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**A Comparison of the Operations of
Representative Member Banks in the Second Federal Reserve District
For the Year 1923**

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ECONOMIC changes in the past few years and more particularly in the past few months have so altered the conditions of bank operation as to lead many bankers to a closer analysis of their operating policies. During the period of rising commodity prices from 1900 to 1920 the number of banks in the United States increased from 10,000 to 30,000. This remarkable growth has resulted in increasing competition and the offering of additional services. High building construction costs and rents, and rising wage levels have also tended to increase bank expenses. The increase of time deposits, bearing interest in this district of from 3 to 4½ per cent., has brought to the commercial bank a series of new investment and earnings problems.

Even under these conditions banks have generally been able to operate in the past few years with a reasonable profit on their capital funds, because of the comparatively high rates of interest earned and the maintenance of loans and investments at close to the high war levels. In 1922 and 1923, however, the rate of net earnings on loans and investments was smaller than at any other time in the past 20 years. In more recent months reduced business activity and the cumulative effects of gold imports have led to a rapid lowering of interest rates. Income from bank loans and investments has consequently been reduced while expenses of operating banks including interest on deposits have continued high, and the problem of earnings has been accentuated.*

In the light of these conditions and the operating problems they present, members of the staff of this bank who come in frequent contact with member banks are often asked for figures which would enable the member bank to compare its own operations with those of other banks. The banker wants to know whether the expenses of his bank are consuming a larger or smaller proportion of his gross earnings than is the case in other banks of the same size. If his net earnings have been small, he wants to trace the cause: whether he pays too much for salaries, is not employing his funds to the full, or is paying too high rates of interest on deposits. It is the purpose of this pamphlet to assist the banker in the study of these questions by making available the comparative figures for groups of banks of different sizes.

Source of Information

All the figures included in this report are taken from the semi-annual reports of earnings and dividends and from the four reports of condition of member banks for the year 1923. No special inquiry was made.

There are more than 850 member banks in this district and it did not seem practicable or necessary to tabulate the figures for all of these banks. It was found that typical operating ratios could be secured by dividing the banks into seven groups, in accordance with their total loans and investments and then selecting 40 banks, varied as to location, from each of these groups to show the tendencies of the group. By the use of these ratios the member bank can see where it stands in relation to other banks.

There is, of course, no ideal set of ratios which all of the best banks show. Many of the ratios depend on such factors as the relative amounts of time and demand deposits (as will be shown later), the extent of local borrowing, and the type of borrower and depositor who uses the bank. To a certain extent a bank's operating ratios are beyond its control. But aside from differences due to external circumstances there are other differences which depend upon the character of the bank's management. A bank which is markedly out of line with the other banks in its group should find it interesting to examine its operations to discover the causes for its differing from other banks.

* The July 1924 issue of the Federal Reserve Bulletin includes a statement of earnings and dividends of all member banks, by Federal Reserve districts, for the years 1919 to 1923.

Ratios by Size Groups

The following table shows in the form of averages for the seven groups of banks the ratios, in percentages, which have been selected as most significant in determining operating characteristics and efficiency.

Table 1—Average Operating Ratios of Representative Member Banks in Seven Size Groups ^a

(40 selected banks in each group)

Read the table as follows: In the banks of Group I (banks with loans and investments under \$500,000) capital funds average 22.7 per cent. of gross deposits; in banks of Group II capital funds average 23.5 per cent. of gross deposits, etc.

Ratios expressed in percentages	Size of groups divided according to amount of loans and investments indicated							General Average
	I Under \$500,000	II \$500,000 to \$999,999	III \$1,000,000 to \$1,999,999	IV \$2,000,000 to \$4,999,999	V \$5,000,000 to \$9,999,999	VI \$10,000,000 and up, out- side of N.Y.C.	VII \$10,000,000 and up N.Y.C.	
CAPITAL								
1. Capital funds ^b to gross deposits	22.7	23.5	14.3	11.7	13.1	13.3	14.3	16.1
LOANS								
2. Loans and investments to total available funds ^c	84.5	86.9	88.3	87.9	87.6	83.1	77.2	85.1
3. Loans to loans and investments	47.5	47.5	48.9	56.4	58.8	65.7	73.6	56.9
DEPOSITS								
4. Demand deposits to gross deposits	59.3	53.3	42.4	43.2	50.6	64.4	87.1	57.2
5. Interest paid on deposits to gross deposits	1.8	1.9	2.4	2.5	2.5	2.3	1.6	2.1
EARNINGS								
6. Gross earnings to loans and investments	6.2	6.1	6.1	6.1	6.2	6.2	6.2	6.2
7. Gross earnings to total available funds	5.2	5.3	5.4	5.4	5.4	5.1	4.8	5.2
8. Net earnings to total available funds	1.6	1.8	1.6	1.5	1.5	1.4	1.5	1.6
9. Net earnings to capital funds	10.5	12.2	14.7	15.7	15.2	13.4	13.3	13.6
DISPOSITION OF GROSS EARNINGS								
Ratio of the following items to gross earnings								
10. Salaries and wages	23.2	19.6	18.4	16.8	16.3	16.6	20.6	18.8
11. Interest paid on borrowed money	1.1	1.4	1.2	1.3	1.7	2.5	2.0	1.6
12. Interest paid on deposits	27.2	28.1	36.9	40.8	39.9	38.1	29.3	34.3
13. Taxes	5.2	5.6	4.1	3.6	4.6	4.6	5.2	4.7
14. Other expenses	13.8	11.4	9.8	10.4	9.5	10.8	12.6	11.2
15. Total expenses	70.6	66.1	70.2	72.9	71.9	72.6	69.7	70.6
16. Net earnings	29.4	34.2	29.8	27.1	28.1	27.4	30.3	29.5

^a—Items 1 to 9 are computed from average of figures from 4 condition reports
 Items 10 to 16 are taken from section one of the 2 semi-annual earnings reports
^b—Capital, surplus, and undivided profits
^c—Capital, surplus, undivided profits, deposits, borrowed money, and notes in circulation

Table 1 indicates the ratios in which there is greatest variation between different groups of banks. In the smaller banks, for example, capital funds (the total of capital, surplus, and undivided profits) tend to run in the neighborhood of 23 per cent. of gross deposits, but in the larger banks they range from 12 to 14 per cent.

The ratios of loans and investments to total available funds (total of capital, surplus, undivided profits, deposits, borrowed money, and notes in circulation) indicate that the middle sized bank is able to make the largest use of its funds. The smaller sized banks tend to

have relatively larger amounts of their funds tied up in banking houses and equipment. The large city banks, on the other hand, are required to maintain larger reserves.

The ratio of loans to total loans and investments reflects the local demand for funds. The country bank, or the bank in a city with a few large industries carries a considerable part of its loanable funds in investments, while the large city bank lends relatively larger amounts directly to its customers.

The middle sized banks tend to carry relatively small amounts of demand deposits and relatively large amounts of time deposits. The amount of interest paid on deposits is a direct reflection of the amount of time deposits.

In the important ratios of gross and net earnings to available funds, and to loans and investments, there is no large distinction between the different sizes of banks. It may perhaps seem surprising to the casual observer that gross earnings are as large as 6 per cent. of loans and investments, considering the fact that the rate charged on loans and the rate earned on investments are both frequently under that figure. The explanation is found in the fact that gross earnings include profit or loss on other operations, such as the sale of securities. Lower interest rates thus far in 1924 might be expected to reduce this ratio.

The ratio of gross earnings to total available funds reflects not only the rate of earnings on loans and investments, but also the employment of available funds as indicated in ratio number 2. The ratio of net earnings in relation to total available funds reflects also efficiency of operation.

The ratio of net earnings to capital funds (capital, surplus, and undivided profits) while a figure frequently used, reflects largely the capitalization of the bank rather than its operating efficiency.

Disposition of Earnings

The payroll on the average absorbs from 16 to 23 per cent. of gross earnings and tends to be heaviest in the largest and smallest banks. The proportion of the gross earnings which is absorbed by the payroll has increased steadily in the past five years as bank wages have gradually been adjusted to higher wage levels prevailing since the war.

The large banks tend to borrow the most money as their need for funds depends on the fluctuating needs of commerce and industry. The large and the small banks pay relatively the heaviest taxes. In the total expense account the most important factor is interest paid on deposits and as a result the middle sized banks with their large time deposits tend to have the largest total expenses in relation to their gross earnings.

The Influence of Time Deposits

The relative amounts of time and demand deposits held by a bank are so obviously important factors in determining the nature of a bank's expenses and its operating characteristics that table 2 has been inserted, in which the banks are grouped not according to size but according to percentages of time to gross deposits which they show.

The table indicates that practically every one of the operating ratios is largely affected by the amount of time deposits. Banks with large amounts of time deposits show small capitalization, a large use of available funds, a small payroll, large interest payments, a moderately low ratio of net to gross earnings, but a high ratio of net earnings to capital and

surplus. Banks with large amounts of time deposits seem to be in general the banks with a limited local demand for funds, as shown by a low ratio of loans to loans and investments.

Table 2—Average Operating Ratios of Representative Member Banks
Grouped According to Amount of Time Deposits

Read the table as follows: In banks with no time deposits capital funds average 35.8 per cent. of gross deposits; in banks with time deposits equal to less than 25 per cent. of their gross deposits, capital funds average 15.7 per cent. of gross deposits, etc.

Ratios expressed in percentages	Groups of Banks divided according to the percentage of time deposits to gross deposits					
	0	Under 25	25-49.9	50-74.9	75 and over	
CAPITAL						
1. Capital funds ^a to gross deposits	35.8	15.7	15.9	14.2	12.5	
LOANS						
2. Loans and investments to total available funds ^b	83.3	78.7	85.0	87.7	89.7	
3. Loans to loans and investments	53.7	72.8	57.9	51.9	37.2	
DEPOSITS						
4. Demand deposits to gross deposits	100.0	92.3	59.1	38.2	20.7	
5. Interest paid on deposits to gross deposits	0.8	1.7	2.1	2.5	3.0	
EARNINGS						
6. Gross earnings to loans and investments	5.9	6.1	6.1	6.2	6.3	
7. Gross earnings to total available funds	4.9	4.8	5.2	5.4	5.7	
8. Net earnings to total available funds	2.0	1.5	1.5	1.5	1.6	
9. Net earnings to capital funds	10.2	12.6	13.3	14.3	16.3	
DISPOSITION OF GROSS EARNINGS						
Ratio of the following items to gross earnings						
10. Salaries and wages	26.2	20.1	20.2	17.0	13.3	
11. Interest paid on borrowed money	2.0	2.5	1.5	1.4	0.3	
12. Interest paid on deposits	11.4	29.1	32.9	39.3	46.5	
13. Taxes	7.7	5.4	4.7	4.0	3.9	
14. Other expenses	12.4	12.4	12.8	10.0	7.4	
15. Total expenses	59.7	69.5	72.0	71.6	71.5	
16. Net earnings	40.3	30.5	28.1	28.4	28.5	
	Number of banks in group	17	57	70	120	16

^a—Capital, surplus, and undivided profits

^b—Capital, surplus, undivided profits, deposits, borrowed money, and notes in circulation

Position of the Individual Bank

The individual bank needs to know not simply where it stands in relation to the average bank in its size group, but more precisely where it stands in relation to other banks in its group, and in order to yield that type of comparison table 3 is inserted showing the numbers of banks in each group which show different operating ratios. If, for example, a country bank in group 1 had a ratio of capital, surplus, and undivided profits to gross deposits of 8 per cent., it would be close to the bottom of the 40 banks in that group. It would have a capital, surplus, and undivided profit account so low that it should seriously consider taking steps to increase its capital. In general, it is clear that a bank with total capital funds, including capital, surplus, and undivided profits at less than 10 per cent. of its gross deposits, is well below the average. This is important because a bank's capital constitutes in effect a limited guarantee fund for its deposits.

In most of the other ratios presented in table 3 there is no such definite standard as the 10 per cent. ratio generally agreed upon for capital funds. However, by comparing his own operating figures with those of other banks the individual banker will be able to see in what respects his figures are out of line with the banks in his group.

Table 3—Number of Banks in Each Size Group Showing Different Operating Ratios Expressed in Percentages

Read the table as follows: In Group I, 3 banks have capital funds under 10 per cent. of gross deposits, 5 banks have capital between 10 and 14.9 per cent. of gross deposits, 14 banks between 15 and 19.9 per cent., etc.

1—Ratio of Capital Funds to Gross Deposits

Group	Percentages						Total
	0-9.9	10-14.9	15-19.9	20-24.9	25-29.9	30 & up	
			Number	of Banks			
I	3	5	14	9	2	7	40
II	2	13	10	2	2	11	40
III	8	19	7	3	2	1	40
IV	14	18	8	0	0	0	40
V	13	17	7	1	1	1	40
VI	12	16	9	2	1	0	40
VII	9	15	12	2	1	1	40
Total	61	103	67	19	9	21	280

2—Ratio of Loans and Investments to Total Available Funds

Group	Percentages						Total
	0-79.9	80-82.4	82.5-84.9	85-87.4	87.5-89.9	90 & Up	
			Number	of Banks			
I	7	5	8	7	9	4	40
II	1	2	7	11	7	12	40
III	1	1	3	7	17	11	40
IV	0	0	4	13	18	5	40
V	0	1	6	9	18	6	40
VI	9	5	5	14	6	1	40
VII	21	12	3	3	1	0	40
Total	39	26	36	64	76	39	280

3—Ratio of Loans to Loans and Investments

Group	Percentages						Total
	0-19.9	20-34.9	35-49.9	50-64.9	65-79.9	80 & Up	
			Number	of Banks			
I	0	9	15	12	3	1	40
II	2	10	10	9	8	1	40
III	1	5	17	12	4	1	40
IV	2	3	10	11	10	4	40
V	0	5	6	13	8	8	40
VI	0	2	4	12	11	11	40
VII	0	1	1	7	19	12	40
Total	5	35	63	76	63	38	280

4—Ratio of Demand Deposits to Gross Deposits

Group	Percentages						Total
	0-29.9	30-44.9	45-59.9	60-74.9	75-89.9	90 & Up	
			Number	of Banks			
I	3	12	8	7	1	9	40
II	6	12	11	3	1	7	40
III	11	15	9	3	0	2	40
IV	9	15	10	4	0	2	40
V	3	10	18	6	1	2	40
VI	3	8	9	7	2	11	40
VII	0	1	3	0	13	23	40
Total	35	73	68	30	18	56	280

5—Ratio of Interest Paid on Deposits to Gross Deposits

Group	Percentages						Total
	0-0.9	1-1.4	1.5-1.9	2-2.4	2.5-2.9	3 & Up	
			Number	of Banks			
I	7	3	10	10	9	1	40
II	7	4	10	6	8	5	40
III	2	2	5	8	19	4	40
IV	0	1	3	11	19	6	40
V	0	0	5	12	20	3	40
VI	0	2	7	14	14	3	40
VII	2	9	21	7	1	0	40
Total	18	21	61	68	90	22	280

6—Ratio of Gross Earnings to Loans and Investments

Group	Percentages						Total
	0-4.9	5-5.4	5.5-5.9	6-6.4	6.5-6.9	7 & Up	
			Number	of Banks			
I	1	3	15	6	9	6	40
II	0	4	13	15	4	4	40
III	1	1	16	15	4	3	40
IV	0	3	13	13	9	2	40
V	0	0	14	18	4	4	40
VI	0	1	22	9	5	3	40
VII	0	6	9	16	4	5	40
Total	2	18	102	92	39	27	280

7—Ratio of Gross Earnings to Total Available Funds

Group	Percentages						Total
	0-3.9	4-4.4	4.5-4.9	5-5.4	5.5-5.9	6 & Up	
			Number	of Banks			
I	1	5	9	11	7	7	40
II	1	1	7	20	7	4	40
III	0	1	7	15	13	4	40
IV	0	1	7	15	13	4	40
V	0	0	8	19	7	6	40
VI	0	5	16	8	8	3	40
VII	6	8	10	11	3	2	40
Total	8	21	64	99	58	30	280

8—Ratio of Net Earnings to Total Available Funds

Group	Percentages						Total
	0-0.9	1-1.3	1.4-1.7	1.8-2.1	2.2-2.5	2.6 & Up	
			Number	of Banks			
I	11	5	7	6	9	2	40
II	3	9	5	13	5	5	40
III	6	5	18	6	1	4	40
IV	3	14	15	6	1	1	40
V	3	10	15	7	3	2	40
VI	4	15	14	6	1	0	40
VII	2	17	12	6	0	3	40
Total	32	75	86	50	20	17	280

Table 3—Number of Banks in Each Size Group Showing Different Operating Ratios Expressed in Percentages (Continued)

9—Ratio of Net Earnings to Capital Funds

Group	Percentages						Total
	0-4.9	5-9.9	10-14.9	15-19.9	20-24.9	25 & Up	
			Number	of Banks			
I	4	15	13	8	0	0	40
II	2	10	17	9	1	1	40
III	1	9	9	16	3	2	40
IV	0	8	11	14	4	3	40
V	0	5	16	14	3	2	40
VI	0	10	16	12	2	0	40
VII	1	12	15	9	1	2	40
Total	8	69	97	82	14	10	280

10—Ratio of Salaries and Wages to Gross Earnings

Group	Percentages						Total
	0-9.9	10-14.9	15-19.9	20-24.9	25-29.9	30 & Up	
			Number	of Banks			
I	0	3	10	13	6	8	40
II	0	8	16	9	5	2	40
III	0	11	15	9	5	0	40
IV	3	10	17	9	1	0	40
V	4	13	14	9	0	0	40
VI	0	17	13	8	2	0	40
VII	1	5	10	17	4	3	40
Total	8	67	95	74	23	13	280

11—Ratio of Interest Paid on Borrowed Money to Gross Earnings

Group	Percentages						Total
	0-0.4	0.5-0.9	1-1.4	1.5-1.9	2-2.9	3 & Up	
			Number	of Banks			
I	20	3	7	3	3	4	40
II	17	3	8	0	5	7	40
III	23	1	3	5	4	4	40
IV	17	8	2	2	3	8	40
V	9	4	7	7	4	9	40
VI	10	5	6	5	4	10	40
VII	10	7	6	5	5	7	40
Total	106	31	39	27	28	49	280

12—Ratio of Interest Paid on Deposits to Gross Earnings

Group	Percentages						Total
	0-9.9	10-19.9	20-29.9	30-39.9	40-49.9	50 & Up	
			Number	of Banks			
I	6	4	12	11	6	1	40
II	6	6	9	7	10	2	40
III	1	1	6	15	14	3	40
IV	0	1	1	15	21	2	40
V	0	0	4	15	15	6	40
VI	0	2	5	14	14	5	40
VII	1	3	14	21	1	0	40
Total	14	17	51	98	81	19	280

13—Ratio of Taxes to Gross Earnings

Group	Percentages						Total
	0-1.9	2-3.9	4-5.9	6-7.9	8-9.9	10 & Up	
			Number	of Banks			
I	2	13	7	13	3	2	40
II	3	12	9	7	5	4	40
III	6	12	14	7	1	0	40
IV	6	19	12	2	1	0	40
V	3	15	17	2	0	3	40
VI	1	14	17	6	2	0	40
VII	1	15	11	9	2	2	40
Total	22	100	87	46	14	11	280

14—Ratio of Other Expenses to Gross Earnings

Group	Percentages						Total
	0-4.9	5-9.9	10-14.9	15-19.9	20-24.9	25 & Up	
			Number	of Banks			
I	0	9	19	9	1	2	40
II	3	15	14	6	2	0	40
III	3	25	9	2	0	1	40
IV	5	15	12	7	1	0	40
V	3	20	14	3	0	0	40
VI	3	15	17	5	0	0	40
VII	3	10	15	9	3	0	40
Total	20	109	100	41	7	3	280

15—Ratio of Total Expenses to Gross Earnings

Group	Percentages						Total
	0-57.4	57.5-64.9	65-72.4	72.5-79.9	80-87.4	87.5 & Up	
			Number	of Banks			
I	5	12	7	5	7	4	40
II	12	9	5	10	4	0	40
III	5	3	18	8	3	3	40
IV	1	5	12	16	6	0	40
V	1	7	13	14	4	1	40
VI	0	7	13	15	5	0	40
VII	3	5	17	13	2	0	40
Total	27	48	85	81	31	8	280

16—Ratio of Net Earnings to Gross Earnings

Group	Percentages						Total
	0-17.4	17.5-24.9	25-32.4	32.5-39.9	40-47.4	47.5 & Up	
			Number	of Banks			
I	7	9	6	10	7	1	40
II	3	9	5	9	11	3	40
III	4	6	18	6	4	2	40
IV	3	12	17	6	2	0	40
V	2	11	16	7	4	0	40
VI	2	15	12	11	0	0	40
VII	1	9	16	9	4	1	40
Total	22	71	90	58	32	7	280