40.9	.....
1915.....	20.0	76.4	3.6	49.2	50.1	0.7
1916.....	21.0	75.9	3.1	51.7	42.8	5.5
1917.....	21.5	76.6	1.9	44.0	47.6	8.4
1918.....	23.5	72.1	4.4	38.2	51.9	9.9
1919.....	30.0	64.7	5.3	47.0	44.6	8.4
1920.....	29.4	63.6	7.0	28.8	61.6	9.6
1921.....	28.1	68.0	3.9	26.9	65.7	7.4
1922.....	28.8	67.4	3.8	40.5	51.9	7.6
1923.....	30.8	67.0	2.2	39.9	53.5	6.6
1924.....	33.3	64.4	2.3	43.0	49.6	7.4
1925.....	41.6	56.0	2.4	46.6	43.5	9.9
1926.....	41.3	56.6	2.1	46.0	45.6	8.4
1927.....	46.7	50.7	2.6	49.7	40.8	9.5
1928.....	45.5	51.2	3.3	48.0	38.9	13.1

Loans

The purpose now is to analyze the component parts of loans as reported by the large nationals of Chicago. From figures reported by the Comptroller of the Currency it is possible, by some regrouping, to divide total bank loans into the following: (a) ordinary commercial loans; (b) stock collateral loans; (c) real estate loans; (d) bankers' acceptances; (e) customers' liability under letters of credit and on account of acceptances; and (f) overdrafts.⁸

What are called here ordinary commercial loans, together with stock collateral loans in the case of the large city banks, bulked very large. These two classes of loans as reported by the central reserve city banks of Chicago at no time during the sixteen years studied constituted less than 93 per cent of the aggregate; in the middle of 1914 they composed all of the loans. Since 1920 there was a tendency for them to remain approximately 97.5 per cent of the total (Table III). As for the corresponding group of banks in New York, much

⁸The Comptroller of the Currency shows these loans under the captions: "paper with one or more individual or firm names (not secured by collateral)," and "paper secured by other personal securities, including merchandise, warehouse receipts, etc." It is to be noted that these figures are as of once a year, usually June 30th.

⁹The aggregate of these six classes of loans equals as of each call date the total loans as treated above. "Rediscounts" were deducted from the ordinary commercial loans.

the same situation existed, except that commercial loans and stock collateral loans did not constitute quite so large a proportion of the whole. The lowest position reached by these latter loans reported by the New York banks was close to 87 per cent as compared with a low of 93 per cent for the Chicago banks. This difference is largely accounted for by the relatively large volume of customers' liability under letters of credit and on account of acceptances held by the New York group. For example, of all the loans reported by these banks, from 3 per cent to 9 per cent consisted of customers' liability items; these accounts for Chicago banks never reached a 6 per cent position except once, and since 1922 did not constitute more than 2 per cent of the total.

Ordinary commercial loans, that is, commercial paper either without security or with a security other than stocks and bonds, reported by the central reserve city banks of Chicago, during the sixteen years under study increased consistently from 1913 through 1918—from 199½ millions to 385¼ millions. Between 1918 and 1924 they remained comparatively constant; fluctuations did not exceed a range of 20 millions. In 1925 a marked decline took place followed by a recovery the following year. In 1928 the peak was reached with 411 millions.

Stock collateral loans, on the other hand, took on a far more rapid movement. In 1915 these loans were only 57 per cent of those of 1913; from the former year, however, through 1920 a constant increase took place; by the middle of 1920 they were 44 per cent above the 1913 level. After a slight decline during the business depression of 1921 and 1922, these loans again took a marked upward sweep until by June 30, 1928, they were approximately three times what they were in 1913 (Chart 3). That stock collateral loans reported by the Chicago banks increased more rapidly than commercial loans is to be seen further from the fact that in 1913 loans secured by pledged stocks and bonds constituted only 38 per cent of the total two classes; by 1928 they composed 47 per cent of the aggregate. The greatest change took place between 1921 and 1925, when stock collateral loans moved from a position of 29 per cent of the total to almost 43 per cent. It is thus clear that an increasing proportion of the loans of the Chicago banks consisted of loans with stock collateral; particularly was this true since 1922. That is, Chicago bankers during the past six years tended to loan on pledges of stocks and bonds to a much greater extent than they discounted ordinary commercial paper.

It is interesting to observe also that, in the case of the New York banks, the consistent upward tendency of stock collateral loans which

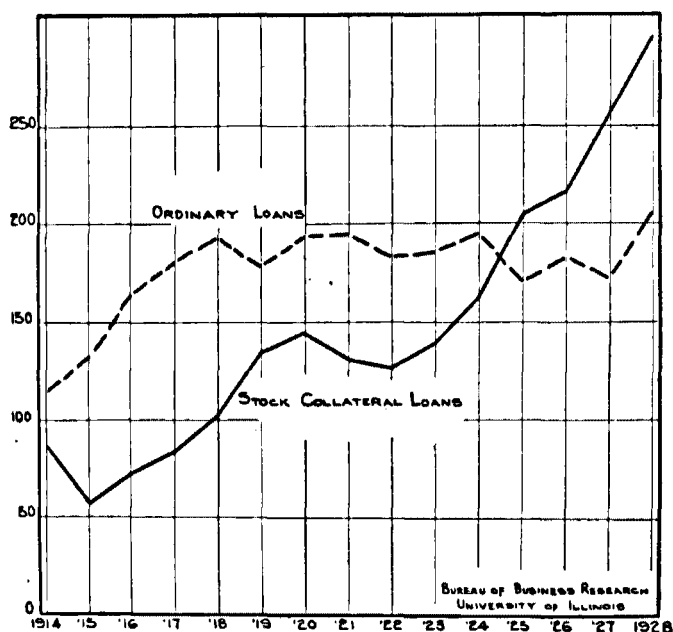


CHART 3—INDEXES OF STOCK COLLATERAL LOANS AND ORDINARY COMMERCIAL LOANS OF THE CENTRAL RESERVE CITY BANKS OF CHICAGO: JUNE 30 EACH YEAR, 1914-1928 (1913 = 100)

characterized the Chicago banks was not to be found. Only since 1922 did the former banks show a marked tendency upward in loans with security of stocks and bonds; before then the movement was irregular. During the years when stock collateral loans were rising, there was a downward movement in ordinary loans. These latter loans reached their peak in 1920; at that time stock collateral loans were very low. Except for the first five years of the sixteen-year period studied, the movement of the two classes of loans was strikingly inverse.¹⁰ The ratios of these two classes of loans to the aggregate were increasingly in favor of stock collateral loans in case of the Chicago banks; this was true for the banks in New York only since 1921; for the years 1913 through 1921, there was a marked decline in the proportion of

¹⁰The lowest position for stock collateral loans of the New York banks was reached in the middle of 1921 when these loans comprised only 29 per cent of the total. In 1913 they constituted 57 per cent of the aggregate, and in 1928 (June 30), approximately 55 per cent. Stock collateral loans of the New York banks were highest relative to total loans in 1914 when they reached approximately 59 per cent.

stock collateral loans to the total. During the sixteen-year period under study, the average of these loans to the total was 48 per cent for the New York banks, and approximately 33 per cent for the Chicago institutions.

When the loans reported by the country banks of the United States are analyzed, it is found that the ordinary commercial loans of these banks showed a gain consistently greater than that of their loans on stock collateral. Of course, these small banks always show a relatively smaller place for the latter type of loan than the large New York and Chicago institutions. For the country banks, during the period studied, stock collateral loans never exceeded 30 per cent of the total loans, and since 1914 they exceeded 20 per cent in only four years. For most of the period this class of loan approximated 18 per cent of the aggregate, as compared with 33 per cent for the Chicago banks and 48 per cent for the New York banks. The country banks did not show the rate of expansion for total loans that the Chicago and New York banks did. The loans reported by the former banks exactly doubled during the period studied; those of the Chicago banks were 2.5 times in 1928 what they were in 1913; and those of the New York institutions, 3.2 times.

As was indicated above, paper secured by stock collateral together with ordinary commercial loans comprised the great bulk of the loans reported by the banks in Chicago and New York. And this was particularly true of the former banks. Customers' liability under letters of credit and on account of acceptances is the most important form of loan other than the two treated above. These customers' liabilities reported by the large national banks in Chicago at no time during the period studied exceeded 6.2 per cent of the total loans; their average position was close to 2.5 per cent. Since 1923 customers' liabilities did not constitute more than 2 per cent of the total. This type of loan was relatively larger in New York. The banks there reported, as the highest position for this class of loan, 9.3 per cent of the total, June 30, 1928. They showed that these loans at least approximated 4 per cent of the aggregate since 1916, and that they averaged not far from 5.5 per cent of the total. While from 1924 on, customers' liabilities reported by the banks in New York steadily grew relative to total loans, those of the Chicago banks showed an irregular tendency. Country banks, as might be expected, showed a very slight proportion of their loans to consist of customers' liabilities; not more than one-third of one per cent were so composed since the inauguration of the Federal Reserve System.

The large nationals in Chicago have always been small holders of bankers' acceptances compared with the New York banks.¹¹ These acceptances reported by the former banks as of the middle of each year never exceeded $8\frac{3}{4}$ millions; in 1918 the New York banks showed $123\frac{1}{4}$ millions of them and since 1917 they reported at least $28\frac{1}{2}$ millions. While since the latter year the total loans of the Chicago banks amounted to at least 22 per cent of those reported by the banks in New York, the bankers' acceptances held by the former were as low as 1.6 per cent of the acceptances held by the New York institutions. From 1917 through 1928 the loans of these large national banks in Chicago averaged 26.3 per cent of those of the New York group. Bankers' acceptances reported by the former banks averaged only 5.4 per cent of those held by the banks in New York. Naturally, these acceptances held in Chicago constituted but the barest fraction of the entire loans. Of ordinary commercial loans, for example, June 30, 1928, acceptances were not quite one per cent. Chicago banks have yet to become large holders of this type of earning asset.¹²

Real estate loans extended by the central reserve city banks were not a factor until 1927.¹³ In the middle of 1928 the Chicago banks reported as outstanding only 6 millions— $\frac{8}{10}$ of one per cent of the aggregate loans. The New York banks showed even a lower relative position for loans secured by real estate in 1928.¹⁴

¹¹These holdings of bankers' acceptances are divided into two classes by the Comptroller of the Currency, namely, "acceptances of other banks discounted," and "acceptances of this bank purchased or discounted."

¹²That the Chicago money market is a relatively slight source for bankers' acceptances is to be observed from data which have been made available by the American Acceptance Council. Since January, 1928, the Council in its Bulletin has published monthly a list of the first forty banks in the United States in the order of the volume of bankers' acceptances outstanding. An analysis of these figures shows that the first Chicago bank in the amount of drafts accepted and outstanding ranked never higher than 16th in order; and at the close of December, 1928, there were 31 banks, mostly, of course, in New York, which reported acceptances outstanding in excess of those of any Chicago bank. April, 1929 figures showed a little more favorable position for Chicago banks, when a Chicago institution was 19th in the list. There have usually been two or three banks in Chicago among the Council's "first forty." At the close of June, 1925, 16.5 per cent of all bankers' acceptances were reported by New York banks; of the total, only 1.5 per cent were Chicago acceptances; three years later (June 30, 1928) the former banks reported close to 10 per cent of the aggregate, and the banks in Chicago not quite $\frac{1}{10}$ of one per cent.

¹³It was not until the McFadden Banking Act of 1927 that the central reserve city banks (those in New York and Chicago) were permitted to make loans on real estate. The Federal Reserve Act of 1913 had provided that national banks, except the above banks, might extend loans secured by real estate. A limitation of five years was authorized for farm loans, and city mortgages were limited to one year.

¹⁴For the country banks of the United States, real estate loans increased notably since 1915; a sevenfold expansion up to the middle of 1928 had taken place. As of this latter date, these loans comprised almost 12 per cent of their total loans.

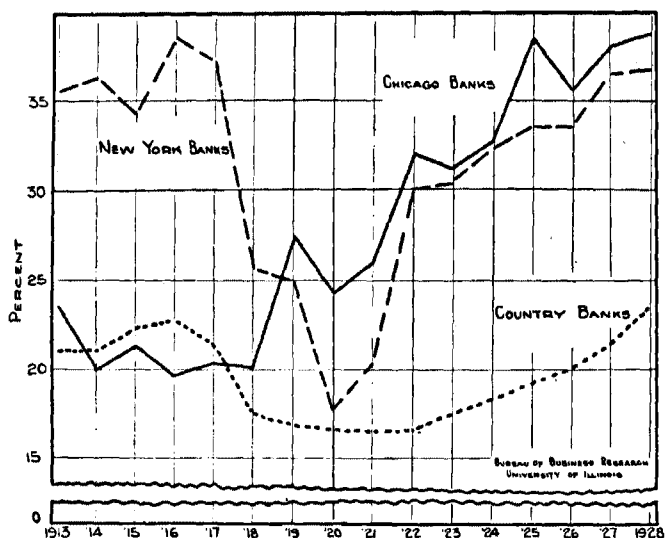


CHART 4—RATIOS OF DEMAND LOANS TO TOTAL LOANS OF THE CENTRAL RESERVE CITY BANKS OF CHICAGO AND NEW YORK, AND OF THE COUNTRY BANKS OF THE UNITED STATES: JUNE 30 EACH YEAR, 1913-1928

When the aggregate loans of the large national banks of Chicago are further divided between demand and time loans, there is found much the same tendency as prevailed between the stock collateral and ordinary commercial loans. In the middle of 1913, 23 per cent of the total loans consisted of demand accommodations; by June 30, 1928, almost 39 per cent (Chart 4). It will be noticed that while the tendency was markedly upward during the sixteen years, it was not an unbroken one. From 1921 on, occurred the most rapid increase of demand loans relative to time loans. The ratios of these loans for the New York banks did not take the same movement as those for the Chicago banks until 1920, after which the tendency was practically parallel. For five years following 1913, demand loans reported by the New York banks were very much higher relative to time loans than those of the Chicago banks. On June 30, 1916, for example, the former showed that almost 39 per cent of their loans were callable, whereas at that time a little less than 20 per cent were so reported by the Chicago banks. By 1920, however, the situation had changed and the banks in Chicago showed 24 per cent in demand loans and the New York banks less than 18 per cent. It is interesting to note that

TABLE IV
RATIOS OF LOANS AND DISCOUNTS ELIGIBLE FOR REDISCOUNT AT THE FEDERAL
RESERVE BANKS TO THE AGGREGATE LOANS AND DISCOUNTS,
NATIONAL BANKS. JUNE 30, EACH YEAR

Year	Chicago Banks		New York Banks		Country Banks
	Central Reserve City	Other Reserve City	Central Reserve City	Other Reserve City	
1923.....	36.1%	32.2%	24.7%	48.9%	30.9%
1924.....	35.8	36.0	26.3	44.3	30.6
1925.....	30.2	31.9	20.6	34.2	29.4
1926.....	27.1	26.8	19.1	35.1	28.6
1927.....	29.0	18.8	19.7	26.9	26.7
1928.....	18.0	21.0	16.1	24.9	25.6

since 1919 call loans bulked larger in relation to the total of aggregate loans in the case of the Chicago banks than in that of the New York institutions. This movement taken together with the tendency of stock collateral loans relative to total loans would seem to indicate that an increasing proportion of the funds of the large Chicago national banks had been directed to finance stock exchange transactions. At times, enormous amounts of temporary idle funds in Chicago were forwarded to New York on call. With the development of a call money market in connection with the expanding Chicago Stock Exchange, this flow of funds to the East may be curbed.

Chart 4 also shows the relative position of demand and time loans for the country banks of the United States. At no time since 1913 did the demand loans of these banks constitute more than 23.5 per cent of the total; the low position was 16.4 per cent. Since 1921 demand relative to time loans of these banks, however, rather steadily increased. June 30, 1928, the position of call loans in relation to the total loans for the Chicago, New York, and country banks was 38.8 per cent, 36.8 per cent, and 23.4 per cent, respectively.

Since 1923 the Comptroller of the Currency has regularly reported the amount of loans and discounts of the national banks which were eligible for rediscount at the Federal reserve banks. From these figures the proportions of the eligible paper to the aggregate loans were computed for the respective groups. These percentages are shown in Table IV. It is to be observed that a substantial decline in the paper eligible for rediscount held by the central reserve city banks of Chicago took place between 1923 and 1928. June 30, of the former year, approximately 36 per cent of all the loans and discounts held by these banks were classed as eligible. Five years later just one-half of this

TABLE V
 RATIOS OF SECURITIES OF UNITED STATES GOVERNMENT, BONDS OTHER THAN
 UNITED STATES GOVERNMENT, AND ALL OTHER INVESTMENTS TO TOTAL
 INVESTMENTS HELD BY THE CENTRAL RESERVE CITY BANKS OF
 CHICAGO AND NEW YORK. JUNE 30, EACH YEAR

Year	Chicago Banks			New York Banks		
	Percentage of Aggregate Investments			Percentage of Aggregate Investments		
	Securities of United States Gov- ernment	Bonds Other than United States Gov- ernment	All Other Investments	Securities of United States Gov- ernment	Bonds Other than United States Gov- ernment	All Other Investments
1913.....	35.3	44.2	20.5	22.9	73.9	3.2
1914.....	44.8	52.9	2.3	23.9	74.4	1.7
1915.....	39.3	51.6	9.1	17.8	75.0	7.2
1916.....	11.9	73.8	14.3	11.5	85.2	3.3
1917.....	35.1	57.1	7.8	34.3	63.5	2.2
1918.....	58.4	30.5	11.1	60.3	34.2	5.5
1919.....	71.2	21.4	7.4	64.9	29.4	5.7
1920.....	53.2	31.3	15.5	55.8	36.9	7.3
1921.....	36.8	46.5	16.7	54.1	36.4	9.5
1922.....	56.2	29.5	14.3	62.0	29.7	8.3
1923.....	59.8	28.2	12.0	69.7	25.4	4.9
1924.....	66.9	24.4	8.7	61.3	34.0	4.7
1925.....	52.5	40.5	7.0	56.0	38.4	5.6
1926.....	53.8	34.4	11.8	56.9	35.9	7.2
1927.....	52.0	40.2	7.8	56.0	36.7	7.3
1928.....	44.2	50.6	5.2	60.0	32.5	7.5

proportion could be so classed. The same group of banks in New York did not show quite so marked a reduction, although at no time did they report so large a proportion of paper eligible for rediscount as the Chicago banks. During this period of six years Chicago banks were rapidly taking on the characteristic of the New York institutions with respect to a relative low position for paper with the eligibility quality. For example, in 1923 the large national banks in Chicago showed 36 per cent of their aggregated paper eligible as compared with 24.7 per cent for the New York banks; by 1928 the ratios for the respective banks were 18 per cent and 16 per cent.

On the whole, the group of the smaller national banks in Chicago, that is, the "other reserve city banks," did not report a much more favorable position for eligible paper than the group of the large banks. On the other hand, the small national banks of Greater New York consistently showed a much larger proportion of their loans in the eligible class than the group of the largest banks in that city. It is interesting to observe that the country banks of the United States reported a lower relative position for paper with the eligibility quality every year, except two—1926 and 1928—than the large Chicago banks.

The movement in the Chicago banks toward an increasing volume of loans and discounts which are ineligible for rediscount, tends

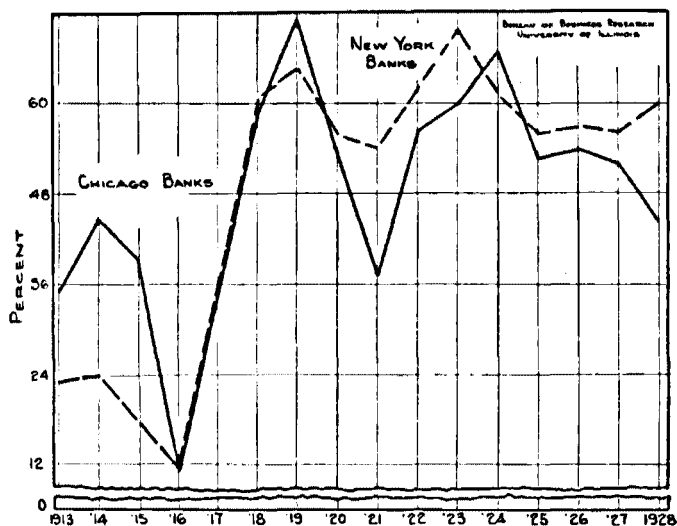


CHART 5—RATIOS OF UNITED STATES GOVERNMENT SECURITIES TO TOTAL INVESTMENTS HELD BY THE CENTRAL RESERVE CITY BANKS OF CHICAGO AND NEW YORK: JUNE 30 EACH YEAR, 1913-1928

further to substantiate the opinion that a large volume of money market funds was employed to finance stock exchange operations.

Investments

The Comptroller of the Currency so reports the items composing the investments of banks that it is possible to make a complete analysis of them. As was pointed out above, investments of banks relative to total earning assets have become of increasing importance since 1913. Table V shows a threefold division of the investments held by the central reserve city banks of Chicago and New York. Here investments are grouped as follows: (a) securities of the United States Government, (b) bonds other than those of the United States Government, and (c) all other investments. It will be observed that although the Federal Government securities held by the Chicago banks took an irregular movement relative to total security holdings throughout the sixteen years studied, nevertheless the tendency was an upward one. The low position for this class of security was reached in 1916 when it constituted not more than 12 per cent of the aggregate in-

vestments. Three years later the peak was reached when approximately 71 per cent of all the investments of the Chicago banks were composed of Government obligations (Chart 5). After 1920 there was a tendency for this class to be somewhat larger relative to all security holdings in the case of the New York banks than in that of the banks in Chicago.¹⁵ Nevertheless, the movement for the banks in the two money markets was very much the same.

The holdings of Government securities reported by the Chicago banks fluctuated greatly during the sixteen-year period; June 30, 1916, they totalled only a little more than 4 millions, while three years later the banks had increased their holdings to almost 98 millions; this enormous expansion was, of course, due to war financing. During 1920 and 1921 they rapidly disposed of their holdings until on June 30 of the latter year they held only 18¼ millions. This same movement was shown by the banks in New York although it was not so pronounced as in Chicago.

These assets in Government securities took on a considerably more consistent and rapid expansion in the case of the New York institutions than in that of the Chicago banks. The former showed holdings on June 30, 1928, twelve times those of 1913, while the Chicago banks had increased their investments in these securities only slightly more than fivefold.

Bonds other than those of the Federal Government held by the large national banks in Chicago fluctuated in volume considerably since 1913 and also relative to Federal bonds held.¹⁶ Until 1918 holdings of the former regularly exceeded those of the United States Government bonds; this situation obtained also in 1921 and again in 1928. These "other bonds" held by the Chicago banks by 1917 had increased over the 1913 figure by 52 per cent; by the middle of 1920 and again in 1921 they were only 16 per cent above, and after a steady ascent, by June 30, 1928, they stood at a figure almost 375 per cent above that of 1913. This class of bonds held by the New York banks did not show so great an expansion. Until 1921 there was a rather notable

¹⁵It is interesting to note that between 1913 and early in 1917 not less than 60 per cent of the aggregate United States Government securities owned by the large national banks in Chicago were pledged to secure outstanding bank notes. From 1918 through 1924 not more than 5 per cent of the securities were thus employed. Since 1924 there was a tendency for the bonds with the circulation privilege to occupy a somewhat larger position, and at the close of 1928 approximately 10 per cent of the total were of this class.

¹⁶This group of "other bonds" includes state, county, and municipal bonds, railroad bonds, other public service corporation bonds, foreign government bonds, and such others as are held by banks.

tendency for the banks in New York to show a higher position for these "other bonds" relative to aggregate investments than for the Chicago banks. For example, June 30, 1915, the former institutions reported these bonds to total three-fourths of all their investments; at that time the banks in Chicago showed only slightly in excess of one-half of their investments thus composed. In 1921, however, after two years of disposing of huge quantities of United States Government securities by the Chicago banks, they showed a relatively higher position for these "other bonds" than the banks in New York. This continued until 1924. In 1927 and 1928 the former institutions sharply increased their holdings of bonds other than those of the Federal Government, along with United States bonds. The New York banks, on the other hand, purchased more of the latter only. During most of the period under study there was a greater tendency for the large New York national banks to acquire and hold United States Government obligations, relative to other securities, than in the case of the Chicago banks.

Since 1918 the central reserve city banks of Chicago looked to the bond issuing jurisdictions of states, counties, and cities for a large volume of their bond holdings. When an analysis is made of bonds other than United States Government securities, as of June 30, each year, it is found that the obligations of state, county, and municipality constituted, since 1918, at least one-quarter of the aggregate holdings.¹⁷ From 1917 through 1921 there was a very rapid increase in these holdings; by the middle of the latter year they aggregated 50 per cent of the total (exclusive of United States Government bonds). There followed after 1921 a decline in the relative position of these bonds; this, however, was due more to an increase in other classes of bonds than to a decline in the holdings of state, county, and city obligations.

The ratios of railroad and public utility bonds to the aggregate of total bonds remained rather constant throughout the sixteen years studied. Each class of bond fluctuated between 6 per cent and 24 per cent of the total; during most of the time, however, the range was much less—not more than from 8 per cent to 12 per cent. Holdings of industrial corporation bonds showed marked fluctuations relative to the total holdings. From 1913 through 1915 the total corporation bond holdings of the banks constituted in excess of 40 per cent of the aggregate holdings. By the middle of 1918 they were not much above 20 per cent. This latter year was one of tight money and bond prices

¹⁷The middle of 1925 was the only exception, at which time slightly less than 21 per cent of the "other bond" holdings were those of state, county, and municipality.

were low, having declined sharply from the peak of January, 1917. From June 30, 1917, to June 30, 1918, the Chicago banks disposed of more than one-third of their corporation bond holdings. During the period of easy money conditions of 1922 and 1923 huge acquisitions were made; by the middle of the latter year they aggregated 18 millions—the peak figure except that of 1928. It appears that of the various classes of bond holdings of the Chicago banks those of corporations (other than railroads and utilities) were the most variable in amount. In other words, with the changes in the general bond market, it was usually this class of obligation which the banks most readily acquired or disposed of.

In 1917 and 1918 the bonds of foreign governments bulked fairly large in the portfolios of the Chicago institutions when they constituted nearly 25 per cent of the total bond holdings (not including those of the United States Government). Again, June 30, 1925, they composed almost one-third of the aggregate. For the most part, however, these foreign government obligations were not a large factor.

The corresponding group of banks in New York, that is, the group of the large nationals, showed the proportions of the different classes of bonds composing their aggregate bond holdings in two or three respects to be somewhat different from those shown by the Chicago banks. For example, the former throughout the sixteen-year period consistently had a larger proportion of their holdings in the form of railroad bonds. From 1913 through 1915, of all bonds owned by the New York banks outside of United States Government securities, slightly in excess of one-half were the obligations of railroads. The relative position of these bonds reported by the banks in Chicago was not much more than 15 per cent throughout the period. However, after 1917 the railroad bond holdings of the New York banks lost somewhat their position relative to the total in favor of state, county, and municipal obligations. The banks in New York relied considerably more upon these two classes of bonds to fill their portfolios than did the Chicago banks. The former institutions reported a far less percentage of corporation bonds, other than utility and railroad, to the aggregate holding of bonds than did those in Chicago. The relative position of the securities of foreign governments throughout the period was very much the same for the banks in the two money markets.

The third general class of investments held by banks, as indicated above, is described as "all other investments." These include chiefly: (a) stock of the Federal reserve bank, (b) stock of other corpora-

tions, (c) collateral trust notes, and (d) other short time obligations of corporations. In the case of both the Chicago and New York banks these component parts fluctuated very markedly relative to the total. It is to be observed that since 1921 the large national banks of Chicago had a considerably smaller proportion of the aggregate of all other investments in the form of stock of corporations than the New York group. Before 1919 there was a reverse tendency, that is, the Chicago banks showed a larger relative holding of corporation stocks than did the New York banks. Of the total of these other investments reported by the banks in Chicago from 1918 through 1927, a relatively large proportion was in the form of short time obligations of corporations. At no time did they constitute less than 34 per cent of the aggregate and for the most part composed from 45 per cent to 50 per cent of the total. Practically the same situation existed in the case of the New York group.

Federal reserve bank stock held by the Chicago and New York institutions constitutes, of course, an obligatory investment. All national banks and such state banks as choose to become members of the Reserve System must subscribe to the capital stock of the Federal reserve banks of their respective districts to the amount of 6 per cent of their paid-up capital stock and surplus.¹⁸

Demand and time deposits are significant in connection with the loans and investments of banks. The rather close relation between loans and demand deposits on the one hand, and between investments and time deposits on the other, has often been pointed out in treatises on banking; this relation was indicated in the introduction to this analysis. However, when a study is made of the ratios of investments to total loans and investments, and of the ratios of time deposits to total time and demand deposits of the central reserve city banks of Chicago, little correlation even within wide limits can be said to have existed. It was noted in the foregoing that the ratios of investments to aggregate earning assets took an irregular course during the sixteen years studied; early in 1917 investments were lowest relative to the total, with a position of 6.5 per cent; then for two years a rapid increase in their relative position took place so that by the call date of the Comptroller in May of 1919 investments constituted 25 per cent of the total earning assets (Chart 6). While this notable change was taking place, time deposits relative to total deposits were making

¹⁸The Federal Reserve Act provides that a member bank shall subscribe to the capital stock of the reserve bank of its district to the amount of 6 per cent of its own capital stock and surplus. Three per cent, however, is all that has ever been called for.

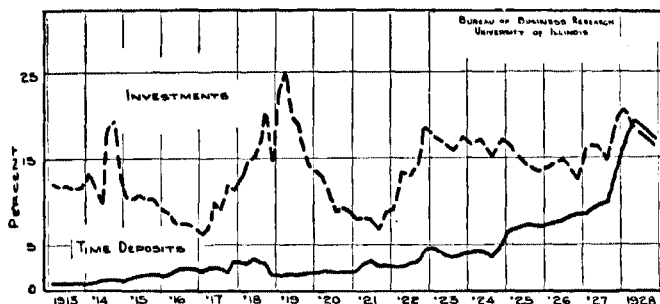


CHART 6—RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS AND OF TIME DEPOSITS TO TOTAL DEPOSITS OF THE CENTRAL RESERVE CITY BANKS OF CHICAGO: DATES OF CALL, 1913-1928

scarcely any change; in March, 1917, time deposits composed 2.3 per cent of the total deposits, and in May, 1919, 1.7 per cent. In other words, the relative position of time deposits had actually declined. It is quite obvious that the large national banks of Chicago increased their investment holdings with no aid in the form of savings deposits.

From the middle of 1919 through to the autumn of 1921 the banks steadily disposed of their security holdings until they constituted no more than 7 per cent of the aggregate earning assets. But during this time there was very little change in the relative position of time deposits; in September, 1921, they composed 2.7 per cent of the total deposits. They actually increased somewhat in relation to all deposits while investments relatively took a sharp decline. A closer connection, however, existed between security holdings and time deposits from 1921 through 1928. During this period of seven years a very notable expansion in time deposits took place; at the close of 1921 the central reserve city banks of Chicago reported these deposits to be in excess of 18¾ millions; by the middle of 1928 they aggregated close to 217 millions and constituted 20 per cent of total deposits. During this time there was no large increase in investments; the largest expansion took place between March, 1927, and February, 1928, with an increase of 64 millions. By the close of 1928 time deposits had increased so rapidly that their position relative to total deposits was in excess of the ratio of investments to aggregate earning assets. Throughout the sixteen-year period, therefore, there appears to have been very little relation between the movement of time deposits and investments of the large Chicago national banks.

Practically the same low correlation existed between time deposits and security holdings in the case of the New York banks. Here, as with the Chicago banks, the ratios of investments to total earning assets took an irregular course, while after 1921 time deposits relative to aggregate deposits expanded in a marked fashion. From 1913 to 1921 the relative position of time deposits slowly but steadily increased from $\frac{1}{10}$ of one per cent of total deposits to 4.6 per cent.¹⁹ By the middle of 1928 these deposits aggregated approximately 13 per cent of the total. From 1913 to 1921 there was practically no consistent relation between the movement of time deposits and that of security holdings. The rapid expansion of investments in the form of war bonds during 1917 and 1918 and the subsequent disposition of them went on with only a slight movement upward in the relative position of time deposits. From 1921 through 1928 the correlation between investments and time deposits was greatest for the period studied. The position of security holdings increased from 17.3 per cent to 27.2 per cent, and that of time deposits from 4.6 per cent to 13 per cent of the total.

It is interesting to observe that the relative expansion of time deposits reported by the large national banks of Chicago and New York during the seven years ending with 1928 was far greater than that of either the banks in the other reserve cities or of the country banks. It has been pointed out that to a large extent this increase in deposits other than demand was due to credit expansion of the banks rather than to strictly savings accounts.²⁰ That is, time deposits, and especially those reported by the large banks of Chicago and New York, may be said to consist of (1) true savings deposits, which alone are usually associated with time deposits, and (2) the accounts of large corporations, which in the main are the result of credit expansion of commercial banks. It is this second type of deposit which very largely contributed to the rapid expansion of time deposits during the past few years.

When the degree of correlation between time deposits and security holdings was ascertained statistically, it was found that practically no correlation existed. For example, when the two series were correlated, a coefficient based on differences was found to be .712. This indicates

¹⁹It is to be noted throughout practically the entire period studied from 1916 on, with the notable exception of 1928, that the central reserve city banks of New York showed a somewhat higher position for time deposits relative to demand deposits than did the Chicago banks.

²⁰See Chase Economic Bulletin, Vol. VIII, No. 2, pp. 14-18. Also Eckler, A. Ross, "Recent Expansion of Bank Credit," *The Review of Economic Statistics*, Vol. XI, pp. 46-51.

only a slight degree of correlation, as by this method a positive 1 signifies a negative correlation. Again, by the product-moment method by which 1 is indicative of a positive correlation, a coefficient of .061 was obtained. This, of course, showed no correlation.²¹

It thus appears that at least in the case of the large Chicago and New York national banks adjustments were made in the investments quite irrespective of the tendency in the type of deposit liability. It has been seen that very large expansions took place in security holdings with only slight change in time deposits, and vice versa. Perhaps one reason for this lack of correlation in the case of the New York banks, say, since 1922, has been the fact that time deposits were to such a large extent not made up of true savings but of corporation accounts brought about largely by the extension of bank credit.²²

B. ALL NATIONAL BANKS

The considerable space given in the foregoing to an analysis of the data of the group of the central reserve city banks of Chicago, that is, the largest of the nationals, was warranted because of their relative importance. That a complete picture may be had, however, of the loans and investments of all of the national banks, brief attention will be given here to the group of the smaller banks.

Whereas 10 of the Chicago banks with national charters are designated as central reserve city banks, 27 are classed as other reserve city banks. For the most part, these latter banks are relatively small institutions catering to the business in the outlying districts. This group of smaller banks constitutes only 8 per cent of the aggregate resources of the nationals. In only one instance does the outstanding capital stock of any bank of this group reach \$800,000; for the most part, the capital ranges from \$200,000 to \$300,000. These institutions are in every case located outside of the Chicago down-town district.

• Data for the other reserve city banks of Chicago have been available since December 31, 1918.²³ That the business of these banks has rapidly expanded is evidenced from the fact that their loans by the close of 1928 had increased almost fivefold. Investments showed an extraordinary expansion, from a little more than 8 millions at the close of 1918 to more than 46 millions ten years later.²⁴ This rate of

²¹For a consideration of the calculation of correlation coefficients, see Bulletin No. 16, Bureau of Business Research, University of Illinois, Appendix B.

²²This statement does not hold with respect to the Chicago banks inasmuch as since 1922 correlation between the two series appears to have been greatest, as pointed out above.

²³See Bulletin No. 21, Bureau of Business Research, University of Illinois, p. 36.

²⁴See Appendix A (b) for the actual figures.

growth considerably exceeded that of the group of the larger national banks. One of the most noteworthy aspects of the banking structure in Chicago is the rapid expansion which has taken place in the business of the outlying institutions.

When an analysis is made of the ratios of investments to total earning assets of these other reserve city banks, it is found that investments were relatively high. From the middle of 1920 through 1924 their position relative to total earning assets steadily increased until by the end of 1924 they constituted almost 57 per cent of the total. At no time since 1918 did the securities held by these banks compose less than 32 per cent of the aggregate earning assets. In the case of the large national banks, as pointed out above, security holdings occupied a much smaller position; at no time during the period studied did they go above 25 per cent of the total, and, for the most part, they ranged considerably below this figure. Thus, the outlying national banks of Chicago relied on investments for their income much more than did the large down-town institutions. It is interesting also to observe that the group of the smaller Chicago national banks showed their security holdings to be consistently greater in relation to the total earning assets than the corresponding group in New York.²⁵

As in the case of the large nationals, ordinary commercial loans together with stock collateral loans comprised the vast majority of all loans reported by the group of the smaller banks in Chicago (Table VI). When figures are analyzed as of June 30, each year, it is found that in no year since 1919 did these two classes of loans constitute less than 90 per cent of the aggregate, and in one year they comprised as much as 99.9 per cent of the total. Until 1928, when the real estate loans of the smaller banks expanded noticeably, ordinary commercial loans and loans secured by stock collateral were quite consistently larger relative to the total in the case of the latter banks than in the larger institutions. That there was a marked tendency for stock collateral loans to expand relative to other loans is evidenced from the fact that in the middle of 1919, 29.3 per cent of all the loans of the other reserve city banks were of this class. By June 30, 1923, they comprised one-third of the aggregate; and by the middle of 1928, almost 41 per cent. This same tendency to extend credit on obligations secured by stock collateral was seen in the case of the larger banks, and with these latter banks to a somewhat greater extent.

²⁵The Comptroller of the Currency designates the "other reserve city banks" of New York as those of Brooklyn and Bronx. These banks are required to maintain a 10 per cent reserve against demand deposits the same as the corresponding group in Chicago. The central reserve city banks in both cities must, of course, keep a legal reserve of 13 per cent.

TABLE VI
RATIOS OF STOCK COLLATERAL LOANS, ORDINARY COMMERCIAL LOANS, AND ALL OTHER LOANS TO TOTAL LOANS OF THE OTHER RESERVE CITY BANKS OF CHICAGO AND NEW YORK. JUNE 30, EACH YEAR

Year	Chicago Banks			New York Banks		
	Percentage of Aggregate Loans			Percentage of Aggregate Loans		
	Stock Collateral Loans	Ordinary Commercial Loans	All Other Loans	Stock Collateral Loans	Ordinary Commercial Loans	All Other Loans
1919.....	29.3	70.2	0.5	50.6	45.8	3.6
1920.....	26.0	71.8	2.2	36.5	62.9	0.6
1921.....	33.9	58.0	8.1	33.6	65.9	0.5
1922.....	35.7	63.9	0.4	27.0	72.5	0.5
1923.....	33.0	66.8	0.2	22.7	76.7	0.6
1924.....	34.8	65.1	0.1	21.3	76.6	2.1
1925.....	38.7	59.6	1.7	28.7	69.2	2.1
1926.....	42.3	55.8	1.9	31.0	65.0	4.0
1927.....	41.6	55.8	2.6	28.3	68.5	3.2
1928.....	40.7	49.5	9.8	35.9	60.8	3.3

The relative position of the ordinary commercial loans reported by the other reserve city banks of Chicago declined steadily from 70.2 per cent of the aggregate in 1918 to 66.8 in 1923 and to a trifle less than 50 per cent by the middle of 1928. Again, the rapid expansion of stock collateral loans is seen from the fact that on June 30, 1928, they stood at 63 per cent above the average for the period studied (1919-1928), whereas their position in the middle of 1919 was 61 per cent under the average for the period. The corresponding percentages for ordinary loans were 23 and 42, respectively. This indicates strikingly that the small outlying banks in Chicago followed much the same course in lending as the large down-town institutions.

June 30, 1927, the other reserve city banks of Chicago reported approximately one million dollars in real estate mortgages; a year later their mortgage loans amounted to almost $4\frac{1}{4}$ millions. The effect of the McFadden Banking Act was making itself felt. It is interesting to note that the real estate loans reported by the large down-town banks aggregated only a little in excess of 6 millions, June 30, 1928. Loans secured by real estate reported by the outlying banks of Greater New York were very much less than those of the same group in Chicago.

A study of the security holdings of the group of smaller Chicago national banks shows a striking decline in the relative position of United States Government bonds held. June 30, 1919, almost 56 per cent of the investments of these banks consisted of Federal Govern-

TABLE VII
RATIOS OF SECURITIES OF UNITED STATES GOVERNMENT, BONDS OTHER THAN
UNITED STATES GOVERNMENT, AND ALL OTHER INVESTMENTS TO TOTAL
INVESTMENTS HELD BY THE OTHER RESERVE CITY BANKS OF
CHICAGO AND NEW YORK. JUNE 30, EACH YEAR

Year	Chicago Banks			New York Banks		
	Percentage of Aggregate Investments			Percentage of Aggregate Investments		
	Securities of United States Government	Bonds Other than United States Government	All Other Investments	Securities of United States Government	Bonds Other than United States Government	All Other Investments
1919.....	55.6	38.6	5.8	46.9	47.9	5.2
1920.....	38.5	54.2	7.3	51.8	42.0	6.2
1921.....	40.8	51.6	7.6	47.0	44.2	8.8
1922.....	41.3	54.6	4.1	47.2	41.2	11.6
1923.....	45.0	50.4	4.6	52.4	36.5	11.1
1924.....	40.3	56.9	2.8	43.5	49.3	7.2
1925.....	32.2	61.7	6.1	40.0	54.2	5.8
1926.....	28.7	67.5	3.8	33.0	62.2	4.8
1927.....	27.0	66.8	6.2	22.4	72.2	5.4
1928.....	24.8	71.5	3.7	25.4	70.8	3.8

ment obligations. By the middle of 1928 a trifle less than 25 per cent of the aggregate security holdings was thus composed (Table VII). Every year with the exception of three showed a relative falling off in this class of security. Actually, war-bond holdings increased somewhat but so great were the additions of other security acquisitions that the former showed a steady relative decline. The large Loop banks reported a much larger percentage of their total investments in the form of United States Government securities than did the smaller banks. Also, their holdings of Government obligations fluctuated from year to year much more than those of the latter institutions. Since 1921 it has been notably true that the large national banks of Chicago relied on Federal Government obligations for a much larger proportion of their aggregate security income than did the smaller institutions in the outlying districts. The ratios of United States Government securities to the total in the case of the other reserve city banks of New York took much the same course as those of the Chicago banks. Greater fluctuations occurred, however, in the case of the former.

Bonds other than those of the United States Government held by the smaller banks showed a very significant increase in their relative position between 1919 and 1928. In no year did the June 30 figures show these bonds to constitute less than 38 per cent of their aggregate security holdings, and by the middle of 1928 they composed 71.5

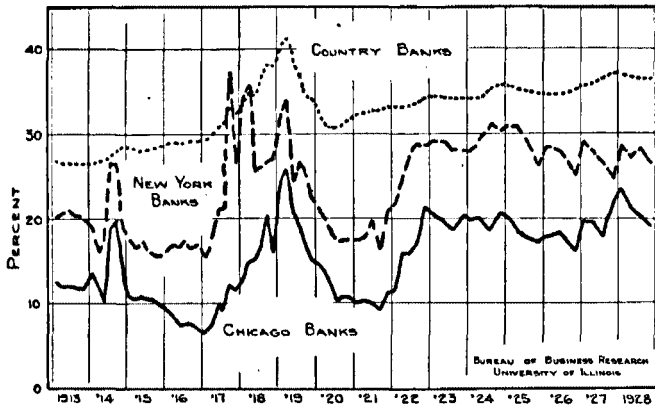


CHART 7—RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS OF ALL NATIONAL BANKS OF CHICAGO AND NEW YORK, AND OF THE COUNTRY BANKS OF THE UNITED STATES: DATES OF CALL, 1913-1928

per cent. As the holdings of Federal Government obligations were losing their relative importance, these other bonds were increasing in practically the same proportion.

That the neighborhood national banks regularly showed a much larger proportion of their total investments in the form of bonds other than those of the Federal Government than did the large down-town institutions is seen in the fact that the former reported other bonds to constitute 38.6 per cent of their total security holdings on June 30, 1919; approximately 57 per cent by the middle of 1924; and 71.5 per cent in 1928. The ratios for the larger banks were 21.4 per cent, 24.4 per cent, and 50.6 per cent, respectively. The smaller banks quite regularly showed relatively less of investments other than bonds than the larger banks.

The other reserve city banks of New York as a group showed very much the same tendencies in the relative position of the constituent parts of investments as did the corresponding group of banks in Chicago.

Since the central reserve city banks contribute such a huge proportion of the aggregate national bank resources of Chicago—approximately 92 per cent—the addition of the data of the other reserve city banks so slightly changes the tendencies and ratios common to the larger banks' figures that space will not be given to an analysis of aggregate Chicago national bank figures as such.

TABLE VIII
 AMOUNT OF LOANS AND INVESTMENTS REPORTED BY THE STATE BANKS OF CHICAGO
 ON DATES OF CALL NEAREST THE MIDDLE AND CLOSE OF EACH YEAR

Year	Amount of Loans in Millions		Amount of Investments in Millions	
	June 30	December 31	June 30	December 31
1913.....	\$ 368	\$ 371	\$ 117	\$ 117
1914.....	374	360	124	117
1915.....	375	413	126	135
1916.....	458	483	143	139
1917.....	508	483	150	164
1918.....	490	509	188	191
1919.....	617	707	242	205
1920.....	804	782	188	199
1921.....	811	753	200	255
1922.....	795	840	321	339
1923.....	895	892	351	320
1924.....	910	1028	373	453
1925.....	1075	1110	427	440
1926.....	1138	1185	448	417
1927.....	1193	1179	463	434
1928.....	1206	1242	472	431

In Chart 7 are shown the plotted ratios of total security holdings of all of the Chicago national banks together with those of the entire United States and those of New York.

C. STATE BANKS

The typical outlying bank in Chicago is the relatively small institution with a state charter; its capital stock tends toward the legal minimum requirement of \$200,000. On the other hand, some of the largest banks in the Loop district are state banks.²⁶ December 31, 1928, there were 194 state banks in Chicago as compared with 37 nationals. These former institutions at that time reported aggregate resources in excess of two billions; this amount represented 58 per cent of total Chicago bank resources. During the past quarter of a century an enormous expansion has taken place both absolutely and relatively in the volume of business of the state institutions.

Early in 1913 the state banks reported in the aggregate close to 470½ millions in earning assets; by the end of 1928 these resources had expanded 250 per cent (Table VIII). This was considerably more than the expansion of approximately 195 per cent registered by the national group.

²⁶While the period studied in this analysis does not extend beyond December 31, 1928, it is interesting to note that with the physical merger, March 18, 1929, of the largest national bank in Chicago with the largest of the state institutions, a billion dollar bank with a state charter emerged. Hence, the call date figures as of March 27, 1929, showed that as much as 74 per cent of all the bank resources of Chicago were those of state banks.

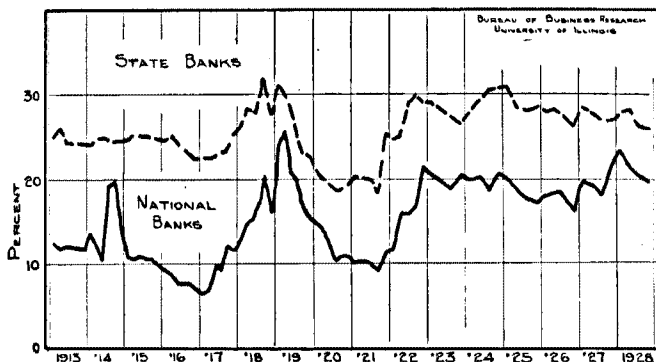


CHART 8—RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS OF ALL NATIONAL BANKS AND ALL STATE BANKS OF CHICAGO: DATES OF CALL, 1913-1928

Credit extension in the form of loans reported by the state-chartered institutions took a pronounced upward movement during the period under study. This course was somewhat more regular and unbroken than that of the national banks. A factor probably contributing to this tendency is that the latter banks are relatively few in number and their activities are rather highly concentrated; the state banks, on the other hand, are much more widely distributed and probably as a group feel the steadiness of business which a wide diversification in the need for bank credit provides.²⁷ A very notable expansion in loans by the state banks took place after 1921—an increase of 65 per cent compared with an advance of 55 per cent for the nationals.

Between 1913 and 1928 the security holdings reported by the state-chartered banks in Chicago increased 2.7 fold; the national institutions showed an increase of 3.7 times.²⁸ Again, the investment data reported by the latter banks showed very marked fluctuations compared with those of the state institutions. In Chart 8 are plotted the ratios of investments to total earning assets for the state and national banks.²⁹ It will be observed that throughout the entire period studied the state banks showed a larger relative position for security holdings. At no date of call did the investment ratios of these banks go

²⁷It was found that at the close of 1928 the four largest of the state banks represented 42 per cent of the aggregate resources of that group. The first four of the nationals had in excess of 87 per cent of all the resources of the national group.

²⁸See Appendix A (c).

²⁹See also Appendix B.

below 18.3 per cent of their aggregate earning assets; and at one time, in the fall of 1918, security holdings reached almost 32 per cent of the total. The low and high positions for investments in the case of the nationals were 6.5 per cent and 25.7 per cent, respectively. The general movement of securities owned relative to earning assets in the two groups of banks took practically the same course throughout the sixteen years. There was the greatest difference between them from 1915 through 1917, during which time investments reported by the state institutions relative to earning assets averaged slightly more than twice those of the national group.

During the period of war financing the very marked advance in the relative position of security holdings which characterized the data of the national banks did not occur in the case of the state-chartered banks. In fact, there was a tendency throughout the sixteen years for the latter to show somewhat less fluctuation in the relative position for securities owned than in the instance of the nationals.

The fact that the state-chartered banks as a group have a considerably larger portion of their earning assets in the form of bonds and stocks is probably due to several factors: (1) There has been a tendency for the savings and trust functions of a number of large Chicago national banks to be taken over by affiliated state institutions; the functions of these latter naturally tend to promote security holdings to a greater extent than ordinary commercial banking. (2) A large number of the outlying state banks have come to cater largely to savings accounts; this practice normally results in larger investment holdings. (3) A very large number of the small state banks are not members of the Federal Reserve System and consequently a secondary reserve in the form of marketable securities is important. (4) The state banking laws pertaining to the holding of corporation stocks are more liberal than those governing the nationals.

An analysis of the loans reported by the state banks is shown in Table IX. It is to be observed that between 1913 and 1928 the ratios of loans secured by stock collateral to the aggregate loans fluctuated within very narrow limits. The data as of June 30, each year, show that in no year did this type of loan comprise more than 57.1 per cent of the whole and only once composed as little as 48 per cent. When these stock collateral loan ratios are compared with those of the large national banks, two notable differences are seen: First, the state institutions had a much larger proportion of their loans secured by bonds and stocks than did the latter. See Table III. And

TABLE IX
RATIOS OF STOCK COLLATERAL LOANS, ORDINARY COMMERCIAL LOANS, AND ALL
OTHER LOANS TO TOTAL LOANS OF THE STATE BANKS OF CHICAGO.
JUNE 30, EACH YEAR

Year	Percentage of Aggregate Loans		
	Stock Collateral Loans	Ordinary Commercial Loans	All Other Loans
1913.....	56.0	31.3	12.7
1914.....	56.7	29.9	13.4
1915.....	55.0	31.4	13.6
1916.....	57.1	29.5	13.4
1917.....	55.7	31.5	12.8
1918*.....	55.3	32.2	12.5
1919*.....	50.6	31.9	17.5
1920*.....	48.4	37.5	14.1
1921.....	48.0	38.8	13.2
1922.....	48.4	35.3	16.3
1923.....	51.4	34.1	14.5
1924.....	49.6	33.2	17.2
1925.....	51.5	33.2	15.3
1926.....	54.3	29.5	16.2
1927.....	53.6	29.2	17.2
1928.....	55.1	28.8	16.1

*June 30 figures for the years 1918, 1919, and 1920 were unavailable. For June 30, 1918, the data as of November 21, 1917, were used. The 1919 figures for stock collateral loans, ordinary commercial loans, and real estate loans were estimated by calculating the percentage which their total increase from 1918 to 1919 was of their total increase from 1918 to 1920. This percentage of each respective increase from 1918 to 1920 was calculated and added to the corresponding 1918 figure. January 3, 1921, figures were used for June 30, 1920.

second, the state banks reported this type of loan during the sixteen-year period to be comparatively constant relative to the aggregate credit extended. The national banks, on the contrary, showed the relative position of these loans to increase markedly after 1915.

The state-chartered institutions, however, reported their ordinary commercial loans to compose a much less proportion of the total loans than did the nationals. As in the case of the stock collateral loans, these loans revealed no definite tendency during the years analyzed.

Due largely to expanding real estate loans, the state banks showed all loans other than stock collateral and ordinary commercial loans to occupy a much higher position than that reported by the nationals. For all other loans the latter institutions showed a high position of 7 per cent of the aggregate (June 30, 1920). In 1919 the state banks showed these other loans to comprise as much as 17.5 per cent of the total.

The security holdings reported by the state-chartered banks do not permit of quite so accurate an analysis as those reported by the nationals. Table X shows these holdings grouped as to (a) securities of United States Government, (b) other bonds and securities, and (c) all other investments; while for a portion of the period studied

TABLE X
RATIOS OF SECURITIES OF UNITED STATES GOVERNMENT, OTHER BONDS AND SECURITIES, AND ALL OTHER INVESTMENTS TO TOTAL INVESTMENTS HELD BY THE STATE BANKS OF CHICAGO. JUNE 30, EACH YEAR

Year	Percentage of Aggregate Investments		
	Securities of United States Government	Other Bonds and Securities	All Other Investments
1913.....	.6	95.7	3.7
1914.....	.1	96.1	3.8
1915.....	.2	96.2	3.6
1916.....	.3	96.1	3.6
1917.....	9.9	87.0	3.1
1918.....	21.3	75.2	3.5
1919.....	45.6	51.5	2.9
1920.....	19.3	76.4	4.3
1921.....	23.8	72.0	4.2
1922.....	35.5	61.3	3.2
1923.....	38.5	57.7	3.6
1924.....	38.7	57.4	3.9
1925.....	40.5	55.7	3.8
1926.....	36.0	62.8	1.2
1927.....	30.9	68.2	.9
1928.....	35.5	63.7	.8

only bonds were included in the second group, yet for a few years stocks of corporations were included as well. It is inferred, however, from figures for the years when stock holdings were listed separately, that in that part of the period when they were shown with bonds they comprised a relatively small portion of the total, probably not in excess of 8 or 10 per cent.

Federal Government bonds can not be said to have been a factor in the investment account of the state banks until 1918; in the middle of this latter year they constituted a trifle more than one-fifth of the aggregate investments. During the next year, with the absorption of war bonds, the relative position of Government securities reached its peak with 45.6 per cent of the total securities. After a decline during the following two years, this class of security holding fluctuated between 30 per cent and 40 per cent of the total. The position of Government securities in the case of the larger national banks of Chicago consistently occupied a larger place in their aggregate investment account. From 1913 through 1916, when Government bonds averaged close to one-third of the entire security holdings of the national banks, this class of investment reported by the state-chartered institutions was practically negligible. During the four years indicated above, it is to be noted, the government bonds owned by the former banks were used almost exclusively to secure their notes outstanding.²⁰

²⁰See Footnote 15.

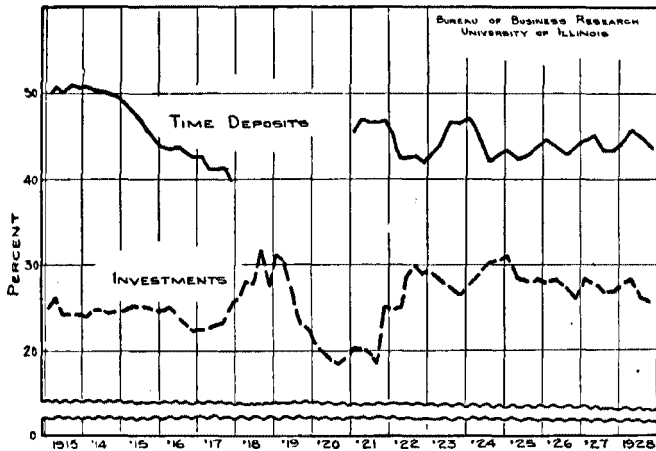


CHART 9—RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS AND OF TIME DEPOSITS TO TOTAL DEPOSITS OF THE STATE BANKS OF CHICAGO; DATES OF CALL, 1913-1928

Nevertheless, after 1916 when bonds to secure circulation came to occupy a very slight place relative to their total holdings, the national banks continued to report the relative position of United States Government securities notably high as compared with the state institutions.

When an analysis is made of bonds other than those of the Federal Government, it is found that state, county, and municipal bond holdings reported by the state banks occupied a gradually increasing position relative to the aggregate. In the middle of 1913 this class of security comprised not quite 18 per cent of the total, while on June 30, 1928, these bonds constituted nearly 33 per cent of the aggregate. This type of bond holding in the case of the nationals was a highly fluctuating item, both absolutely and relatively.

Public utility and railroad bonds owned by the state-chartered banks during the period studied came to occupy a steadily declining position; this same tendency to rely less and less upon this class of bonds for their investments account was seen also in the case of the national banks, although it was not so pronounced, particularly after 1921.

It was pointed out above that at least since 1913 there has been little or no relation between the *year-to-year movement* of time deposits on the one hand, and that of security holdings on the other, reported by the large nationals of Chicago. These banks function

as commercial banks as exclusively as any group, and tendencies in their data may be regarded as representative of institutions of that type. When the ratios of time deposits to total deposits and the ratios of investments to aggregate earning assets of the state banks are plotted (Chart 9), here likewise, no uniform course has appeared to have taken place.³¹ From 1913 through 1917 the time deposits of these latter banks declined from approximately 50 per cent of the entire deposits to 40 per cent. No such change took place in the relative position of investments to total earning assets. Neither did the ratios of the two series tend to parallel each other after 1920; during a considerable portion of this period there appeared to be an inverse movement.

It appears in the instance of the state-chartered institutions, as well as in that of the nationals, that while there was likely a relation between the movements of the relative positions of the two series, time deposits and investments, over long periods, no regular short time parallel movements can be said to have existed.

It is interesting to observe that the proportion of time deposits to aggregate deposits in the case of the state banks was, throughout the period, many times that reported by the national banks.

When an analysis is made of the ratios of total earning assets to aggregate resources as reported by the national and state banks, it is found that a significantly larger portion of the resources were income yielding in the case of the latter institutions. From 1913 to 1928, inclusive, the earning assets of the state banks ranged from a low of 71.6 per cent early in 1913 to a high of 83.4 per cent on June 30, 1928. The national banks reported their earning assets to be as low as 60.7 per cent of aggregate resources in the middle of 1920, and the highest reached during the period was a trifle under 80 per cent in 1928.

In the case of both the national and state banks, by far the largest non-income-yielding assets are the reserve items, comprising cash on hand, legal reserve with the Federal reserve bank, or, in the case of non-member banks, reserve deposited with reserve agents, and items in the process of collection.³² While in the course of the sixteen-year

³¹The break in the time deposits ratio curve is caused from the fact that between the latter part of 1917 and the beginning of 1921 the state banks in their reports did not differentiate between demand and time deposits.

³²Other assets than reserve which were considered as non-earning items included bank buildings with equipment and what the banks usually class as "other assets." It is true that reserve deposited with reserve agents, that is, approved banks, often does yield a low rate of interest and to that extent might be considered an earning asset. Cf. Watkins, L. L., "Bankers' Balances," Chapters 8 and 9. Deposits in other banks, that is, "due from banks," however, are not included with income-yielding resources in this analysis.

TABLE XI
 AMOUNT OF LOANS AND INVESTMENTS REPORTED BY ALL BANKS IN CHICAGO ON
 DATES OF CALL NEAREST THE MIDDLE AND CLOSE OF EACH YEAR

Year	Amount of Loans in Millions		Amount of Investments in Millions	
	June 30	December 31	June 30	December 31
1913.....	\$ 690	\$ 673	\$162	\$165
1914.....	710	664	162	192
1915.....	723	804	168	178
1916.....	888	962	179	178
1917.....	980	990	203	233
1918.....	1024	1050	284	293
1919.....	1180	1331	390	316
1920.....	1431	1425	272	266
1921.....	1402	1317	266	327
1922.....	1360	1414	428	496
1923.....	1476	1509	495	478
1924.....	1543	1644	534	614
1925.....	1715	1803	572	583
1926.....	1822	1893	603	553
1927.....	1910	1965	637	657
1928.....	2052	2120	699	644

period a notable decline occurred in the relative position of these assets for both groups of banks, yet they remained considerably higher in the case of the nationals, as just pointed out.

The fact that earning assets are relatively larger for the state banks is, in all probability, due to the legal reserve requirements.³³ At present the state institutions are required to maintain a 15 per cent reserve against deposits. As to what portion of this reserve must be kept in the banks' own vaults, the law does not specify; that a large percentage of it is deposited with reserve agents including the Federal reserve bank is to be taken for granted. The group of large nationals in Chicago are required to keep a reserve on deposit with the Reserve bank of 13 per cent against their net demand deposits and 3 per cent against time deposits. In addition to this, they must have a sufficient amount of cash on hand to meet the day-to-day demands on the part of their customers.³⁴ The legal reserve and such cash reserve as

³³The state banks are required to maintain a reserve of 15 per cent against time deposits as well as against demand deposits, whereas the reserve requirement for time deposits in the case of the nationals is only 3 per cent. Furthermore, a considerably larger portion of the aggregate deposits of the state institutions are time deposits. Nevertheless, it is thought that the general conclusions stated above are only slightly to be modified by the reserve requirements indicated here.

³⁴It is to be noted that the other reserve city banks of Chicago (the group of the smaller nationals) are required to maintain a reserve of 10 per cent against demand deposits and 3 per cent against time deposits. However, these smaller national banks, as was pointed out above, comprise only 8 per cent of the total national bank resources of the City.

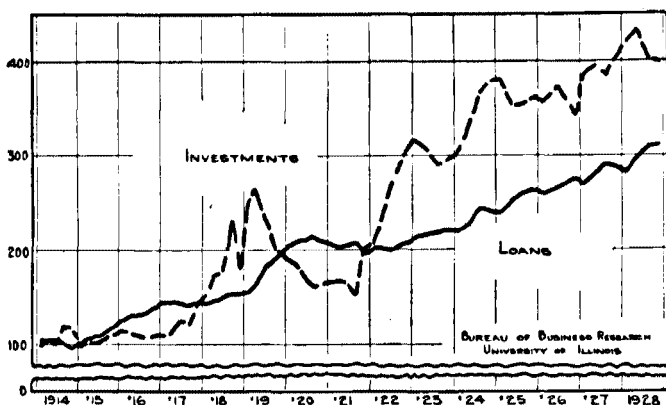


CHART 10—INDEXES OF LOANS AND INVESTMENTS OF ALL CHICAGO BANKS: DATES OF CALL, 1914-1928 (AVERAGE OF 1913 = 100)

experience shows to be necessary is probably somewhat in excess of the 15 per cent reserve required of the state institutions. This means that the non-earning assets relative to the aggregate in the case of the nationals tend to be a little larger than in that of the state banks.⁵⁵

D. ALL CHICAGO BANKS

Only brief space will be devoted to the loans and investments reported in the aggregate by all Chicago banks, both national and state. As of December 31, 1928, earning assets amounted to the huge total of 2¾ billions. Table XI shows that the loans outstanding at the close of 1928 were in the amount of 2,120 millions as compared with a figure not quite one-third as much at the end of 1913. During this period of sixteen years security holdings increased from 162 millions to approximately 650 millions.

While both loans and investments of the Chicago banks took a marked upward sweep since 1913, the former made the more steady and uniform gain. Save for the relatively slight decline from 1920 through 1922, the upward movement was practically unbroken (Chart 10). Investments, on the other hand, took a very pronounced course upward, yet the movement was marked by extraordinary fluctuations. For example, at the first date of call in 1917 security holdings stood at a figure 9 per cent above that of the 1913 average; by May, 1919,

⁵⁵It is interesting to observe that the decline in the position of non-earning assets from 1922 through 1928 which took place in the case of the national banks was, in all probability, due in large measure to the rapid expansion in time deposits which require only a 3 per cent reserve.

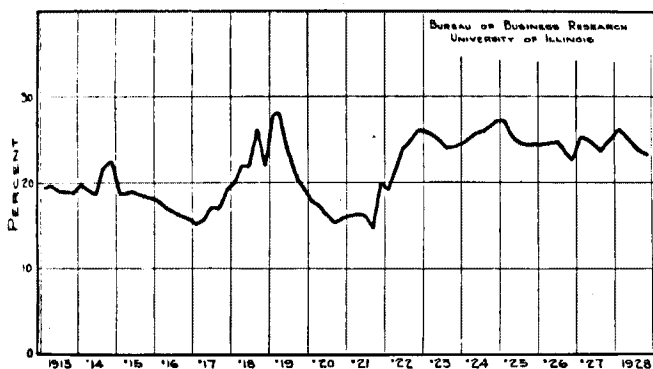


CHART 11—RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS OF ALL CHICAGO BANKS: DATES OF CALL, 1913-1928

these holdings were 2.6 times the 1913 figure. Again, by the fall of 1921 they had declined to a position of only 50 per cent above. And within three years, again, they had doubled in amount.

Chart 11 shows the position of total investments relative to aggregate earning assets for all of the banks as of each date of call between 1913 and 1928. It will be observed that from the beginning of 1915 through 1916 security holdings lost in volume relative to loans outstanding. With 1917, however, they recovered, and in 1918 and early 1919 with the demands for war finance they increased sharply. Even more rapid was the decline in these holdings which had set in by the middle of 1919; a year later the relative position of investments was at the early 1917 level. It is to be noted that a portion of this decline in the ratios of security holdings to total earning assets was due to a rather pronounced increase in loans during 1919 and 1920. Throughout the business depression years of 1921 and 1922, and particularly the latter year, when there was a tendency for loans and discounts to decline, investment holdings very rapidly advanced from 16 per cent to a position of 26 per cent of aggregate earning assets. From 1922 through 1928, security holdings averaged close to 25 per cent of the total. During these six years both security holdings and loans were expanding in about equal degree.

The average yearly position for investments relative to all earning assets reported by Chicago banks ranged from a low of 16 per cent for 1920 to a high of 25 per cent for most of the years after 1922 (Table XII).

TABLE XII
 PERCENTAGES OF LOANS AND INVESTMENTS TO THE AGGREGATE EARNING ASSETS;
 ALL CHICAGO BANKS; BASED ON YEARLY AVERAGE FIGURES, 1913-1928

Year	Loans	Investments	Year	Loans	Investments
1913.....	81	19	1921.....	83	17
1914.....	80	20	1922.....	77	23
1915.....	81	19	1923.....	75	25
1916.....	83	17	1924.....	74	26
1917.....	83	17	1925.....	75	25
1918.....	78	22	1926.....	76	24
1919.....	76	24	1927.....	75	25
1920.....	84	16	1928.....	75	25

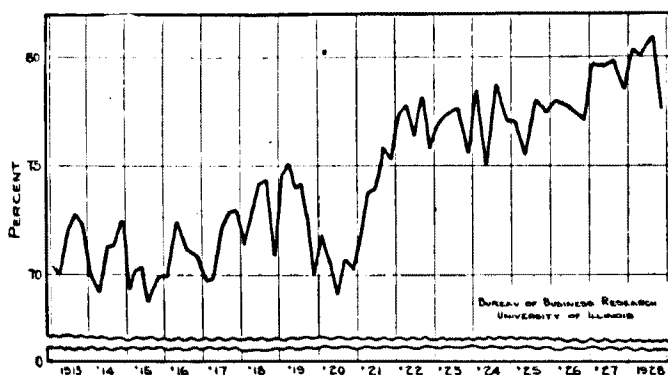


CHART 12—RATIOS OF EARNING ASSETS TO TOTAL RESOURCES OF ALL CHICAGO BANKS: DATES OF CALL, 1913-1928

When the ratios of earning assets to aggregate resources for all Chicago banks were plotted as of dates of call for the period, 1913-1928, it was found that the course was unmistakably upward (Chart 12). Until 1918 loans and investments, that is, earning assets, comprised between 70 per cent and 72 per cent of the total assets. Beginning about the middle of 1917 the relative position of these assets tended to increase until in the spring of 1919 they aggregated a trifle more than three-quarters of the total. This expansion in the proportion of resources which were income-yielding was probably in part the result of the lowering of the reserve requirements for member banks as provided by the act of June 21, 1917. From the middle of 1919 to June 30, 1920, however, a decline in the relative position of earning assets from 75.2 per cent to 69.1 per cent took place; this was brought about for the most part by a large increase in non-

earning assets. Then there followed, beginning with the fall of 1919 and continuing for two years, a notable increase in the proportion of loans and investments to aggregate assets; a change took place from 69.1 per cent to 78.2 per cent. This was accomplished by both an expansion of loans and security holdings and a decline in non-earning assets. After 1922 the earning asset ratios varied between 75 per cent and 81 per cent of the total resources with a tendency toward the higher position.

In 1913 of the average \$100 of Chicago bank resources \$71.60 were income-yielding; in 1928, \$79.70 of every \$100 were earning assets.

II. A RATIO ANALYSIS OF EARNING ASSETS OF INDIVIDUAL BANKS

A. INVESTMENTS IN RELATION TO TOTAL EARNING ASSETS

In the foregoing sections an analysis was made of loans and investments of Chicago banks by groups. The study, therefore, dealt with aggregate data. The purpose now is to analyze the data of individual banks in Chicago to ascertain the relative position which investments occupy in the earning assets as reported by the respective banks. An attempt is made to show the relation which has existed between the ratios of security holdings and the size of the institutions. The data as of two dates were studied, those of August 9, 1913, and October 3, 1928, for the national banks; and those of October 22, 1913, and June 30, 1928, for the banks with state charters.³⁶

National Banks

On the report date, August 9, 1913, there were 20 national banks in Chicago. The resources of each institution were analyzed and the ratio of the security holdings to total earning assets was determined. Then the institutions were grouped according to size; six groups were adopted according to the outstanding capital stock: (1) those having a capital of less than \$200,000; (2) those with \$200,000 and under \$400,000; (3) those reporting \$400,000 and under \$600,000; (4) those with \$600,000 and under \$800,000; (5) those having \$800,000 and under \$1,000,000; and (6) those with \$1,000,000 and over. Within each group the high and the low ratios as well as the middle half of the items were ascertained for each bank, thus showing the entire range of the ratios and the extent to which they concentrated about the middle item. The type of average employed was that of the median. Because of the relatively small number of cases to be analyzed, the median yields the most satisfactory results.³⁷ Finally, as is shown in each of the following tables, the percentage of the aggregate investments to the total earning assets for each group was computed.

It will be observed from Table XIII that there was a wide spread in the ratios of investments to aggregate earning assets in 1913. Considering all of the banks, investments were found to range from 4 per cent to almost 58 per cent of the total loans and investments. The 11 banks

³⁶These dates were chosen because they represent roughly the beginning and the close of the sixteen-year period used throughout the present study.

³⁷See Bulletin No. 23, Bureau of Business Research, University of Illinois, p. 21.

TABLE XIII
RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS
INDIVIDUAL NATIONAL BANKS OF CHICAGO, AUGUST 9, 1913
(Grouped According to Outstanding Capital Stock)

	Under \$200,000 (11 banks)	\$200,000 and under \$400,000 (1 bank)	\$400,000 and under \$600,000 (None)	\$600,000 and under \$800,000 (1 bank)	\$800,000 and under \$1,000,000 (None)	\$1,000,000 and over (7 banks)
	(Per cent)	(Per cent)		(Per cent)		(Per cent)
Lowest and highest of individual items.....	5.5-57.6	....	....	....	....	4.0-16.8
Middle 50% of items....	13.2-35.4	....	....	....	....	7.8-11.1
Median.....	25.1	27.7	....	6.3	....	9.2
Aggregate investments to total earning assets	25.2	27.7	....	6.3	....	12.1

--almost one-half of all the nationals--having a capital of less than \$200,000, reported the widest dispersion in the ratios. The average position, that is, the median, of investments to the aggregate of loans and investments for this group of smallest banks was 25.1 per cent; in the next group, for banks with a capital stock of between \$200,000 and \$400,000, there was only one institution; and while its ratio--27.7 per cent--is shown as the median, an average has, of course, no importance. This also applies to the fourth group in which there was only one bank, the ratio in this instance being 6.3 per cent. Of the 7 banks with a capital of at least one million, only one reported investments constituting as much as 17 per cent of total earning assets; the corresponding bank among those with least capital stock reported a position of almost 58 per cent for security holdings. The median position of securities for the former group was 9.2 per cent as compared with 25.1 per cent for the group of the smallest banks. There apparently was a definite tendency for the larger banks to show a relatively low position for investments. It is true that in the case of so few instances as are available in the national bank group, over-emphasis ought not be given to any kind of average. However, when a marked tendency is seen, not only in the average position but also in the range of the highest and lowest of the ratios and the extent to which they cluster about the average, the characteristic movement is not without significance.

The same tendency for the largest banks to show a relatively small portion of their earning assets to be in the form of security holdings was apparent also in 1928 among the national banks (Table XIV). Of the 36 banks at that time, 24 of them reported a capital

TABLE XIV
RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS
INDIVIDUAL NATIONAL BANKS OF CHICAGO, OCTOBER 3, 1928
(Grouped According to Outstanding Capital Stock)

	Under \$200,000 (1 bank)	\$200,000 and under \$400,000 (24 banks)	\$400,000 and under \$600,000 (2 banks)	\$600,000 and under \$800,000 (None)	\$800,000 and under \$1,000,000 (1 bank)	\$1,000,000 and over (8 banks)
	(Per cent)	(Per cent)	(Per cent)		(Per cent)	(Per cent)
Lowest and highest of individual items.....	....	28.1-79.9	13.3-24.8	....	....	5.5-24.5
Middle 50% of items...	....	36.1-62.9	13.3-24.8	....	....	8.2-23.3
Median.....	45.6	40.3	19.1	....	47.9	16.5
Aggregate investments to total earning assets	45.6	48.3	20.1	....	47.9	17.8

of between \$200,000 and \$400,000; 8 had a capital of \$1,000,000 and over. The median position for security holdings of the smaller banks was as high as 40.3 per cent, whereas the largest institutions averaged 16.5 per cent for investments. Not one of these latter banks showed its securities to aggregate quite 25 per cent of its total earning assets; one of the younger and smaller institutions, on the other hand, reported close to 80 per cent of its earning assets to be in the form of security holdings.

State Banks

October 22, 1913, there were 78 state-chartered banks in Chicago. Seventy-five of these were used in the analysis of earning assets. Table XV shows the ratios of investments to aggregate earning assets of these individual banks grouped according to size. There was a rather marked tendency for the institutions in the first three groups to show a declining percentage of earning assets in the form of investments as the typical bank increased in size. The smallest banks, those with a capital of less than \$200,000, showed the median position for security holdings to be approximately 31 per cent; those with a capital of between \$200,000 and \$400,000, a trifle more than 13 per cent; and those in the next size group, approximately 11 per cent. This movement, however, was broken in the case of the largest banks which showed an average of close to 23 per cent for securities. Thus, for the first three groups there existed very clearly the same tendency as characterized the national banks. The high position shown for investments by the group of largest banks is in part explained by the fact that at least three of this group were large trust and savings

TABLE XV
 RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS
 INDIVIDUAL STATE BANKS OF CHICAGO, OCTOBER 22, 1913
 (Grouped According to Outstanding Capital Stock)

	Under \$200,000 (4 banks)	\$200,000 and under \$400,000 (47 banks)	\$400,000 and under \$600,000 (8 banks)	\$600,000 and under \$800,000 (None)	\$800,000 and under \$1,000,000 (None)	\$1,000,000 and over (16 banks)
	(Per cent)	(Per cent)	(Per cent)			(Per cent)
Lowest and highest of individual items.....	3.4-46.9	0.8-36.8	1.8-27.9	....	....	2.0-47.9
Middle 50% of items...	8.6-44.5	7.6-20.3	2.8-17.7	....	....	11.9-32.8
Median.....	30.9	13.1	11.2	....	....	22.7
Aggregate investments to total earning assets	33.3	16.4	12.1	....	....	26.0

banks affiliated with important nationals. It would follow in these cases that a relatively large portion of the earning assets would be in the form of security holdings. However, making allowance for these latter banks, the tendency for the typical bank as it became larger to hold relatively less of investments was somewhat broken by the situation existing in the case of the remaining thirteen in the class of the largest institutions.

The state banks were also analyzed as of June 30, 1928; at this time 189 were reported by the State Auditor of Public Accounts.³⁸ It is clear that the data of this later date showed little or no tendency for the investment ratio to vary in a uniform fashion with the size of the bank (Table XVI).

The 26 institutions with a capital of less than \$200,000 showed an average position of security holdings of 32.7 per cent of total earning assets. This group exhibited a very wide range in the investment ratios of the individual banks. One bank reported its security holdings to aggregate only 6.5 per cent of the earning assets, while another showed as much as 86.6 per cent for securities. The next largest group had an average position for investments of 28.8 per cent. For the two following classes, however, an increase took place in the average of the investment ratios. Those banks with a capital of at least one million showed the lowest relative position for security holdings.

The state bank analysis shows that since 1913 a very significant gain was made in the ratio of investments to total earning assets for

³⁸Five of these banks were omitted in the analysis of the present section as most of them did not function as independent institutions.

TABLE XVI
 RATIOS OF INVESTMENTS TO TOTAL EARNING ASSETS
 INDIVIDUAL STATE BANKS OF CHICAGO, JUNE 30, 1928
 (Grouped According to Outstanding Capital Stock)

	Under \$200,000 (26 banks)	\$200,000 and under \$400,000 (102 banks)	\$400,000 and under \$600,000 (19 banks)	\$600,000 and under \$800,000 (16 banks)	\$800,000 and under \$1,000,000 (1 bank)	\$1,000,000 and over (20 banks)
	(Per cent)	(Per cent)	(Per cent)	(Per cent)	(Per cent)	(Per cent)
Lowest and highest of individual items.....	6.5-86.6	5.4-82.1	6.1-68.6	14.9-59.6	....	5.7-55.9
Middle 50% of items.....	21.1-51.5	19.4-37.1	15.2-40.3	20.5-34.8	....	14.8-41.0
Median.....	32.7	28.8	30.6	33.3	38.4	24.5
Aggregate investments to total earning assets..	37.4	32.1	26.6	30.5	38.4	27.3

each of the groups except those of the smallest and the largest banks. Disregarding the smallest bank group in 1913, which included only 4 institutions, it appears that, while the largest banks changed but little their security holdings in relation to total earning assets, the banks in the other groups gave quite uniformly a larger and larger place to investments. Many of the smaller outlying banks came to cater very extensively to savings accounts, and a large portion of their resources was in the form of bonds.

This tendency between 1913 and 1928 for security holdings to bulk relatively large in the case of the individual banks is likewise to be observed in the data of the national banks. These institutions evidenced this movement, however, not only for the smaller groups but for the largest banks as well.

It is apparent that, as the typical national bank increases in size, investments are given a relatively smaller place among its assets. This characteristic movement has not been so clear among the state institutions; at the present time (as of June 30, 1928) there cannot be said to exist any uniform relation between the size of the state-chartered bank and the position of investments to the aggregate earning assets.

III. SUMMARY

Loans and investments comprise the earning assets of banks and an analysis of them indicates the nature of the employment of the funds which are available in the money market.

Following the same plan as adopted in the preceding bulletins of the money market series, the banks in Chicago were grouped as to the central reserve city banks—the largest of the nationals; all national banks, including the small outlying institutions; the state banks; and all the banks as a whole. Outstanding loans reported by the largest national banks expanded from 323 millions in the middle of 1913 to almost 825 millions at the close of 1928; security holdings increased from 45 millions to 167 millions. During the past sixteen years there was a tendency, although not an unbroken one, for the investments of these banks to increase somewhat more rapidly than loans. They showed a relatively lower position for investments throughout the period studied than did the corresponding group in New York.

Since 1917 the Chicago banks reported loans secured by stock collateral to comprise a growing proportion of their aggregate loans; the relative position of ordinary commercial loans, on the other hand, declined in an approximately equal degree. Their stock collateral loans held a notably smaller place than in the case of the New York institutions until the last two or three years of the period. Their demand loans rose from a position of 23 per cent of all loans in 1913 to one of almost 39 per cent in the middle of 1928. This tendency together with the relative decline in the volume of paper eligible for rediscount points to the fact that an increasing volume of money market funds was used to finance stock exchange transactions.

Of the total investment holdings of the group of large Chicago nationals, securities of the United States Government constituted from 35 per cent to 71 per cent, barring one year. There was a tendency since 1918 for these banks to have smaller holdings of these obligations relative to the aggregate than for the New York banks.

An analysis of the year-to-year movements of time deposits on the one hand and investments on the other shows that from 1913 through 1928 very little correlation existed between the two series. However, after 1921 both time deposits and security holdings expanded, and correlation was apparently greatest. This situation was similar to that of the New York banks, whose reports likewise showed

a low correlation between the year-to-year movements of the two series.

The outlying national banks of Chicago numbered 27 at the close of 1928 as compared with 10 in the group of the largest nationals. Both the loans and investments of these smaller banks had a notable expansion. Security holdings reported by them bulked relatively large in the aggregate earning assets, larger than in the case of the former group of banks. The rather marked increase in loans secured by stock collateral indicated that the smaller institutions pursued much the same course in lending as did the down-town banks. As for investments, these banks showed considerably less of their securities in the form of United States Government obligations than the former banks.

At the close of 1928 approximately 85 per cent of the banks in Chicago were state-chartered institutions, and they represented 58 per cent of the aggregate bank resources. Their loans since 1913 took a marked upward course and the movement was more regular and less broken than that of the nationals. Security holdings reported by the former banks likewise showed comparatively minor fluctuations. While these holdings relative to total earning assets followed the same general tendency for the two groups of banks, the state banks showed investments to occupy a considerably higher position.

Ratios of stock collateral loans to aggregate loans in the case of the state institutions throughout the period studied tended to be much larger than in that of the nationals. Furthermore, the former banks showed these ratios to be relatively constant.

When an analysis of investments is made, it is found that the national banks of Chicago showed a significantly larger place for United States Government bonds than did the state banks. These obligations in the case of the former institutions comprised during the sixteen years studied approximately from 12 per cent to 71 per cent of the aggregate security holdings as compared with $\frac{1}{10}$ of one per cent to 46 per cent in that of the state-chartered banks.

No more consistent year-to-year relation between the movements of time deposits and investments was found to exist in the data of the state banks than in those of the national.

A considerably larger proportion of the aggregate assets of the state institutions was income-yielding than in the case of the national banks; this is to be noted from the fact that from 1913 to 1928 the former showed between 72 per cent and 83 per cent of all their resources to be in the class of earning assets. The latter banks reported these assets to range from approximately 61 per cent to 80 per cent of the total. For Chicago banks as a group there was a

rather definite tendency, at least since 1913, for an increasing proportion of their aggregate resources to be income-yielding.

A study of the earning assets data of individual banks in Chicago shows that there was a tendency for the smaller institutions among the national banks to report a relatively high place for security holdings as compared with the large banks. This tendency was found to prevail in 1913 when the group of smallest nationals showed a median position of approximately 25 per cent for securities, and the largest banks, 9 per cent; and again in 1928 with 40 per cent and 16 per cent, respectively. This characteristic relation between the size of bank and the relative position of investments was by no means so well marked in the case of the state-chartered institutions.

APPENDIX A

EARNING ASSETS OF CHICAGO BANKS

(a) Earning Assets of Central Reserve City Banks of Chicago:
 Dates of Call, 1913-1928
 (000 omitted)

Date of Call	Earning Assets			Total Resources	Percentage of Earning Assets to Total Resources
	Loans	Investments	Total		
1913:					
Feb. 4.....	\$321,079	\$45,743	\$366,822	\$567,038	64.7
Apr. 4.....	334,221	45,506	379,727	555,543	68.4
June 4.....	322,525	44,885	367,410	551,103	66.7
Aug. 9.....	329,191	43,906	373,097	545,205	68.4
Oct. 21.....	330,242	44,241	374,483	560,687	66.8
1914:					
Jan. 13.....	301,921	47,664	349,585	559,046	62.5
Mar. 4.....	335,937	46,492	382,329	617,652	61.9
June 30.....	335,804	37,909	373,713	564,886	66.2
Sept. 12.....	319,049	74,067	393,116	587,990	66.9
Oct. 31.....	304,774	75,579	380,353	559,425	68.0
Dec. 31.....	321,234	50,379	371,613	553,961	67.1
1915:					
Mar. 4.....	340,524	40,581	381,105	606,373	62.8
May 1.....	356,192	41,655	397,847	616,085	64.6
June 23.....	347,811	42,631	390,442	590,132	66.2
Sept. 2.....	361,210	42,435	403,645	628,391	64.2
Nov. 10.....	383,502	44,849	428,351	643,438	66.6
Dec. 31.....	390,827	43,106	433,933	655,136	66.2
1916:					
Mar. 7.....	427,957	44,059	472,016	715,018	66.0
May 1.....	424,795	41,347	466,142	719,620	64.8
June 30.....	429,645	35,285	464,930	668,812	69.5
Sept. 12.....	450,458	37,821	488,279	729,657	66.9
Nov. 17.....	478,827	39,132	517,959	776,877	66.7
Dec. 27.....	473,579	36,577	510,156	762,353	66.9
1917:					
Mar. 5.....	505,445	34,026	540,371	825,752	65.4
May 1.....	487,242	37,495	524,737	799,206	65.7
June 20.....	471,963	52,891	524,854	774,836	67.7
Sept. 11.....	472,621	47,726	520,347	754,723	68.9
Nov. 20.....	506,463	69,791	576,254	827,883	69.6
Dec. 31.....	503,978	65,295	569,273	864,799	65.8
1918:					
Mar. 4.....	510,983	75,230	586,213	881,686	66.5
May 10.....	510,846	89,700	600,546	887,549	67.7
June 29.....	534,609	96,445	631,114	873,089	72.3
Aug. 31.....	552,348	110,963	663,311	914,401	72.5
Nov. 1.....	558,147	143,928	702,075	981,290	71.5
Dec. 31.....	530,680	93,590	624,270	920,507	67.8
1919:					
Mar. 4.....	509,612	156,290	665,911	949,279	70.1
May 12.....	500,988	167,872	668,860	953,438	70.2
June 30.....	548,288	137,132	685,420	982,333	69.8
Sept. 12.....	577,460	136,293	713,753	1,037,456	68.8
Nov. 17.....	582,093	110,016	692,109	1,061,229	65.2
Dec. 31.....	606,621	99,780	706,401	1,110,933	63.6
1920:					
Feb. 28.....	635,326	99,697	735,023	1,113,926	66.0
May 4.....	617,078	90,210	707,288	1,124,873	62.9
June 30.....	604,175	73,233	677,408	1,130,902	59.9
Sept. 8.....	623,246	62,438	685,674	1,097,624	62.5
Nov. 15.....	588,528	62,099	650,627	1,074,767	60.5
Dec. 29.....	577,091	58,020	635,111	1,039,094	61.1

Date of Call	Earning Assets			Total Resources	Percentage of Earning Assets to Total Resources
	Loans	Investments	Total		
1921:					
Feb. 21.....	\$603,166	\$53,994	\$657,160	\$980,376	67.0
Apr. 28.....	576,236	52,444	628,680	946,446	66.4
June 30.....	567,562	49,534	617,096	919,768	67.1
Sept. 6.....	574,325	43,387	617,712	876,540	70.5
Dec. 31.....	543,242	54,995	598,237	847,633	70.6
1922:					
Mar. 10.....	587,781	61,841	649,622	885,005	73.4
May 5.....	547,232	88,287	635,519	872,305	72.9
June 30.....	542,973	82,816	625,789	876,707	71.4
Sept. 15.....	576,374	96,940	673,314	929,561	72.4
Dec. 29.....	551,548	130,276	681,824	963,862	70.7
1923:					
Apr. 3.....	560,834	122,518	683,352	956,695	71.4
June 30.....	554,599	114,750	669,349	924,241	72.4
Sept. 14.....	599,855	115,185	715,040	988,691	72.3
Dec. 31.....	590,151	126,602	716,753	1,014,390	70.7
1924:					
Mar. 31.....	575,552	116,138	691,690	935,779	73.9
June 30.....	602,876	127,998	730,874	1,055,309	69.3
Oct. 10.....	633,781	114,849	748,630	1,011,614	74.0
Dec. 31.....	588,709	125,185	713,894	1,003,729	71.1
1925:					
Apr. 6.....	581,011	117,639	698,650	994,055	70.3
June 30.....	608,647	109,349	717,996	1,018,956	70.5
Sept. 28.....	630,566	106,284	736,850	1,014,287	72.6
Dec. 31.....	655,973	105,338	761,311	1,053,796	72.2
1926:					
Apr. 12.....	622,190	104,414	726,604	999,704	72.7
June 30.....	644,502	115,110	759,612	1,042,860	72.8
Dec. 31.....	669,048	98,016	767,064	1,063,334	72.1
1927:					
Mar. 23.....	637,519	128,566	766,085	1,020,568	75.1
June 30.....	675,650	136,334	811,984	1,105,824	73.4
Oct. 10.....	705,008	124,216	829,224	1,112,154	74.6
Dec. 31.....	745,210	184,328	929,538	1,240,485	74.9
1928:					
Feb. 28.....	713,729	191,894	905,623	1,195,959	75.7
June 30.....	802,906	185,367	988,273	1,318,475	75.0
Oct. 3.....	850,626	183,957	1,034,583	1,334,511	77.5
Dec. 31.....	823,751	166,992	990,743	1,371,002	72.3

(b) Earning Assets of Other Reserve City Banks of Chicago:
 Dates of Call, 1918-1928
 ('000 omitted)

Date of Call	Earning Assets			Total Resources	Percentage of Earning Assets to Total Resources
	Loans	Investments	Total		
1918:					
Dec. 31.....	\$11,178	\$ 8,073	\$19,251	\$24,221	79.5
1919:					
Mar. 4.....	11,896	9,427	21,323	26,034	81.9
May 12.....	13,785	9,860	23,645	28,595	82.7
June 30.....	14,424	10,655	25,079	30,168	83.1
Sept. 12.....	14,625	11,151	25,776	30,941	83.3
Nov. 17.....	16,469	11,424	27,893	33,517	83.2
Dec. 31.....	17,423	11,103	28,526	35,417	80.5

Date of Call	Earning Assets			Total Resources	Percentage of Earning Assets to Total Resources
	Loans	Investments	Total		
1920:					
Feb. 28.....	\$19,585	\$10,928	\$30,513	\$36,736	83.1
May 4.....	22,023	11,512	33,535	40,845	82.1
June 30.....	22,667	10,851	33,518	40,816	82.1
Sept. 8.....	23,129	11,282	34,411	42,179	81.6
Nov. 15.....	23,931	12,459	36,390	43,506	83.6
Dec. 29.....	22,546	13,503	36,049	44,268	81.4
1921:					
Feb. 21.....	22,956	14,537	37,493	45,136	83.1
Apr. 28.....	22,970	15,784	38,754	45,827	84.6
June 30.....	22,929	16,412	39,341	46,806	84.1
Sept. 6.....	22,257	16,228	38,485	46,083	83.5
Dec. 31.....	20,677	17,499	38,176	46,178	82.7
1922:					
Mar. 10.....	19,994	18,765	38,759	46,636	83.1
May 5.....	19,929	20,115	40,044	47,308	84.6
June 30.....	21,718	23,399	45,117	55,087	81.9
Sept. 15.....	22,654	24,995	47,649	57,645	82.7
Dec. 29.....	22,627	26,741	49,368	60,829	81.2
1923:					
Apr. 3.....	24,697	28,259	52,956	64,740	81.8
June 30.....	26,139	29,151	55,290	67,528	81.9
Sept. 14.....	28,519	29,614	58,133	70,363	82.6
Dec. 31.....	27,001	31,322	58,923	72,963	80.8
1924:					
Mar. 31.....	29,073	31,859	60,932	75,358	80.9
June 30.....	29,372	32,793	62,165	76,557	81.2
Oct. 10.....	27,763	35,086	62,849	78,370	80.2
Dec. 31.....	27,425	36,130	63,555	80,060	79.4
1925:					
Apr. 6.....	29,981	35,615	65,596	81,965	80.0
June 30.....	31,407	36,145	67,552	84,383	80.1
Sept. 28.....	33,599	35,712	69,311	84,312	82.2
Dec. 31.....	37,684	38,497	76,181	94,722	80.4
1926:					
Apr. 12.....	38,816	39,460	78,276	97,139	80.6
June 30.....	39,739	39,812	79,551	99,082	80.3
Dec. 31.....	39,042	38,024	77,066	96,772	79.6
1927:					
Mar. 23.....	39,915	38,768	78,683	94,810	83.0
June 30.....	40,781	38,192	78,973	95,724	82.5
Oct. 10.....	39,921	37,585	77,506	96,563	80.3
Dec. 31.....	40,287	38,534	78,821	97,005	81.3
1928:					
Feb. 28.....	41,009	39,702	80,711	98,458	82.0
June 30.....	43,433	41,724	85,157	102,905	82.8
Oct. 3.....	44,786	41,116	85,902	104,136	82.5
Dec. 31.....	53,917	46,043	99,960	121,871	82.0

(c) Earning Assets of State Banks of Chicago:
 Dates of Call, 1913-1928
 (000 omitted)

Date of Call	Earning Assets			Total Resources	Percentage of Earning Assets to Total Resources
	Loans	Investments	Total		
1913:					
Feb. 5.....	\$353,991	\$116,465	\$470,456	\$621,594	75.7
Apr. 5.....	327,051	116,366	443,417	619,116	71.6
June 5.....	367,801	117,229	485,030	629,145	77.1
Aug. 11.....	363,081	115,996	479,077	624,343	76.7
Oct. 22.....	370,015	117,589	487,604	630,935	77.3
1914:					
Jan. 14.....	370,932	117,238	488,170	638,112	76.5
Apr. 4.....	369,511	121,143	490,654	644,416	76.1
July 1.....	373,886	123,624	497,510	655,532	75.9
Sept. 14.....	361,748	116,995	478,743	634,362	75.5
Nov. 25.....	359,510	116,755	476,265	621,627	76.6
1915:					
Feb. 18.....	366,401	120,061	486,462	643,122	75.6
Apr. 30.....	368,640	123,691	492,331	651,327	75.6
June 24.....	375,411	125,663	501,074	675,107	74.2
Sept. 3.....	379,389	126,086	505,475	694,196	72.8
Nov. 11.....	391,033	128,331	519,364	719,296	72.2
1916:					
Jan. 25.....	413,442	134,687	548,129	747,421	73.3
Apr. 12.....	424,237	142,259	566,496	771,481	73.4
July 1.....	458,102	143,339	601,441	801,334	75.1
Sept. 13.....	461,257	137,969	599,226	799,524	74.9
Nov. 18.....	483,472	139,005	622,477	834,924	74.6
1917:					
Feb. 17.....	488,309	140,922	629,231	851,924	73.9
May 2.....	502,701	144,721	647,422	880,849	73.5
June 21.....	507,715	150,376	658,091	864,134	76.2
Sept. 12.....	490,470	148,267	638,737	835,105	76.5
Nov. 21.....	483,189	163,591	646,780	848,416	76.2
1918:					
Feb. 7.....	471,631	167,454	639,085	833,988	76.6
May 11.....	480,111	189,857	669,968	864,817	77.5
July 1.....	489,608	187,957	677,565	891,033	76.0
Nov. 2.....	492,160	230,490	722,650	934,996	77.3
Dec. 31.....	508,589	190,989	699,578	949,476	73.7
1919:					
Mar. 4.....	530,764	239,515	770,279	976,952	78.8
May 12.....	576,877	249,844	826,721	1,037,995	79.6
June 30.....	616,877	241,949	858,826	1,107,849	77.5
Sept. 12.....	666,525	219,935	886,460	1,123,774	78.9
Nov. 17.....	699,800	207,982	907,782	1,144,891	79.3
Dec. 31.....	706,576	205,136	911,712	1,203,125	75.8
1920:					
Feb. 28.....	751,860	195,325	947,185	1,234,406	76.7
May 4.....	790,703	195,315	986,018	1,280,288	77.0
June 30.....	803,680	187,780	991,460	1,293,385	76.7
Sept. 8.....	815,304	185,641	1,000,945	1,293,986	77.4
Nov. 15.....	812,307	191,664	1,003,971	1,292,185	77.7
1921:					
Jan. 3.....	781,503	199,485	980,988	1,306,801	75.1
Mar. 31.....	797,302	201,960	999,262	1,266,834	78.9
June 30.....	811,358	200,185	1,011,543	1,288,482	78.5
Sept. 6.....	817,641	183,682	1,001,323	1,261,719	79.4
Dec. 31.....	752,849	254,702	1,007,551	1,288,549	78.2
1922:					
Mar. 10.....	772,052	251,750	1,023,802	1,281,487	79.9
May 5.....	820,497	270,670	1,091,167	1,352,603	80.7
June 30.....	795,249	321,411	1,116,660	1,407,990	79.3
Sept. 15.....	804,351	341,953	1,146,304	1,400,788	81.8
Dec. 29.....	839,684	339,481	1,179,165	1,494,092	78.9

AN ANALYSIS OF EARNING ASSETS OF CHICAGO BANKS

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Date of Call	Earning Assets			Total Resources	Percentage of Earning Assets to Total Resources
	Loans	Investments	Total		
1923:					
Apr. 3	\$881,198	\$359,224	\$1,240,422	\$1,549,659	80.0
June 30	895,103	351,345	1,246,448	1,553,442	80.2
Sept. 14	861,666	323,886	1,185,552	1,462,281	81.1
Dec. 31	891,656	320,436	1,212,092	1,540,523	78.7
1924:					
Mar. 31	892,981	342,395	1,235,376	1,522,803	81.1
June 30	910,410	372,855	1,283,265	1,633,174	78.6
Oct. 10	1,014,843	444,218	1,459,061	1,796,602	81.2
Dec. 31	1,027,575	452,519	1,480,094	1,847,079	80.1
1925:					
Apr. 6	1,029,181	460,474	1,489,655	1,847,724	80.6
June 30	1,075,291	426,526	1,501,817	1,926,595	78.0
Sept. 28	1,106,984	429,704	1,536,688	1,901,987	80.8
Dec. 31	1,109,712	439,515	1,549,227	1,934,771	80.1
1926:					
Apr. 12	1,115,894	429,256	1,545,150	1,915,734	80.7
June 30	1,138,155	448,036	1,586,191	1,978,576	80.2
Oct. 11	1,173,040	441,182	1,614,222	1,970,132	81.9
Dec. 31	1,185,160	417,242	1,602,402	2,013,317	79.6
1927:					
Mar. 23	1,156,443	457,776	1,614,219	1,968,628	82.0
June 30	1,193,274	462,634	1,655,908	1,997,594	82.9
Oct. 10	1,253,759	459,198	1,712,957	2,071,455	82.7
Dec. 31	1,179,232	434,146	1,613,378	2,004,386	80.5
1928:					
Feb. 28	1,167,905	449,292	1,617,197	1,949,017	83.0
June 30	1,205,518	472,186	1,677,704	2,011,148	83.4
Oct. 3	1,210,423	424,830	1,635,262	1,965,767	83.2
Dec. 31	1,242,230	430,814	1,673,044	2,066,237	81.0

APPENDIX B

LOANS AND INVESTMENTS OF BANKS. SELECTED YEARS. AVERAGE YEARLY FIGURES (000 omitted)

Groups of Banks	1913		1920		1928	
	Amount	Per Cent of Total	Amount	Per Cent of Total	Amount	Per Cent of Total
Chicago Banks:						
(a) Central Reserve City						
Loans.....	\$327,452	88	\$607,870	89	\$797,753	81
Investments.....	44,856	12	74,283	11	182,053	19
Total Earning Assets	372,308	100	682,153	100	979,806	100
(b) Other Reserve City						
Loans.....			22,366	66	45,786	52
Investments.....			11,756	34	42,146	48
Total Earning Assets			34,122	100	87,932	100
(c) All National						
Loans.....	327,452	88	630,237	88	843,539	79
Investments.....	44,856	12	86,039	12	224,199	21
Total Earning Assets	372,308	100	716,276	100	1,067,738	100
(d) State Banks						
Loans.....	356,388	75	782,081	80	1,206,519	73
Investments.....	116,729	25	192,801	20	444,283	27
Total Earning Assets	473,117	100	974,882	100	1,650,802	100
New York Banks:						
(a) Central Reserve City						
Loans.....	919,922	80	2,600,803	81	2,754,878	72
Investments.....	232,066	20	592,611	19	1,051,322	28
Total Earning Assets	1,151,988	100	3,193,414	100	3,806,200	100
(b) Other Reserve City						
Loans.....	17,470	73	30,184	80	59,203	73
Investments.....	6,482	27	7,369	20	21,492	27
Total Earning Assets	23,952	100	37,553	100	80,695	100
Country Banks of the United States:						
Loans.....	3,194,044	73	5,522,799	69	6,455,787	63
Investments.....	1,151,800	27	2,499,420	31	3,744,668	37
Total Earning Assets	4,345,844	100	8,022,219	100	10,200,455	100

APPENDIX C

NUMBER OF NATIONAL BANKS IN THE UNITED STATES

Year (June 30)	Entire United States	Central Reserve Cities			Other Reserve Cities	Country
		New York	Chicago	St. Louis		
1913.....	7488	36	9	7	315	7121
1914.....	7525	33	9	7	321	7155
1915.....	7605	33	9	7	327	7229
1916.....	7579	33	10	7	315	7214
1917.....	7604	33	11	7	324	7229
1918.....	7705	49	23	6	354	7273
1919.....	7785	31	9	7	363	7375
1920.....	8030	31	9	5	373	7612
1921.....	8154	30	11	5	374	7734
1922.....	8249	31	9	9	373	7827
1923.....	8241	31	12	..†	375	7823
1924.....	8085	34	15	..	363	7673
1925.....	8072	33	14	..	369	7656
1926.....	7978	25	11	..	365	7577
1927.....	7796	23	12	..	360	7401
1928*.....	7635	22	10	..	359	7244

*December 31.

†Ceased to be a central reserve city July 1, 1922.

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