WASHINGTON UNIVERSITY

Department of Economics

THE FEDERAL RESERVE BANK OF ST. LOUIS

by

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INTRODUCTION

A more complete understanding of Federal Reserve policy and of monetary problems in the United States can be obtained when each of the Federal Reserve banks has been studied. Studies of four of the Reserve banks, the New York Bank, the San Francisco Bank, the Boston Bank, and the Chicago Bank, have already been made. Each of the several Reserve districts differs from the others in material respects, in resources, in economic activity, and in financial structure and practice. Central bank policies, therefore, must be applied to different problems in each of the districts. This study undertakes to make some contribution to a further understanding of regional problems, with the hope that this may secure greater effectiveness for Reserve bank policies.

The study was completed under the direction of Professor J. Ray Cable of Washington University. The writer is much indebted to Mr. William McC. Martin, until recently President of the St. Louis Bank, and Mr. Clarence M. Stewart, Cashier and Secretary of the St. Louis Bank, for assistance and advice at every stage in the preparation of this manuscript. The writer is alone responsible for the views expressed.

CHAPTER I

AN ECONOMIC SURVEY OF THE EIGHTH DISTRICT

The Eighth Federal Reserve District comprises all of one state and parts of six other states. The State of Arkansas, all but the western tier of counties of Missouri, southern Illinois, 24 counties in southern Indiana, western Kentucky, the part of Tennessee west of the Tennessee River, and northern Mississippi are included in the District. This area contains 194,810 square miles, and had an estimated population on July 1, 1937, of 10,413,000.[1] The District is sixth in size of area, and sixth in population among the twelve Federal Reserve districts.

The banking and credit needs of any region are fundamentally related to its economic resources and its economic activity. Central banking policies are in final analysis designed to assist and control the administration of credit in such a way as to promote the economic welfare of the region to which they apply. These policies must, therefore, be grounded upon a consideration of the character of the resources, the agriculture, the manufacturing, and the habits of trade of the region. The several Federal Reserve districts differ materially in their economic characteristics. It is necessary to present a picture of the

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[1] *Annual Report of the Board of Governors of the Federal Reserve System*, 1939, p. 100.

resources and economic activities of the Eighth District before discussing the operation of its central bank.

St. Louis, the principal city in the District, is located on the Mississippi River, 1,270 miles above the Gulf of Mexico, at its confluence with the Missouri River. It occupies the central position in the Mississippi Valley. St. Louis lies approximately midway between the geographical center and the population center of the United States, and very close to the center of raw food production in the country. The St. Louis Metropolitan District, which contains 44 cities and towns in Missouri and Illinois, had a population of 1,293,516 in 1930, 821,960 residing within the City of St. Louis.[2] The city itself lost population in the last decade, the number dropping to 816,048, but the surrounding communities gained sufficiently to more than offset this loss.[3]

There are other important cities in the District. Louisville, Kentucky, is located on the Ohio River just below Cincinnati, and is an important transportation gateway into the Southeastern states. It had a population of 307,745 in 1930, which increased to 319,077 in 1940.[4] It is one of the principal markets for tobacco and for live-stock. Evansville,

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[2]Fifteenth Census of the United States.

[3]Sixteenth Census of the United States. The population of the St. Louis Industrial Area, which consists of the city of St. Louis, St. Louis County, and Madison and St. Clair Counties in Illinois increased in population from 1,335,158 in 1930 to 1,406,526 in 1940.

[4]Fifteenth and Sixteenth Censuses of the United States.

Indiana, is located on the Ohio River about 200 miles by river below Louisville. It had a population of 102,249 in 1930, which declined to 97,067 in 1940. Evansville is in the center of a coal-producing and a rich agricultural area. Memphis, Tennessee, is located on the Mississippi River at the southwestern corner of the state. It had a population of 253,143 in 1930, which increased to 292,942 in 1940. Memphis showed the greatest relative gain in population during the last decade of the five largest cities of the District. Memphis is the principal inland cotton market of the United States, and is also an important hardwood lumber market. Little Rock, Arkansas, is located on the south bank of the Arkansas River very near the center of the state. It had a population of 81,679 in 1930, which increased to 88,039 in 1940. It is a lumber market, and a wholesale distributing center for central and western Arkansas. Each of these cities has a branch of the St. Louis Federal Reserve Bank except Evansville.

Economic activity in the Eighth District is highly diversified. There is, perhaps, no other district in the System more diversified from the standpoint of resources and production. Agriculture is important in the area, but there is no single important crop, agricultural production consisting of cotton, tobacco, corn, wheat, oats, livestock, fruit, dairy products, and various other farm products. There are four manufacturing districts centered in St. Louis, Louisville, Evansville, and Memphis. The St. Louis Industrial Area is the sixth most important manufacturing area in the country. However, there is no single predominant manufacturing industry in St. Louis, or in the other three manufacturing cities, as in the case of certain other cities in the United States, such as Detroit. Manufacturing is highly diversified and includes a broad range of both producers' and consumers' goods. Mineral resources in the Eighth District include coal, lead, zinc, oil, and bauxite. This broad diversification of economic activity has been an important factor in the economic stability of the area.

It must be pointed out that statistical material for the Eighth District alone is difficult to secure. Most statistics are collected by states, but this District has but one complete state in its entire area. In some cases, of course, data for all states parts of which are included in the District are of the same practical significance as data for the District alone. In other cases this is not true. Statistics from the census of manufactures for Illinois and Indiana, for instance, have no significance if given by states. Even though the data in the census of manufactures are given by counties, it is not possible to compile figures for the parts of states included in the District because of the omission of some counties. In all cases the material has been handled in such a way as to indicate its significance for the District.

Agriculture

The agricultural areas of the Eighth District may be divided into rather definite regional types. Northern Missouri is a part of the corn belt. The corn belt includes a large portion of the Midwest region of the United States, containing eastern Nebraska, the southeastern part of South Dakota, part of southern Minnesota, all of Iowa, northern Missouri, northern Illinois and Indiana, and northwestern Ohio.[5] The land in this region is well adapted to the production of corn due to the character of the soil, which is rich in lime, nitrogen, and organic material, and to the seasonal distribution of rainfall and temperature.[6] While corn is the principal crop in this region other crops are grown in order to make use of labor and equipment in other than the summer months. The corn crop makes its heavy demands for labor in the summer months, which makes it possible to produce oats and wheat, crops that require labor principally at other times of the year. In the corn belt the production of oats is next in importance, followed by hay, and then by wheat.[7] Corn is a fat-producing feed, and the livestock grown in the corn belt therefore consists of the meat-producing animals, hogs, beef cattle, and sheep.[8] The corn belt area in Missouri extends as far south approximately as St. Louis in eastern Missouri, and considerably farther south

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[5]United States Department of Agriculture, Agricultural Adjustment Administration, Regional Problems in Agricultural Adjustment, pp. 29-40.

[6]*Ibid.*, p. 5.

[7]*Ibid.*, p. 16.

[8]*Ibid.*, p. 16.

in western Missouri. The largest portion of the cash income of farmers in northern Missouri comes from the sale of meat-animals, and in this sense, agricultural operations may be said to be specialized. The significance of the difference between specialized and diversified agricultural operations lies in the effect that changes in single prices will have on the income of an area.

In the territory between the cotton belt in the South and the corn belt a type of farming is carried on in which no particular enterprise is dominant.[9] Conditions of climate and soil do not give any particular advantage to any crop, and the individual farm has a diversified production. This general farming region is characterized by the production of corn, wheat, hay, and oats. Much of the land is kept in pasture, and hogs, beef cattle, and sheep are found on most of the farms. Poultry and poultry products are also a significant source of income in this area. Most of southern Missouri lies in this general farming region. In southwestern Missouri there is an area in which dairying is the dominant activity, and another in which fruit growing is the important activity. These two areas center around Springfield, the dairying region extending east, and the fruit region south and west from Springfield.

Southern Illinois and the portion of Indiana that is a part of the Eighth District are located in the general farming region, and produce a variety of crops and livestock.

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[9] _Ibid._, p. 16

The northwestern part of the Illinois section of the Eighth District, a band containing 10 counties extending northward along the Mississippi almost to the Iowa border, is within the corn belt. There is also a small fruit-growing region in Illinois along the Mississippi River immediately to the north of St. Louis.

All of Kentucky included in the Eighth District, most of Kentucky west of the mountains, may be characterized as a tobacco and general farming region. In this area there are three types of tobacco produced, burley, dark air-cured, and fire-cured. Formerly, a large portion of the dark air-cured tobacco and of the fire-cured tobacco was exported, but this export trade has declined.[10] Domestic consumption of these two types of tobacco is largely for snuff and chewing tobacco, the demand for which has declined. It is probable that land used for growing these two types of tobacco will continue to be turned over to general farming as the agricultural adjustment program develops.[11] Burley tobacco is now used largely for domestic consumption in the production of cigarettes.

The northern boundary of the cotton belt is determined largely by temperature.[12] It includes that territory in which there are at least 200 days free from frost.

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[10] Ibid., pp. 49-51.
[11] Ibid., pp. 49-51.
[12] Ibid., p. 17.

The western and southern boundary of the cotton belt is determined by the amount of rainfall.[13] It includes territory that has from 20-23 inches of rainfall. Cotton can be grown on various kinds of soil, but the soil will affect the yield. All of Tennessee that is included in the Eighth District, that part east of the Tennessee River, is located in the cotton belt, except for a small portion in the north, which is in the tobacco area.

Mississippi, the northern part of which is in the District, is a cotton-producing state except for a narrow strip along the Gulf coast. Arkansas is also within the cotton belt, but most of the cotton production is concentrated in the eastern part along the Mississippi River. The most productive cotton lands in the Eighth District are those along each side of the Mississippi River in Tennessee, Mississippi, Arkansas, and the southeastern tip of Missouri. In the cotton area agricultural operations are highly specialized, and income is therefore largely dependent on a single price. The price of cotton has had a significant effect on the need for credit in this area.

There are two areas in the State of Arkansas that can be classified as self-sufficing. According to the census of 1930 this type of farming is defined as that in which at least 50 per cent of the farm products are used on the farm where they are produced.[14] Often this type of farming is practiced on sub-marginal land, soil which is so poor, or so

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[13] Ibid., p. 17.
[14] Ibid., p. 93.

badly eroded and depleted, as to offer only a bare subsistence to those who cultivate it. Such sub-marginal areas are found in part of northwestern Arkansas, and in west central Arkansas. In fact, there is a considerable amount of such sub-marginal land in various parts of the Ozark mountain region in southwest Missouri and northwest Arkansas which should be returned to forest.

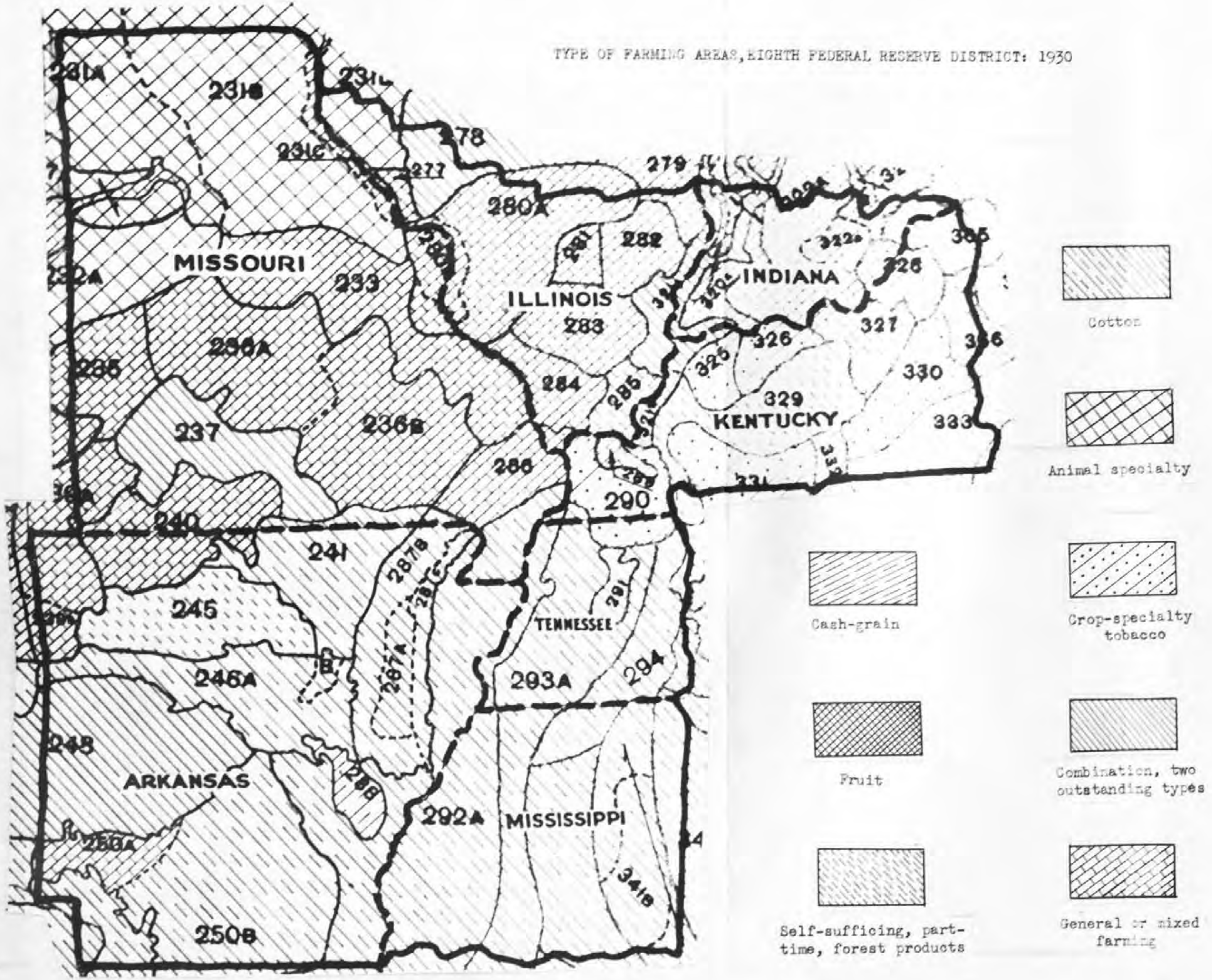
The extreme northwest corner of Arkansas as well as the extreme southwest corner of Missouri is a region in which fruit-growing and berry raising are predominant. There is a small area in the west central portion of Arkansas in which rice is the principal product. This area centers around Stuttgart, two counties, Arkansas and Prairie, being devoted almost wholly to the production of rice, with some production in the surrounding counties.

One of the great problems in the central and northern agricultural areas of the Eighth District has been the considerable variation in the yield of crops from year to year. This variation in yield has produced marked fluctuations in agricultural income. This is largely due to weather conditions in this part of the country, which are characterized by marked variability in temperature and precipitation.[15] Years of sufficient precipitation are often followed by a year of drought, or by a year in which there is excessive moisture in the harvesting period. The variation

[15]Horton, Louis, Analysis of the St. Louis Trade Territory, Unpublished manuscript in the Washington University Library, pp. 3, 4.

Map: Types of Farming Areas, Eighth Federal Reserve District, 1930

TYPE OF FARMING AREAS, EIGHTH FEDERAL RESERVE DISTRICT: 1930



197a. Northeast Kansas-Nebraska-Missouri--Livestock, cash-grain, general farming.
231a. Northern Missouri-Iowa--Livestock, general farming.
b. Similar to (a) with lower corn production and fewer hogs.
c. Similar to (a), less livestock, more cash-grain and dairy.
232a. West central Missouri-Kansas--Livestock, general farming, some cash-grain.
233. Ozark border--General farming, livestock, self-sufficing.
235. Western Missouri--General farming, dairy, fruit, self-sufficing.
236a. Middle Ozark Plateau--General livestock, self-sufficing, part-time.
b. Similar to (a), less livestock, more self-sufficing.
237. Ozark Plateau--Dairy, livestock, poultry, self-sufficing.
239a. Ozark--General, fruit, dairy, livestock, poultry, self-sufficing.
240. Ozark--General farming, livestock, self-sufficing.
241. Hill cotton area.
245. Ozark--Self-sufficing, general, some livestock, cotton.
246a. Arkansas River valley and uplands--Cotton, self-sufficing, general farming.
248. Ouachita Mountains--Self-sufficing, cotton, general farming.
250a. Southwest Arkansas--Cotton, fruit, truck.
b. Southern Arkansas-Sandhills- Ouachita River Valley--Cotton, self-sufficing.
277. Calhoun County--Fruit, livestock, general.
278. Morgan-Scott-Macoupin--Cash-grain, livestock, general, some dairy.
280a. Southwest Illinois--General, dairy, cash-grain, poultry, self-sufficing.
b. St. Louis--Dairy, truck, fruit, cash-grain, poultry, potatoes.
281. Centralia--Fruit, dairy, poultry, self-sufficing, general.
282. Southern Illinois--Poultry, general, self-sufficing.
283. Southern Illinois--General, self-sufficing, part-time, some poultry, dairy.
284. Southern Illinois--Fruit, truck, general poultry, self-sufficing.
285. Southern Illinois--General, self-sufficing, livestock, poultry, cash-grain.
286. Southeast Missouri--Cash-grain (corn), cotton, livestock, general, self-sufficing.
287a. Black and Cache Rivers bottoms and terraces--Cotton, rice.
b. Black and Cache Rivers bottoms and terraces--Cotton.
c. Crowley's Ridge--Cotton.
288. Grand Prairie, Arkansas--Rice.
289. Paducah--Dairy, fruit, tobacco, poultry, livestock, part-time.
290. Purchase--Tobacco (fire-cured), some dairy, livestock.
291. Humboldt--Cotton, truck, strawberries, sweetpotatoes.
292a. Mississippi Delta--Cotton.
293a. Brown loam area--Cotton.
294. West Tennessee-North Mississippi silt and sandy loam area--Cotton.
320a. Southwestern Indiana--General, livestock, cash-grain.
321b. Union County--Livestock, self-sufficing.
322a. Southern Indiana--General, part-time, self-sufficing, some livestock, dairy, poultry.
b. Similar to (a) with more dairy and less self-sufficing and part-time.
325. Henderson--Tobacco (fire-cured), general, livestock, some fruit and dairy.
326. Owensboro--Tobacco (Green River), livestock, some dairy and poultry.
327. Hardin-Larue--General, self-sufficing, livestock, tobacco.
328. Louisville--Dairy, tobacco, potatoes, truck, part-time.
329. West Kentucky--Self-sufficing, part-time, general farming.
330. Glasgow-Campbellsville-Lebanon--Tobacco, general, self-sufficing.
331. Clarksville-Hopkinsville--Tobacco, some livestock, general farming.
332. Bowling Green--Tobacco, general farming, strawberries.
333. Cumberland Valley--Self-sufficing, general farming, tobacco.
341b. Mississippi-Alabama Black Belt--Cotton, general farming, dairying.
365. Outer Blue Grass--Tobacco, livestock, general farming.
366. Outer Blue Grass--Tobacco, general farming, livestock.

Source: Bureau of the Census, Types of Farming in the United States, 1933.

Table 1

Annual Production of Seven Principal Crops
Eighth Federal Reserve District
1919-1940*

Year	Corn (thous. bu.)	Wheat (thous. bu.)	Cotton (thous. bales)	Oats (thous. bu.)	Hay (thous. tons)	Tobacco (thous. lbs.)	Potatoes (thous. bu.)
1919	380,722	108,022	1,789	63,595			
1920	448,909	68,061	2,161	77,864	7,595		
1921	416,543	66,442	1,662	59,090	6,934		
1922	394,578	78,326	2,085	37,127	8,217	355,508	13,833
1923	399,009	83,426	1,274	51,635	7,863	396,721	18,224
1924	346,256	53,394	2,198	60,927	8,719	338,335	20,930
1925	404,486	50,034	3,456	64,812	6,793	314,997	9,764
1926	393,007	54,976	3,349	59,031	6,801	304,603	13,003
1927	338,829	42,030	2,319	39,663	9,038	166,876	12,932
1928	358,940	31,398	2,675	64,227	7,224	249,356	19,510
1929	312,580	44,676	3,306	51,166	9,057	316,511	13,318
1930	191,530	44,323	2,440	50,930	3,988	306,896	11,141
1931	382,010	64,317	4,029	63,234	5,467	398,272	12,545
1932	380,505	34,128	2,942	47,062	4,962	282,951	13,164
1933	296,955	38,556	2,554	37,207	5,249	277,750	9,107
1934	167,923	47,237	2,323	18,141	4,151	206,861	9,681
1935	262,799	51,139	2,243	38,122	5,835	189,075	13,707
1936	202,726	60,806	3,404	38,026	4,447	176,784	8,333
1937	366,932	80,184	4,891	55,844	6,106	300,855	12,716
1938	335,912	65,719	3,386	52,596	7,071	239,729	13,941
1939	339,742	60,534	3,429	46,766	7,689	282,059	12,068
1940	326,128	62,608	3,335	60,057	8,210	245,430	13,817

*Federal Reserve Bank of St. Louis, files of Statistical Division.

in yield can be noticed in the table of annual production of seven principal crops in the Eighth District.

Table 2

Minor Crop Production in States Included in the Eighth Federal Reserve District*

	5 year average, 1928-1932
Apples (thous. bu.)	15,199
Grapes (tons)	33,010
Peaches (thous. bu.)	7,265
Peanuts (thous. lbs.)	33,113
Pears (thous. bu.)	1,870
Soy Beans (thous. bu.)	8,651
Sweet Potatoes (thous. bu.)	17,483
Pecans (thous. bu.)	8,815
Cowpeas (thous. bu.)	1,745

There have been no significant trends in the production of the principal crops over the whole period 1919-1940, except in the case of cotton and tobacco. Average cotton production during the five years, 1936-1940, was approximately double that of the five years, 1920-1924. The production of tobacco in the last five years has averaged considerably lower than in the period of the twenties. There have been marked changes from year to year in the case of the other principal crops, but the average production in recent years is substantially the same as for the early part of this entire period.

The drastic reduction in farm income during the years, 1930, 1931, and 1932, in the states included in the Eighth District can be seen from the table on cash income

*Federal Reserve Bank of St. Louis, files of Statistical Division.

Table 3

Cash Income from Farm Marketings, Crops and Livestock, in States Included in Eighth District*

(Millions of Dollars)

State	1924-28 average	1930	1931	1932	1937	1938	1939
Illinois	526.5	428.7	298.0	204.1	521.7	484.8	484.9
Indiana	284.0	238.1	176.8	123.0	290.3	263.5	259.9
Kentucky	159.6	118.0	90.8	75.8	166.6	153.9	139.2
Tennessee	158.3	108.9	80.7	62.2	137.0	126.5	115.1
Missouri	337.0	266.0	193.5	144.0	259.5	236.8	248.4
Arkansas	187.3	85.7	88.9	65.7	147.0	133.0	125.7
Mississippi	215.0	119.0	87.8	64.5	171.1	149.9	132.6
Total	1,867.7	1,364.4	1,016.5	739.3	1,693.2	1,548.4	1,505.8

*Statistical Abstracts of the United States for 1924-1932; Bureau of Agricultural Economics, <u>The Farm Income Situation</u>, 1936,-1939.

Table 4

Government Payments and Total Cash Income Including both Government Payments and Cash from Farm Marketing, in States Included in Eighth District*
(Millions of dollars)

State	Government Payments			Total Cash Income		
	1937	1938	1939	1937	1938	1939
Illinois	15.4	11.5	46.4	537.1	496.3	531.4
Indiana	9.7	8.6	20.9	300.0	272.1	280.8
Kentucky	11.2	11.8	11.0	177.8	165.7	150.2
Tennessee	8.4	12.3	15.7	145.4	138.9	130.8
Missouri	13.3	12.1	28.1	272.8	248.9	276.5
Arkansas	10.4	21.3	27.9	157.4	154.3	153.6
Mississippi	10.5	23.4	34.3	181.5	173.3	167.0
Total	78.9	101.0	184.3	1,772.0	1,649.5	1,690.3

*Bureau of Agricultural Economics, The Farm Income Situation, 1936-1939.

from farm marketings. Cash income from crops and livestock in these states averaged $1,867,700,000 during the period 1924-1928. By 1932 this cash income had dropped to $739,300,000. It is now very substantially improved. The total cash income, including government payments, for the three years, 1937, 1938, 1939, has averaged approximately the same as for the period 1924-1928 in three states, Illinois, Indiana, and Kentucky. In the case of Tennessee, Missouri, Arkansas, and Mississippi, however, the average total cash income for the period 1937-1939 has averaged materially lower than for the period 1924-1928.

Mineral Resources

The Eighth District has extensive coal deposits. A large portion of the Eastern Interior Coal Field is located in the District. This field produces over 17 per cent of the total coal production of the United States.[16] Beginning at the city limits of East St. Louis, Illinois, several thick veins of coal extend approximately 200 miles east and 300 miles north and south.[17] The Illinois coal mines are divided into three classifications: the Northern Illinois Group, the Inner Group, and the Southern Group.[18] The Inner Group consists of the Belleville District and the Central Illinois District. The Eighth District includes

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[16]Industrial Bureau of the St. Louis Chamber of Commerce, Industrial Report on St. Louis.
[17]Ibid.
[18]Ibid.

the Southern Group, the Belleville District, and part of the Central Illinois District. Over 80 per cent of the coal supplied to the St. Louis Industrial Area comes from the Inner Group and the Southern Illinois fields.[19]

The Eighth District also contains the Western Kentucky fields and most of the Indiana fields. A small percentage of the coal supplied St. Louis comes from the Western Kentucky and Indiana fields.[20] Reserve deposits of this entire Eastern Interior Field are so great as to assure an adequate supply of bituminous coal for all needs which can be anticipated. Arkansas produces small quantities of a harder coal called semi-anthracite.

Coal production in Illinois dropped to approximately one-half that of the period of the twenties in the depression years of 1931, 1932 and 1933. While it has increased in the years since 1933 it is still about one-third less than the average for the period of the twenties. The competition of other fuels, however, was beginning to be reflected in a decline of Illinois coal production in the later years of the twenties.

Illinois coal is relatively cheaply mined, and the abundance of transportation facilities has provided low transportation costs. Much of the coal is hauled directly to the Metropolitan St. Louis Area by trucks, particularly to plants located on the east side of the River. With regard to transportation costs the so-called "East Side" of

[19]Ibid.
[20]Ibid.

Table 5

Coal Production in Illinois*

(thousands of short tons)

Year		Year	
1910	40,982	1926	69,367
1914	51,419	1927	46,848
1915	52,526	1928	55,948
1916	59,103	1929	60,658
1917	76,964	1930	53,731
1918	89,291	1931	44,303
1919	60,863	1932	33,475
1920	88,725	1933	37,413
1921	69,603	1934	41,272
1922	58,468	1935	44,525
1923	84,000	1936	50,927
1924	68,325	1937	51,602
1925	66,909	1938	41,912
		1939 (preliminary)	46,450

*Statistical Abstracts of the United States for years 1910-1936; Bureau of Mines, Minerals Yearbook, 1940, for 1937-1939, p.781.

Table 6

Coal Production in Indiana and Western Kentucky*

(thousands of net tons)

Year	Indiana	Western Kentucky
1913	17,166	8,518
1923	26,229	10,890
1929	18,344	14,437
1932	13,324	9,540
1936	17,822	8,370
1937	17,765	8,583
1938	14,759	7,368
1939 (preliminary)	16,650	8,075

*Bureau of Mines, Minerals Yearbook, 1940, p.781.

the St. Louis Industrial Area has for many years enjoyed an advantage because of bridge tolls.[21] This advantage has been partly offset in recent years by the development of the use of electric power. Cheap and easily available coal has been an important factor in the development of manufacturing in the St. Louis area.[22] Access to cheap and adequate coal supplies has also been of significance in the development of manufacturing in Evansville, which is located in the heart of the Indiana field, and in Louisville. The advantage of cheap coal exists whether it is used directly as a fuel, or transformed into electric power. The Cahokia plant in East St. Louis is a good example of this use of coal to produce electric power where its transmission is cheaper or its use is preferred.

One of the most significant developments in the Eighth District in the last five years has been the exploitation of new oil fields in southern Illinois. Prior to 1937 the annual oil output in Illinois had averaged about 4,500,000 barrels. By 1940 it had jumped to 146,450,876 barrels.[23] In production of crude oil in 1940, Illinois had attained fourth place among all the states.[24] The second largest producing field in the United States is

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[21] Thomas, Lewis F., The Localization of Business Activities in Metropolitan St. Louis, pp. 79-101.

[22] Ibid., pp. 79-101.

[23] The Oil and Gas Journal, January 30, 1941. p. 54.

[24] Ibid., p. 54.

now located at Salem, Illinois.[25] The one at Louden, Illinois, ranks fifth among the largest fields.

The production of oil in Arkansas has also increased in recent years, Arkansas and Illinois accounting for most of the production in the Eighth District. Oil is also produced in Kentucky, Indiana and Mississippi, but much of this is outside the District. Eight of the 75 largest producing fields are at present located in the Eighth District.

The development of the oil industry has aided southern Illinois materially in dealing with economic difficulties arising from the decline in the demand for coal, and technological changes in mining. It may be expected to affect the demand for credit in southern Illinois and in St. Louis.

Table 7

Oil Production in Illinois
1931-1940*

Year	Number of barrels
1931	4,717,000
1932	4,801,000
1933	4,252,000
1934	4,472,000
1935	4,351,000
1936	4,439,000
1937	7,426,000
1938	22,800,000
1939	91,797,241
1940	146,450,876

[25] Ibid., p. 55

*The Oil and Gas Journal, January 30, 1941, p. 54.

Table 8

Oil Production in 1940
of States Included in Eighth District*

Name	Number of Barrels	Number of active wells, Dec. 31	Daily Average production per well. (bbls)
Illinois	146,450,876	20,227	20.09
Arkansas	25,807,707	2,906	24.26
Kentucky	5,363,671	14,495	1.01
Indiana	4,991,768	1,839	7.43
Mississippi	4,282,318	107	109.34

*The Oil and Gas Journal, January 30, 1941. p. 54.

Table 9

Oil Fields in Eighth District Among the
75 Largest Fields in U. S.*

Name	Production in Barrels 1940	1939	Rank in 1940 ~~Rank in~~
Salem, Ill.	70,734,313	50,179,099	2
Louden, Ill.	26,595,650	18,350,888	5
Rodessa, La. Ark., Tex.	14,165,845	20,392,187	10
Centralia, Ill.	10,641,870	2,265,450	15
Magnolia, Ark.	7,402,317	3,589,627	29
Smackover, Ark.	6,628,747	6,421,056	32
Schuler, Ark.	6,609,747	6,193,314	33
Clay City, Ill.	3,866,190	6,780,813	66

*The Oil and Gas Journal, January 30, 1941., p. 55.

Missouri is the most important lead-producing state in the country, supplying 157,631 tons in 1937, which represented about one-third of the total production in the United States. Almost all of this lead is produced in the southeastern Missouri lead district. The amount of lead now produced in the state is substantially less than the average during the period of the twenties, although it has increased over the depression levels. Very small amounts of lead are produced in other parts of the District.

There is a little zinc within the area of the District, principally in the Kentucky-Southern Illinois district.[26] The principal zinc-producing region in the country is just outside the District, the so-called Joplin region, which consists of three counties in Missouri, Kansas, and Oklahoma.[27] This Tri-State region supplies approximately 40 per cent of all the zinc mined in the country.

Arkansas provides 80 to 90 per cent of the bauxite ore mined in the country. The location of these important deposits in Arkansas has caused the location of aluminum reduction plants in the Eighth District.

Manufacturing

As was pointed out earlier the St. Louis Industrial Area is one of the most important general manufacturing centers in the country. The central location of the city, adequate and cheap supplies of all forms of fuel, superior

[26]Bureau of Mines, Minerals Yearbook, 1940, p. 135.
[27]Ibid., p. 135

Table 10

Mine Production of Recoverable Lead in Missouri*

(short tons)

1925-1929 (average)	202,240
1935	97,493
1936	110,428
1937	157,631
1938	122,037
1939	156,281

*Bureau of Mines, Minerals Yearbook, 1940, p. 112.

Table 11

Mine Production of Recoverable Lead in Southeastern Missouri Region*

(short tons)

1935	96,941
1936	108,422
1937	153,205
1938	118,870
1939	153,522

*Bureau of Mines, Minerals Yearbook, 1940, p. 113.

Table 12

Bauxite Ore Production in Arkansas*

(long tons)

1913	169,871
1920	481,279
1925	296,320
1930	315,273
1935	219,791
1936	354,943
1937	402,195

*Statistical Abstract of the United States, 1938.

transportation facilities, and favorable transportation rates have all contrived to bring about the location of various manufacturing enterprises in this industrial area. The Industrial Bureau of the St. Louis Chamber of Commerce remarked in its Industrial Report, "The application of mileage rates to transportation in whatever form has been more favorable to St. Louis than to any other large city in this country."

The St. Louis Industrial Area is not a specialized, but a general manufacturing area. As will be seen in the table which presents the value of products by industries for the St. Louis area according to the census of manufacturing for 1937, there is no single predominant manufacturing industry. Among the significant industries are the following: boots and shoes; chemicals; transportation equipment; clothing; electrical machinery; drugs and medicines; malt liquors; meat packing; steel works and rolling mills; other metal working and metal products industries; printing and publishing; food and food products. This diversification of industry has prevented St. Louis from suffering the economic distress during depression years that occurred in certain more specialized centers of manufacturing.

The other manufacturing centers in the Eighth District are to be found in Louisville, Memphis and Evansville. Louisville is next in importance to St. Louis. Its principal manufacturing industries are as follows: tobacco products; meat packing; plumbing supplies; transportation equipment;

Table 13

St. Louis Industrial Area
Statistics of Manufacturing 1929-1937*

Year	Number of Establishments	Number of Wage Earners	Value of Products	Value added by Manufacture
1929	3,287	154,321	$1,541,953,654	$623,981,251
1931	2,955	117,459	893,945,128	385,373,114
1933	2,302	102,354	664,584,124	294,472,780
1935	2,543	115,325	875,227,917	339,116,670
1937	2,484	140,876	1,202,718,632	465,274,920

Manufacturing in Louisville, Memphis, and Evansville, 1935, 1937*

Year	Number of Establishments	Number of Wage Earners	Value of Products	Value added by Manufacture
Louisville				
1935	571	32,718	277,983,724	94,582,681
1937	536	32,896	294,210,542	102,203,360
Memphis				
1935	326	14,668	118,054,892	40,504,404
1937	317	16,741	150,879,273	46,406,786
Evansville				
1935	172	12,792	80,607,030	37,922,879
1937	171	17,251	188,308,542	56,295,786

*Census of Manufactures, 1937; Industrial Bureau of St. Louis Chamber of Commerce, Industrial Report on St. Louis.

and distilled liquors. Louisville is close to cheap coal supplies, and has excellent transportation facilities. On the basis of the 1937 census of manufacturing Evansville is next to Louisville in importance. Evansville has had a remarkable growth in recent years, the total value of its manufactured products increasing from $80,607,030 to $188,308,542 between the 1935 and 1937 censuses. Evansville is located in the midst of a coal-producing region. Memphis has experienced a considerable growth in manufacturing during the last decade. The value of its manufactured products increased from $118,054,892 to $150,879,273 between 1935 and 1937. Both Memphis and Evansville are diversified manufacturing centers.

It may be noted, of course, that every city of any size has certain service industries that are essentially local; milk bottling, bakery products, manufacture of ice, and others. The diversification of industry pointed out does not refer to these local industries.

Transportation

Metropolitan St. Louis is the second largest railroad terminal in the United States.[28] It is the principal transportation gateway to the whole Southwestern Region of the United States. Nineteen trunk line railroads enter St. Louis. Four of the major east-west trunk lines have their western terminus in St. Louis. Three of them enter Louisville, and one enters Evansville. They are the

[28]Industrial Bureau of the St. Louis Chamber of Commerce, Industrial Report on St. Louis.

Table 14

St. Louis Industrial Area
Value of Products by Industries
1937*

Industry	Value of Product
Boots and shoes	$25,299,024
Boxes and Bags	27,107,965
Cars, Electric and Steam rr.	25,969,827
Chemicals	47,542,206
Clothing, all types	28,606,415
Drugs and Medicines	21,161,525
Electrical machinery, apparatus and supplies	49,919,028
Feeds and Fertilizers	17,700,480
Furniture and Fixtures	9,512,976
Heating and Cooking Apparatus, except electric	16,090,816
Leather	9,689,417
Liquors, malt	35,451,125
Meat Packing	159,681,854
Machinery, Machine Tools, Machine Shop Products except electrical	34,146,616
Paints, Pigments, Varnishes	20,103,444
Non-ferrous metal alloys and non-ferrous metal products, except aluminum	24,899,500
Printing and Publishing	34,769,747
Steel works and rolling mill products	56,391,257
Other Metal Working and Metal Products Industries	33,261,370
Food and Food Product, except malt liquors and meat packing	71,363,410
All other industries	454,050,412

*Census of Manufacturing, 1937, Industrial Areas, Bureau of Census, 1939.

following:

The Baltimore and Ohio Railroad Co.
Cleveland, Cincinnati, Chicago and St. Louis Railway Co.
The New York, Chicago, and St. Louis Railroad Co.
The Pennsylvania Railroad Co.

Three railroads have their western and northern terminus in St. Louis and connect the City with the Southeast. Two of them enter Louisville and Evansville. They are the following:

Southern Railway Co.
Louisville and Nashville Railroad Co.
Gulf, Mobile, and Ohio Railroad Co.

Four railroads have their northern terminus in St. Louis and serve the Southwest and Southeast. Three of them connect St. Louis with Memphis, two with Little Rock. They are the following:

Missouri Pacific Railroad Co.
Missouri-Kansas-Texas Railroad Co.
St. Louis-San Francisco Railway Co.
St. Louis Southwestern Railway Co.

Three railroads with their eastern terminus in Chicago enter St. Louis and serve the West and Northwest. They are the following:

Chicago, Rock Island & Pacific Railway Co.
Chicago, Burlington & Quincy Railroad Co.
Chicago & Northwestern Railway Co.

The Alton Railroad Co. and the Chicago & Eastern Illinois Railway Co. connect St. Louis and Chicago. The Wabash Railway Co. is a bridge line which connects St. Louis with Detroit, Chicago, Kansas City, and Omaha. The Illinois Central Railroad Co. is a north-south line extending from

Chicago to New Orleans. It connects St. Louis with Memphis and Louisville. The Illinois Terminal Railroad System extends from St. Louis to various points in Illinois.

The Mississippi River System, including the Ohio, Illinois, Missouri, Cumberland, Tennessee, Wabash, Green, Yazoo, and Ouachita Rivers, provide most of the Eighth District with water transportation. All of the rivers mentioned have been provided with a six-foot channel, and the principal parts of the Mississippi River System now have a nine-foot channel. Four of the principal cities in the Eighth District are located on the Mississippi and Ohio Rivers; St. Louis, Louisville, Memphis and Evansville. Some commodities for export move by barge down the Mississippi River to New Orleans. Some shipments of goods to the Pacific Coast are transported by barge to New Orleans and by freighter through the Panama Canal. Joint rail and water rates have been established between many points in the Eighth District.

Transportation by motor truck has been highly developed in most parts of the Eighth District in the last fifteen years. Extensive truck terminal facilities exist in St. Louis. A network of pipe lines now connects St. Louis with the oil fields of Texas and Oklahoma.

Distribution of Goods

The trade territory of St. Louis is difficult to define in terms of a specific area. The area of distribution of goods will vary greatly with different manufacturing firms, jobbers, and wholesale houses. Some products manufactured in St. Louis, are, of course, distributed in all parts of the country. The trade territory in which St. Louis is dominant has been defined as an area roughly included by a circle that has a radius of 150 miles with its center about 30 miles southwest of St. Louis.[29] This area consists of a large portion of Missouri, almost all of southern Illinois, and small portions of Indiana, Kentucky, Tennessee, and Arkansas.

A study of the movement of package cars forwarded from St. Louis during the 12-month period ending December 31, 1935, indicates the extent of the territory that is significant to St. Louis. Fourteen states received an average of more than 10 cars of package freight per day from St. Louis. Missouri and Illinois received more than twice as many as any other state, but Texas, Arkansas, Kansas and Oklahoma received more than 25 cars per day.

The relative importance of the various cities in the Eighth District with regard to wholesale trade can be determined from the table which includes all cities in the District which had an aggregate wholesale trade of more than $10,000,000 in 1939. Memphis is the most important wholesale center outside of St. Louis. It has a considerable trade territory in western Tennessee, eastern Arkansas, and northern Mississippi. Louisville competes sharply with

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[29]A discussion of the St. Louis trade territory may be found in Thomas, Lewis F., <u>The Geography of the St. Louis Trade Territory</u>, and in Horton, Louis, <u>Analysis of the St. Louis Trade Territory</u>.

Table 15

Number of Package Cars Forwarded from
St. Louis to various states
during 12-month period
ending Dec. 31, 1935*

Major Distributing Area	No. of Package Cars 12 months	Average No. per Day (300 day year)
Missouri	34,269	114.2
Illinois	32,479	108.3
Texas	16,656	52.2
Arkansas	9,529	31.8
Oklahoma	8,112	27.0
Kansas	8,700	29.0
Tennessee	6,555	21.9
Indiana	5,395	18.0
Ohio	5,785	17.0
Iowa	5,309	17.7
Louisiana	3,847	12.8
Kentucky	3,704	12.3
Alabama	3,625	12.1
Mississippi	3,358	11.2
Total	146,323	487.7

*Industrial Bureau of St. Louis Chamber of Commerce, Industrial Report on St. Louis

Table 16

Relative Importance of Various Cities
in the Eighth District
in Wholesale Trade, 1939*

City	No. of Estab- lishments	Sales (000 omitted)	Propri- etors	Employees	Payroll (000 omitted)
St. Louis, Missouri	2,663	$1,164,102	1,464	34,367	$61,253
Memphis, Tennessee	675	433,354	461	8,937	13,675
Louisville, Kentucky	613	215,936	501	9,173	13,548
Little Rock, Arkansas	243	73,500	143	2,579	3,618
Evansville, Indiana	220	51,544	130	2,247	3,352
Springfield, Missouri	168	30,363	120	1,315	1,794
Fort Smith, Arkansas	115	24,772	73	1,017	1,399
E. St. Louis, Illinois	77	22,113	41	638	944
Pine Bluff, Arkansas	74	14,606	64	389	475
Paducah, Kentucky	66	14,433	52	545	621
Quincy, Illinois	90	13,434	59	797	1,027
Greenville, Mississippi	41	11,409	25	324	447

*Bureau of the Census, Sixteenth Census of the United States, Wholesale Trade, 1939.

Cincinnati in its trade territory consisting of western Kentucky and southern Indiana. The trade territory of Little Rock is located wholly within the state of Arkansas.

CHAPTER II

THE ESTABLISHMENT OF THE EIGHTH FEDERAL RESERVE DISTRICT

The bill to establish the Federal Reserve System, after final action by both houses on the conference report, was signed by President Wilson on December 23, 1913. The bitter dispute over the nature of the reforms of our banking and currency mechanism having been settled, the difficult task of dividing the country into reserve districts and determining the location of regional banks had then to be faced. Section 2 of the Federal Reserve Act provided:

> As soon as practicable, the Secretary of the Treasury, the Secretary of Agriculture, and the Comptroller of the Currency, acting as "The Reserve Bank Organization Committee," shall designate not less than eight nor more than twelve cities to be known as Federal Reserve cities, and shall divide the continental United States, excluding Alaska, into districts, each district to contain only one of such Federal Reserve cities. The determination of said organization committee shall not be subject to review except by the Federal Reserve Board when organized: Provided, That the districts shall be apportioned with due regard to the convenience and customary course of business and shall not necessarily be coterminous with any State or States. The districts thus created may be readjusted and new districts may from time to time be created by the Federal Reserve Board, not to exceed twelve in all. Such districts shall be known as Federal Reserve districts and may be designated by number. A majority of the organization committee shall constitute a quorum with authority to act.
>
> Said organization committee shall be authorized to employ counsel and expert aid, to take testimony, to send for persons and papers, to administer oaths, and to make such investigations as may be deemed necessary by the said committee in determining the reserve districts and in designating

the cities within such districts where such Federal reserve banks shall be severally located. The said committee shall supervise the organization in each of the cities designated of a Federal reserve bank, which shall include in its title the name of the city in which it is situated, as "Federal Reserve Bank of Chicago".

Under regulations to be prescribed by the organization committee, every national banking association in the United States is hereby required, and every eligible bank in the United States and every trust company within the District of Columbia, is hereby authorized to signify in writing, within sixty days after the passage of this act, its acceptance of the terms and provisions hereof. When the organization committee shall have designated the cities in which Federal reserve banks are to be organized, and fixed the geographical limits of the Federal reserve districts, every national banking association within that district shall be required within thirty days after notice from the organization committee, to subscribe to the capital stock of such Federal reserve bank in a sum equal to six per centum of the paid-up capital stock and surplus of such bank, one-sixth of the subscription to be payable on call of the organization committee or of the Federal Reserve Board, one-sixth within three months, and one-sixth within six months thereafter, and the remainder of the subscription, or any part thereof, shall be subject to call when deemed necessary by the Federal Reserve Board, said payments to be in gold or gold certificates..... Should the subscription by banks to the stock of said Federal reserve banks or any one or more of them be, in the judgment of the organization committee insufficient to provide the amount of capital required therefor, then and in that event the said organization committee may, under conditions and regulations to be prescribed by it, offer to public subscription at par such an amount of stock in said Federal reserve banks, or any one or more of them, as said committee shall determine, subject to the same conditions as to payment and stock liability as provided for member banks.........

Should the total subscription by banks and the public to the stock of said Federal reserve banks, or any one or more of them, be, in the judgment of the organization committee, insufficient to provide the amount of capital required therefor, then and in that event the said organization committee shall allot to the United States such an amount of said stock as said committee shall determine............

> No Federal reserve bank shall commence business with a subscribed capital less than $4,000,000. The organization of reserve districts and Federal reserve cities shall not be construed as changing the present status of reserve cities, except in so far as this changes the amount of reserves that may be carried with approved reserve agents located therein.................

The Reserve Bank Organization Committee began hearings in New York City on January 15, 1914, and from there proceeded to other parts of the country giving all those cities desiring a reserve bank an opportunity to be heard. Almost every community of any consequence as a financial center wished to be designated as a Federal reserve city. In the territory that might have been assigned with some reason to a St. Louis bank there were ten cities claiming consideration as the location of a reserve bank, Kansas City, Memphis, New Orleans, Louisville, Dallas, Indianapolis, Chattanooga, Nashville, Houston, and Fort Worth.[1] In addition, there were six cities outside this territory, Chicago, Birmingham, Cincinnati, Atlanta, Omaha, and Denver, that claimed some part of this territory as being financially dependent on them. The Committee met in St. Louis on January 21, 1914 to hear the banking and business interests of St. Louis and the adjacent area.

There was relatively little question at any time of the desirability of locating one of the reserve banks in St. Louis, and in consequence most of the discussion at

[1]These cities were located in territory that was considered at one time or another for inclusion in the St. Louis district.

St. Louis concerned the size and content of the reserve district to be established. St. Louis had been for many years one of the three central reserve cities established under the terms of the National Banking Act.[2] It had commercial and financial relationships which extended widely through the South and West, and for a shorter distance eastward. In the vote for Federal reserve cities, in which all the banks in the country participated, St. Louis received the fourth largest number of votes, 4,871.[3] Only Chicago, New York, and San Francisco received a larger number of votes, the largest number 5,844, being cast for Chicago. The Preliminary Committee on Organization, a body of experts which examined and analyzed the data collected by the Reserve Bank Organization Committee, remarked in its report that, "to a certain extent the sites of reserve banks must be regarded as practically predetermined, as in the case of New York, Chicago, and St. Louis, the present central reserve cities. Whenever that is true, for the reasons already generally set forth in the foregoing analysis, it is possible to assign certain territory as definitely belonging to the banks to be placed in the cities aforesaid."[4] Kansas City bankers, who were as active and aggressive as any group in the country in their

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[2]St. Louis was a central reserve city until July 1, 1922, when on the initiative of the banks in the city, it became a reserve city.

[3]Location of Reserve Districts in the United States, Senate Document No. 485, 63rd Cong., 2nd Sess., pp. 349-57.

[4]Report to the Reserve Bank Organization Committee by Preliminary Committee on Organization, Confidential No. 49.

efforts to get a reserve bank, did suggest that if two banks could not be placed in Missouri, St. Louis could have a branch of the Kansas City bank.

A short time before the hearing in St. Louis the Clearing House Association sent out a letter to the correspondent banks of the St. Louis institutions which clearly indicated their views on the districting question. It will be quoted in full:

St. Louis Clearing House Association
St. Louis, Mo.

January 13, 1914

To the Correspondents of the St. Louis Banks:

In fixing the districts for the Federal Reserve Banks the influence of our correspondents and their expressions will be more potent than anything we may place before the Committee particularly when the requests are in line with the natural course of business and the flow of exchanges.

It is obvious that the several districts should be so constituted that those sections having an over-balanced seasonal demand, such as invariably occurs in the South and Southwest, should be included in a district with those having different requirements, and banking resources sufficient to easily absorb such a demand for credit. Every district should be self-sufficient, using the privilege of inter-discount infrequently and asking the forced aid of others through the Federal Board only on rare occasions.

The states of Missouri, Kansas, Nebraska, Texas, Arkansas, Oklahoma, Kentucky, Tennessee, Louisiana, Mississippi, Southern Illinois, and Southern Indiana, with St. Louis as the reserve center, make such a well-balanced district with ample bank resources to make it self-sufficient. Furthermore, such a district follows the natural course of business and the flow of exchanges.

The St. Louis bankers believe that in such a district every point could be served more satisfactorily through the branches of the St. Louis Reserve Bank than through smaller banks or through banks located in districts not so diversified.

It is the evident and proper intent of the law to allow the free use of branches so that all privileges could be carried near to all the people, no matter where the district bank be located. It is quite probable that in the St. Louis district there will be located ten or fifteen of such branches and there is no essential service which may not be rendered by the branch. Even the credits and rediscounts in the area to be served by the branch will be passed through a local board of seven -- three appointed by the Federal Reserve Board and four by the Regional Board.

For more than half a century St. Louis has been the reserve center for this section and through this city the commerce and exchanges of this splendid district have passed. The intent of the law is not to disturb or hamper but to add a new and effective aid to the natural flow of business, and we therefore confidently believe that such natural courses will go undisturbed. We hope that it is your wish to be in the St. Louis district, and we would be glad to have an expression from you to be placed in the hands of the Organization Committee on January 21st when they visit St. Louis. Such an expression may be written or wired to your St. Louis correspondent.[5]

Very respectfully,

American Trust Co.	Merchants'-Laclede National Bank
Boatmen's Bank	Mercantile National Bank
Central National Bank	Mercantile Trust Co.
Commonwealth Trust Co.	Mississippi Valley Trust Co.
Franklin Bank	National Bank of Commerce
German American Bank	South Side Bank
German Savings Institution	State National Bank of St. Louis
St. Louis Union Trust Co.	Third National Bank
International Bank	
Mechanics-American National Bank	

[5]Reserve Bank Organization Committee, Exhibits and letters submitted at hearings. (St. Louis)

There was little disagreement among the witnesses appearing to represent St. Louis interests.[6] The Clearing House Association had appointed a special committee to assemble and present evidence before the Organization Committee, of which F. O. Watts, president of the Third National Bank, was chairman. Festus J. Wade, president of the Clearing House Association, appeared as the first witness, and, together with Watts, presented the essential argument and data of the banking interests. Among the representatives of the business interests were A. L. Shapleigh, of the Shapleigh Hardware Co., Jackson Johnson, president of the International Shoe Co., and Murray Carleton, of the Ferguson, Carleton Dry Goods Co.

The St. Louis bankers made the following points with regard to the general principles that ought to be followed in districting the country:

1. Only eight reserve banks in all ought to be created in order that each bank might have sufficient capital and resources to serve adequately its area, and that excessive decentralization of reserves might be avoided. The services of the bank should be made more convenient and available by the establishment of branches where needed.

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[6] Most of the material for the discussion that follows has been obtained from the stenographic minutes of the Organization Committee. These have never been published and are contained in the files of the Board of Governors of the Federal Reserve System. The St. Louis Republic for January 22, 1914 reports the hearings at St. Louis.

2. Districts should be balanced financially by including both borrowing and lending areas so that the district might be as nearly self-sufficient as possible in its credit needs. Cotton or other agricultural territory might be balanced by including territory with large banking capital and resources.
3. Districts should include in so far as this is possible territory in which there are different seasonal demands for credit, such as agricultural crops harvested at different times.
4. The natural course of business must be considered, but it is secondary in importance to financial balance.

The Clearing House Committee proposed a St. Louis district which, it was asserted, was developed on the basis of the above principles. This proposed district -- which was to be called District Five -- included the cotton states of Mississippi, Louisiana, Arkansas, Texas and Oklahoma; all of Missouri; parts of Indiana, Illinois and Tennessee; and a very small corner of Iowa, including the Keokuk Dam, in which the rail lines led to St. Louis. The southern portion of Indiana, bounded by a line including Indianapolis, was also to be a part of the district. The boundary line dividing Illinois was to be far enough north to include

Springfield. The Cumberland Mountains represented the trade line in Tennessee, the eastern part of the state having trade relations with Cincinnati. Therefore, western Tennessee as far east as Nashville was to be attached to District Five.

There were 6,393 banks in this suggested territory, and of this number 1,483 were national banks and 4,910 were state banks and trust companies. Of the total number of state institutions 3,104 were ineligible to join the Federal Reserve System because of inadequate capital and surplus to meet the provisions of the Act. This meant that there were in the area 3,289 banks eligible to enter the Reserve System at the beginning, although only 1,483 were required to do so.[7] The national banks had an aggregate capital and surplus of $262,703,000, deposits of $1,010,438,000, and resources of $1,413,615,000. This would have given the proposed bank a minimum subscribed capital of $15,762,000 with the 6 per cent subscriptions provided for in the Act. The state banks had aggregate capital and surplus of $295,811,000, deposits of $848,657,000 and resources of $1,205,621,000. Eliminating the capital and surplus of the ineligible banks, 6 per cent subscriptions from the state banks would have added $9,437,000 to the capital of the bank. Wade pointed out that the 62 member banks and trust companies of the St. Louis Clearing

[7]Only national banks were required to join the Federal Reserve System, state banks being permitted to join if eligible.

House had an aggregate capital and surplus of $78,464,000, or one-seventh of the total capital resources of all banks in the proposed territory, and deposits of $308,000,000, or one-sixth of the deposits of all banks in the area.

The St. Louis plan provided for dividing the country into eight districts. Watts submitted an exhibit to the Committee showing the proposed districts and the banking capital, deposits, and reserve bank capital available in each district.[8] This is shown here as Table 17. The following districts were to be created under this arrangement: the New England states with Boston as reserve city, New York State and the territory directly tributary to New York City, the Seaboard-Southern states, the Ohio Valley region, the St. Louis district described above, the North Central states with Chicago as the reserve city, the Middle West and Rocky Mountain area, and the Pacific Coast states with San Francisco as the reserve city. No attempt was made to determine the proper reserve cities for three districts, the Seaboard-South, the Ohio Valley, and the Middle West and Rockies.

There were certain definite objectives evident in this plan:

1. The New York Reserve Bank was given a capital not much larger than the other banks by limiting the area assigned to this district. The

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[8] Reserve Bank Organization Committee, <u>Exhibits and letters submitted at hearings</u>. (St. Louis)

national bank subscriptions would have provided a capital of $24,100,000 compared with capital ranging from $14,700,000 to $17,900,000 for four other districts. The final districting plan adopted gave New York a capital nearly twice that of any other district as a result of reducing the size of outlying districts.

2. The cotton-growing region was divided between two districts, the Seaboard-South district being given as much crop diversification as possible, the Southwestern cotton area being balanced with territory having manufacturing industries and banking capital.
3. The New England states and the Pacific Coast states were recognized as distinct economic entities with characteristics of their own.
4. The Ohio Valley and Chicago districts were given both well diversified credit demands and ample banking capital.

While the St. Louis district as proposed by the Clearing House must be regarded as the St. Louis plan, two other proposals were made at the hearing. A. L. Shapleigh suggested a territory which conformed in all respects to that presented by Wade and Watts, except that he wished to include all of Kentucky, and eastern Kansas as far as Wichita, instead of only that part westward to Topeka. These

Table 17

St. Louis Clearing House Districting Plan,* Capital, Deposits, and Resources of Banks Assigned to Proposed Districts

District		Capital & Surplus	Deposits	Resources	6% Subscriptions
No. 1	Nat'l	$152,555,000	$580,952,000	$834,934,000	$9,150,000
Boston	State	77,665,000	482,676,000	600,119,000	2,325,000
		230,220,000	1,063,528,000	1,435,053,000	11,475,000
No. 2	Nat'l	401,492,000	2,066,904,000	2,694,860,000	24,100,000
New York	State	316,702,000	2,241,598,000	2,741,420,000	9,500,000
		718,194,000	4,308,502,000	5,446,280,000	33,600,000
No. 3	Nat'l	298,428,000	1,238,410,000	1,666,901,000	17,900,000
Seaboard-	State	299,613,000	827,799,000	1,278,450,000	9,000,000
South		597,041,000	2,066,209,000	2,945,351,000	26,900,000
No. 4.	Nat'l	251,199,000	1,032,604,000	1,526,846,000	15,100,000
Ohio	State	236,374,000	953,042,000	1,255,783,000	7,100,000
Valley		487,573,000	1,985,646,000	2,782,629,000	22,200,000
No. 5	Nat'l	262,703,000	1,010,438,000	1,413,615,000	15,762,000
St. Louis	State	295,811,000	848,657,000	1,205,621,000	9,437,000
		558,514,000	1,859,195,000	2,619,236,000	25,199,000
No. 6	Nat'l	245,000,000	1,425,041,000	1,767,809,000	14,700,000
Chicago	State	248,733,000	1,496,703,000	1,773,809,000	7,450,000
		493,733,000	2,921,744,000	3,541,618,000	22,150,000
No. 7					
Middle West					
and Rockies					
No. 8	Nat'l	125,239,000	573,405,000	788,510,000	7,510,000
San Francisco	State	89,964,000	673,960,000	843,686,000	2,700,000
		215,203,000	1,247,365,000	1,632,196,000	10,210,000

*Reserve Bank Organization Committee, Exhibits and letters submitted at hearings. (St. Louis) additions Shapleigh regarded as part of the trade territory of St. Louis. Van Riper, president of the American Trust Co., submitted a plan including only three banks for the West, at Chicago, St. Louis, and San Francisco. He asserted that west of Ohio, eastern Kentucky, eastern Tennessee, and a line drawn from there to the south, there existed only 35 per cent of the available reserve bank capital. Consequently, only three reserve banks were regarded by him as advisable to divide that portion of the capital.

The testimony taken at the hearing brought out numerous facts regarding the commercial, industrial, and financial importance of St. Louis at this time. Such testimony was characteristic of that taken at the hearings in each city visited by the Organization Committee. Had the Committee followed strictly such material in determining districts it would have been entirely logical to have created some 40 or 50 banks, instead of the 12 permitted by the Federal Reserve Act. It was stated that St. Louis was the third largest industrial district, that one-third of the population of the United States resided within twelve hours' ride, that twenty-six railway trunk lines entered the city. The Census of Manufactures of 1909 showed a total value of manufactured products for that year of $327,677,000, and indicated that St. Louis was first in the United States in the manufacture of stoves, street cars, drugs, chewing tobacco, chemicals, perfumery, shoes, woodenware, clay products, white lead, paints, and car seats and furnishings. It was pointed out that the city was the focal point for the mid-continent distribution of goods. St. Louis led all other markets in shipments of hardware, agricultural implements, coffee, horses and mules, hardwood lumber, millinery, saddlery and harness, bags and bagging, and was also important in the distribution of dry goods, beer, tinware, and wool. St. Louis was the largest primary fur market in the world, the second largest hog market and the third largest cattle market in the United States.

Shapleigh submitted some interesting material as to the trade territory of St. Louis and the geographical sales of goods by St. Louis firms. Annual sales of all commodities in 1913 amounted to $567,664,000, approximately twenty-one per cent having been sold in Missouri. Eighty-four per cent of the sales were in the states of Texas, Arkansas, Illinois, Indiana, Kansas, Missouri, Oklahoma, Mississippi, Kentucky, Tennessee, Iowa, and Louisiana. With the exception of Iowa, all these states were included in the proposed district. This material is presented in Table 18.

The financial importance of St. Louis in the territory suggested was unquestioned. While it had acquired some bankers' deposits because it was a central reserve city most of these deposits had been secured because large investments had been made by St. Louis banks in the territory. These banks had outstanding loans and investments on October 21, 1913 in the surrounding territory of $246,434,259. $63,500,000 of these loans and investments were outside the

Table 18

Annual Sales of Various Commodities by St. Louis Firms, 1913*

Commodities	Amount of Sales
Lumber	$187,800,000
Dry Goods	88,600,000
Boots and Shoes	69,722,000
Groceries	59,000,000
Hardware	30,265,000
Drugs, Patent Medicines and Perfumes	24,500,000
Clothing, Overalls and Shirts	22,210,000
Zinc and Lead	18,000,000
Vehicles	15,197,000
Leather	14,955,000
Coffee	12,920,000
Sash and Doors	5,200,000
Dry Plate and Photo Supplies	4,792,000
Stoves	4,675,000
Street Cars	3,700,000
Building Glass	3,403,000
Coffins	1,545,000
Dried Fruits and Nuts	1,180,000
	567,664,000

Total Sales to States and Per Cent of Total Sales

Missouri	$118,851,000	20.94
Illinois	91,676,000	16.15
Texas	43,398,000	7.65
Indiana	39,195,000	6.90
Kansas	30,617,000	5.39
Arkansas	27,876,000	4.91
Oklahoma	26,373,000	4.64
Iowa	24,147,000	4.25
Louisiana	20,164,000	3.55
Mississippi	19,753,000	3.48
Tennessee	17,853,000	3.14
Kentucky	16,092,000	2.83
		83.83
All other states		16.17
		100.00

*Computed fom data in Exhibit No. 19, Reserve Bank Organization Committee, Exhibits and letters submitted at hearings. (St. Louis)

Table 19

Loans and Investments of St. Louis Banks
by States, Oct. 21, 1913*

Missouri	$182,876,625
Texas	17,207,858
Arkansas	12,880,545
Southern Illinois	11,113,102
Oklahoma	10,992,466
Louisiana	3,949,283
Tennessee	2,281,122
Kansas	1,779,196
Mississippi	1,370,673
Southern Indiana	1,051,877
Nebraska	526,000
Kentucky	405,512
	246,434,259

*Exhibits of F. O. Watts, Reserve Bank Organization Committee, Exhibits and letters at hearings. (St. Louis)

Table 20

Number of Banks Having Correspondent Relationships with St. Louis in Proposed St. Louis District, with Balances Maintained by States*

	National Banks		State Banks	
Missouri	214	$6,725,000	1,287	$10,669,000
Texas	462	6,014,000	349	1,946,000
South. Illinois	289	3,621,000	419	3,840,000
Oklahoma	280	2,564,000	154	542,000
Arkansas	117	2,171,000	530	3,919,000
Kansas	93	1,361,000	93	489,000
Indiana	37	1,089,000	5	24,000
Tennessee	90	957,000	105	735,000
Kentucky	35	782,000	21	132,000
Louisiana	37	677,000	101	662,000
Mississippi	45	272,000	137	650,000
	1,699	26,233,000	3,201	23,608,000

*Exhibits of F. O. Watts, Reserve Bank Organization Committee, Exhibits and letters at hearings. (St. Louis) state of Missouri, while deposits from banks outside of Missouri amounted to $32,400,000, which indicated a net credit extended by St. Louis of $31,100,000. Correspondent banks within the proposed St. Louis district maintained balances of $49,841,000, of which $26,233,000 was with national banks and $23,608,000 with state banks.

St. Louis had more adequate banking capital than any other city in the country with a population of 200,000 or over, its banking capital equaling more than 25 per cent of its total deposits. On October 21, 1913 the total capital and surplus was $78,464,000 and deposits, including bankers' deposits were $304,368,000. Festus J. Wade remarked, "There has never been a day, week or month, when any banker, planter, or farmer in the South or Southwest, banking in St. Louis and entitled to credit, was delayed one hour in getting all the cash or credit needed to move crops in that locality to market, not excepting the panicky days of 1907."[9]

St. Louis was also the most important source of funds for the development of internal improvements in the Southwest, such as hotels, street railways and gas and electric plants. Representatives from Oklahoma at the hearing spoke of their dependence on St. Louis for capital for long-term investment. Leonard, of Tulsa, who was emphatic in stating that Tulsa did not wish to be attached to a Texas city, said that, while Kansas City would be satisfactory to

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[9]Additions to Testimony of Festus J. Wade, Exhibits and letters submitted at hearings. (St. Louis)

them as a reserve city, they were more dependent on St. Louis in a general financial sense.

Ultimately the great problem in creating the St. Louis district became that of determining the boundary lines. On every side the determination of the limits of the district became subject to serious question, and in some cases necessarily arbitrary decisions had to be made. In a manner that is striking as one examines the evidence, St. Louis became the "adjustment district" for problems in districting all over the country. These problems arose in part as a result of the desire to satisfy local pride, but in the main from purely political considerations. In order to understand how this situation developed it is necessary to consider certain factors affecting the whole problem of districting and certain policies adopted by the Organization Committee.

Political considerations came to dominate the work of the Organization Committee. It is difficult to see how any other result could have been obtained with a committee made up, as it was, of politically appointed officials. Willis said that political considerations had dictated a decision from the beginning to establish the full number of 12 banks.[10] The first recommendation of the Preliminary Technical Committee had been to create either 9 or 10 banks. While the logical procedure, and that evidently

[10] Willis, H. Parker, The Federal Reserve System, p. 584

contemplated by the Act, would have been to work out the districts first and then select a proper reserve city in each, the procedure of the Organization Committee became that of selecting the reserve cities first and then attempting to find sufficient territory to create a district around them.[11]

Comptroller Williams, a member of the Organization Committee, was actively working in behalf of Richmond, Virginia.[12] No logical districting plan would have provided two districts wholly within the Southeastern states, but both Richmond and Atlanta had strong political backing, the latter chiefly in the person of Senator Hoke Smith.[13] In order to create a region for Richmond and still retain Atlanta as a reserve city, it became necessary to find additional territory for the latter city. That could only be done at the expense of the St. Louis district, giving Atlanta large parts of Mississippi, Tennessee, and a portion of Louisiana, including New Orleans. This last was especially unfortunate because New Orleans had close connections with St. Louis, and almost none with Atlanta. Political considerations were of importance in the pressure brought to bear upon the Organization Committee to create a Kansas City district. Senator Reed of Missouri was very active in support of Kansas City. Willis intimates that Secretary of War Baker, a resident of Cleveland, played a part in the selection of that city as a

[11] Ibid., p. 587.
[12] Ibid., p. 587.
[13] Ibid., p. 588.

location for a reserve bank.[14]

The St. Louis plan and the theory upon which it was based were rejected. It is difficult to understand the Preliminary Technical Committee when it remarked in its report, "If recommendations of bankers of New York, Chicago, and St. Louis were to be accepted, the country would practically be divided up between these centers except in so far as a fringe had to be left to comply with the requirements of the law."[15] New York, of course, wanted a large district, but the statement is obviously in error with regard to the St. Louis recommendations. Chicago submitted three plans, the first providing for 8 banks and the other two for a larger number of banks, and asked for the second largest bank in each of these plans.[16] The statement was a gross exaggeration as applied to the Chicago recommendations. The St. Louis plan provided for banks quite similar in amount of capital, except for the New England and Pacific Coast districts which were distinct areas and could not reasonably be increased in size. Four other districts were either larger or equivalent in size to the St. Louis district. New York was given a district only about one-third larger than four other districts. In fact, the St. Louis plan provided for banks much more equal in size than the final plan adopted by the Committee.

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[14] Ibid., p. 587

[15] Report to the Reserve Bank Organization Committee by Preliminary Committee on Organization, Confidential No. 49.

[16] Griswold, John A., A History of the Federal Reserve Bank of Chicago, p. 30.

The principle of including lending and borrowing areas in the same district for the purpose of making it self-supporting was rejected. The Preliminary Committee in its report dismissed this principle as unimportant and not capable of being fully worked out. It argued that one Federal Reserve Bank might call upon another to rediscount for it, and that a need for mutual seasonal aid and shipments of currency would be less under the System. This argument is weak. If the System was to be regarded as a unit, or as one bank with branches, then there was no need to construct integrated, self-sufficient districts. But it must be remembered that one of the principal objectivês of the Federal Reserve Act was to establish independent regional-control central banking in the United States. It was largely this objective that separated the proponents of the Aldrich Bill and the group that favored the Glass-Owen measure. The Committee was correct, of course, in saying that the principle of lending and borrowing areas was one that could not be perfectly worked out, but that was not a valid argument against applying it as far as possible.

It is interesting to note that this principle of including borrowing with lending areas was the important reason urged by the Organization Committee for not establishing a Northwest district with a bank at Seattle or Portland.[17] Banking capital in Washington and Oregon was being subjected to strain as a result of the rapid economic development in

17 Willis, Parker B., The Federal Reserve Bank of San Francisco, p. 90.

process, and the region was usually a borrowing one. Seattle witnesses finally agreed that the inclusion of their region in a district embracing the entire coast would result in giving them more aid and better credit facilities.[18] As a result the Pacific Coast district eventually created became one of the well balanced and integrated reserve regions, its large area being adequately served by the establishment of a number of branches.

As early as the hearing in St. Louis, it was evident that Secretary McAdoo and his committee had some idea of creating a district for Kansas City. Kansas City interests were very determined and aggressive in their efforts to secure a bank, a fact remarked upon by a number of witnesses from Oklahoma and southwest Missouri. In response to questions from the Committee regarding the possible creation of a Kansas City district, Watts replied that if Kansas City was made the reserve city for District No. 7, the Middle West and Rockies, that western Missouri on a line 50 to 85 miles east of Kansas City including Joplin, Missouri, should be included in that district, as well as part of Oklahoma, part of Texas, and part of Nebraska, but not Omaha and its territory. He asked that if the western boundary of the St. Louis district was changed that part of Kentucky including Louisville be added, stating that Louisville would prefer only Cincinnati to St. Louis. He stated in a letter to the Organization Committee of January 23, 1914,

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[18] *Ibid.*, p. 90.

"If District No. 5 is stripped of Kansas City and its local territory, I am of the opinion that a similar community should be added to No. 5, and for that reason I have drawn lighter lines around the territory of Louisville, Kentucky. In other words, if a bank is not to be located in Cincinnati, I believe it would be better to place Louisville in the St. Louis territory; this in order to give additional territory to the St. Louis District for the purpose of helping to carry the seasonal demands."19

The Kansas City district was eventually created, the suggestions of Mr. Watts being largely accepted, the only exception being that all of Nebraska was given to Kansas City. The creation of the Kansas City district reduced the St. Louis area as a result of the inclusion of the larger part of Oklahoma, a strip of Missouri, and eastern Kansas.

The proposal of a district for Texas was one having much greater merit. The State of Texas was one of great size, with rich, although relatively undeveloped, natural resources. The principal objection urged by Texas bankers against being included in the St. Louis district was the long distance between St. Louis and many Texas points. The financial and trade connections between St. Louis and Texas were quite strong, and Texas was not as yet independent as far as its capital and credit needs were concerned. The St. Louis view was that the establishment of branches taking care of rediscounts, clearings, and currency would solve the problem of distance, and that the question of a separate bank for Texas could be left for the future. Brown of San Antonio,

[19] Letter contained in Exhibits and letters submitted to Reserve Bank Organization Committee. (St. Louis)

appeared at the hearing and presented a resolution of the San Antonio Clearing House advocating the creation of a district including Texas, Louisiana, Arkansas, Oklahoma, and Missouri. The resolution asked that a Texas city be named as the reserve city. Under questioning Brown admitted that he thought St. Louis would serve such a district better as the reserve city, that it was largely local pride and interest that prompted the desire for a Texas reserve city. The final establishment of the Texas district with the reserve city at Dallas necessitated the inclusion of the remainder of Louisiana not assigned to Atlanta, southern Oklahoma, a large part of New Mexico, and extreme southern Arizona. Thus the St. Louis district again lost territory; Texas, the rest of Louisiana, and the rest of Oklahoma.

The needs of the Atlanta, Dallas, and Kansas City districts made the St. Louis district seem almost impossible for a time. It is clear that the latter district could not have been created without Louisville and the large part of eastern Kentucky finally included. The subscribed capital eventually provided for the St. Louis bank was little over the minimum $4,990,761.[20]

Whether it was wise to establish the Texas District at the time the System was organized is not at all clear. A Texas district might have been left for later consideration. The bank at Dallas had great difficulty for a number of years

[20]Decision of Reserve Bank Organization Committee Determining Federal Reserve Districts and Location of Federal Reserve Banks, April 2, 1914,

in earning its dividends. However, the establishment of three districts, Kansas City, Dallas, and St. Louis, weakened the System considerably. Had Kansas City not been given a bank it would have been possible to create stronger districts for both Dallas and St. Louis, or had Dallas not been given a district, a stronger district for St. Louis. On the basis of the principles suggested by St. Louis bankers, a better solution would have been to have eliminated Kansas City, Dallas, and Minneapolis, and to have established a district with Denver as the reserve city, enlarging both the Chicago and St. Louis districts. The organization plan did not present a cheerful picture as far as the South was concerned. The South had been divided between four districts, Richmond, Atlanta, St. Louis, and Dallas, with two other districts, Cleveland and Kansas City, having small portions. None of the four southern districts had much more than the minimum capital permitted by the Act, Richmond having the largest amount, $6,303,301.[21]

It is now important to note the principles of districting developed by the Preliminary Committee on Organization. At the close of the hearings this committee analyzed the data and testimony which had been collected and submitted a report to Secretary McAdoo. Its report outlined the following general principles:

> "The fundamental principles of a positive nature upon which the process of districting should be carried out may now be laid down.

[21] Ibid., pp. 7-8.

(a) The Act calls for not less than eight or more than twelve districts; it leaves the choice of the number within these limits entirely open and to be decided without prejudice.

(b) The plain intent of the framers of the act was to establish a number of different and independent institutions, each sufficiently strong to care for itself without the necessity in normal times of depending upon any other.

(c) The institutions to be created should, therefore, be reasonably similar to one another in size without attempting to bring about any artificial similarity, and should be located at such points as will most nearly convenience the business of the country.

(d) The creation of any one large bank should be avoided, meaning by a large bank, a bank so preponderating in importance as to make it ipso facto the most conspicuous and by far the strongest element in the system; while at the same time it should be sought to avoid the creation of two distinct classes of banks, one consisting of large powerful institutions likely to become dependent upon the neighboring and stronger banks.

(e) While the law requires that a minimum capital of $4,000,000 shall be present in each and every reserve district and while this requirement must be observed, there is no harm in approaching closely to it or even in going below this limit so far as the banks are concerned, making up the deficiency by private or government subscription, if it be true that within a reasonably near future the district will probably advance in wealth and capital so as to make the establishment of such bank desirable.

(f) Special study should be given both in establishing the districts and in establishing the point in each district where the headquarters bank is to be situated, to the facilities of speed and transportation both between such point and those at which other headquarters banks are located, and between such headquarters point and the outlying portions of the district itself."22

The Committee in analyzing the evidence found that

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22 Report to the Reserve Bank Organization Committee by the Preliminary Committee on Organization, Confidential No. 49, pp. 6-7.

it fell into five classes: first, the character and volume of local business; second, the volume of clearings; third, the capitalization of banks; fourth, railway facilities; and fifth, the existing habits of borrowing.[23] As to the first, the character and volume of local business, it stated that this must be measured by the existing banking capital, that in order to enlarge the resources of a reserve bank it would be necessary to develop the resources of the member banks. The volume of clearings was dismissed as unimportant because it was affected by many influences that would disappear under the reserve system, or that had no bearing on the reserve problem. Bank capitalization was of secondary importance, the development of a portion of the capitalization at a particular point having no fundamental bearing on the placing of a reserve bank at that point. Railway facilities the Committee thought were of the utmost importance, particularly because of the clearing function. Finally, it thought that habits of borrowing were important as a consideration in locating reserve cities, although not of primary importance in all cases, remarking in this connection, "Further, the existing banking system has in some cases tended to centralize funds under an artificial method, and so to build up balances in certain points in a way that they would not naturally have developed."[24]

The Committee developed certain arguments against

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[23] Ibid., pp. 6-19.
[24] Ibid., p. 9.

the frequently asserted idea that large reserve banks were necessary to supply adequately the needs of the borrowing communities dependent on them. However, the question of the size of the reserve banks was an important one, and this the Committee did not adequately consider. As has been mentioned, the principle of constructing balanced districts by including both lending and borrowing areas was dismissed as not particularly important. It recommended that the capital of the largest banks not exceed $28,000,000. The exact character of the districting plan or plans submitted by the Preliminary Committee is not known. H. Parker Willis, secretary of the Committee, said that either nine or ten banks was the number recommended.[25]

It is now possible to understand how the boundaries of the St. Louis District were drawn. In order to eke out sufficient capital for Atlanta it was necessary to give that city a portion of louisiana which contained New Orleans, the southern and larger part of Mississippi, and all that part of Tennessee east of the Tennessee River. Louisiana had no natural relationships with Atlanta and no desire to be included in a district with that city. St. Louis was the only city which received any significant vote besides New Orleans in the poll taken by the Organization Committee among Louisiana banks.[26]

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[25]Willis, H. Parker, op. cit., 5. 584

[26]Location of Reserve Districts in the United States, Senate Document No. 485, 63rd Cong., 2nd Sess., 1914. First, Second and Third Choice Votes by States.

Table 21

First Choice Vote for Reserve Bank Cities by Districts*
Eighth District

City	Ark.	East. Mo.	South. Ill.	South. Ind.	West. Ky.	West. Tenn.	North. Miss.	Total
St. Louis	51	43	103	2	1	4	4	208
Louisville				15	61	1		77
Chicago			30	29				59
Kansas City	2	27						29
Memphis						6	8	14
Cincinnati				13				13
Indianapolis				5				5
Nashville						4		4
Dallas	1							1
Chicago or St. Louis			2					2
St. Louis or Kansas City							1	1
Birmingham		1						1
Total	54	71	135	64	62	15	13	414

*Location of Reserve Districts in the United States, Senate Document No. 485, 63rd Cong., 2nd Sess., 1914.

In the case of Mississippi the financial and commercial relationships were largely with New Orleans, Memphis and St. Louis. Atlanta received no votes in a poll of Mississippi bankers, the largest vote being given to New Orleans, and the remainder of the significant vote being cast for Memphis and St. Louis. If neither Memphis nor New Orleans was to be made a reserve city, the choice of Mississippi was, therefore, St. Louis. Of course, the inclusion of New Orleans and part of Louisiana with the Atlanta district made it necessary that some part of Mississippi be included, otherwise an island would have been the result. While St. Louis bankers had regarded

Nashville as the proper dividing line in Tennessee, the area of the Atlanta district was increased by moving the line westward to the Tennessee River. The votes cast by Tennessee bankers were well divided, Cincinnati receiving the largest vote of any city outside of Tennessee. Louisville and St. Louis received the second largest number of votes, while Atlanta was third.

The establishment of reserve banks at both Dallas and Kansas City made it necessary to split Oklahoma between the two cities, and to give the remainder of Louisiana to Dallas. In the poll Oklahoma bankers preferred either Kansas City or St. Louis, Kansas City receiving the largest number of first choice votes, and St. Louis the largest number of second choice votes.[27] Louisiana did not desire to be attached to a reserve bank at Dallas as far as the ballot of the Organization Committee indicated. The southern boundary of the state of Arkansas, together with a line drawn through Mississippi, thus became the southern boundary of the St. Louis district. Arkansas bankers cast 51 out of 54 first choice votes for St. Louis.

Western Kentucky and southern Indiana were finally included in the St. Louis territory, but it is clear that this decision was dictated in large part by the necessity of securing sufficient capital for the bank at St. Louis. As a state, Indiana strongly favored Chicago and Cincinnati, and in a vote in the southern portion, Chicago was much preferred,

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[27] _Ibid._

receiving 29 votes to 2 for St. Louis.[28] Cincinnati received the largest vote for any city outside Kentucky. As was pointed out earlier, Watts indicated that Louisville also preferred to go with Cincinnati if a reserve bank was not established at Louisville. However the eventual establishment of a bank at Cleveland instead of at Cincinnati made the inclusion of Louisville in the St. Louis district plausible. The suggestions made by Watts with regard to the inclusion of Louisville and western Kentucky were largely followed by the Organization Committee. In the western part of Kentucky the bankers gave 61 votes to Louisville, one to St. Louis, and none to Cincinnati. The inclusion of western Kentucky in the territory gave some logic to the inclusion of adjoining territory in southern Indiana. Undoubtedly, the existence of good rail connections on the East-West trunk lines between Louisville and St. Louis, and between southern Indiana and St. Louis, was another factor considered in including these territories.

There was never any question but that a considerable part of southern Illinois was related commercially and financially to St. Louis, and desired to be attached to a bank at St. Louis. The only problem was the determination of the boundary line between the Chicago and St. Louis districts. At the hearing in St. Louis the bankers had suggested the division of Illinois by a line drawn roughly east and west which would include Springfield in the southern part.

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[28] *Ibid.*

There was considerable rivalry between Chicago and St. Louis in efforts to secure as much as possible of the Illinois territory. A St. Louis banker remarked with a sort of dry humor that while Chicago seemed to desire East St. Louis, St. Louis was not asking for Evanston. The contest was resolved by the Organization Committee largely on the basis of the desires of Illinois bankers in the disputed area. The Organization Committee poll indicated that in the whole state, Chicago received 305 first choice votes, and St. Louis 112 votes.[29] In the southern counties finally assigned to the Eighth District, St. Louis received 103 votes out of the total of 112 votes. It is thus clear that St. Louis did not receive any more territory than was warranted by the preferences of the bankers.

In an effort to throw further light on the preferences of Illinois bankers, H. D. Sexton, a banker of East St. Louis, submitted a poll conducted among members of Groups 6, 7, 8, 9, and 10 of the Illinois Bankers Association.[30] These Groups included 61 southern counties of Illinois and contained 830 member banks of the Association, state, national and private. Ballots were returned by 592 banks, the results showing 408 votes for St. Louis, 166 for Chicago, and 18 undecided. In Group 6, St. Louis received only 21 votes out of 180. Only 2 out of the 10 counties in this

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[29] Ibid.

[30] Letter to William G. McAdoo of February 11, 1914, Exhibits and letters submitted to Reserve Bank Organization Committee. (St. Louis)

Group were finally assigned to St. Louis. Group 7 contained most of the counties in controversy, particularly Sangamon County in which Springfield was located. Here St. Louis was given a clear majority of the votes. There were 153 member banks of which a number did not cast a vote, St. Louis receiving 79 ballots. The final decision allotted only 2 out of the 7 counties in this Group to St. Louis, Sangamon County going to Chicago. There were 44 southern counties finally included in the St. Louis district. On the basis of this poll of the Illinois Bankers Association some additional territory, including Springfield, might have been included.

After a decision was reached to create a Kansas City district it was necessary to include in it such part of western Missouri as might be regarded as local territory to Kansas City. The line was drawn almost straight north and south, providing a strip of territory for the Kansas City district one county wide, except in the north where the strip widened to include two or three counties. This line was rather an arbitrary one, there being no really satisfactory criteria for determining it. It was unfortunate that the lead and zinc district in southwestern Missouri was not included in the St. Louis district, the principal market for these metals being in this district.

It is interesting to note that in Texas, St. Louis received by far the largest vote of any city outside of Texas.[31] While the Texas vote was for the most part split

[31] Ibid.

between Dallas, Fort Worth and Houston, St. Louis received some first choice votes, the second largest number of second choice votes, and the largest number of third choice votes. If allowances are to be made for the local pride that influenced the votes cast in all parts of the country, it is clear that many Texas bankers believed that a more effective districting plan would have included Texas in a St. Louis district.

The Reserve Bank Organization Committee announced its decision on April 2, 1914, and afforded explanations quite general in character. The part of the decision relating to the St. Louis bank was as follows:

> District No. 8. -- The State of Arkansas; all that part of Missouri located east of the western boundary of the following counties: Harrison, Daviess, Caldwell, Ray, Lafayette, Johnson, Henry, St. Clair, Cedar, Dade, Lawrence, and Barry; all that part of Illinois not included in District No.7; all that part of Indiana not included in District No. 7; all that part of Kentucky not included in District No. 4; all that part of Tennessee not included in District No. 6; and all that part of Mississippi not included in District No. 6; with the city of St. Louis, Mo., as the location of the Federal Reserve bank.
>
> This district contains 458 national banks which have accepted the provisions of the Federal reserve act. The capital stock of the Federal Reserve Bank of St. Louis, on the basis of 6 per cent of the total capital stock and surplus of the assenting national banks in the district, will amount to $4,990,761; and of the State banks and trust companies which have applied for membership up to April 1, 1914, the total capital stock will be $6,367,006.

Almost as soon as the decision was announced protests began to be made in various parts of the country, particularly in the East, South, and Middle West. A mass meeting was held in New Orleans condemning the decision of the Committee. No action was taken with regard to these protests and petitions, the problem of readjustment being left to the Federal Reserve Board. The Organization Committee simply prepared a report to the Senate defending its decision.[32] The best that can be said for the work of the Organization Committee is that it did a difficult job rather poorly. The principles and suggestions of the Preliminary Committee were followed only when political considerations did not dictate otherwise. The whole districting arrangement was dominated by the determination, for political purposes, to select the maximum number of reserve bank cities. Cities were selected first and districts created around them. Banks "reasonably similar to one another in size" were not provided. Four banks, at New York, Philadelphia, Cleveland, and Chicago had 54 per cent of the total reserve bank capital, while six banks had only 32 per cent of the capital. Only three districts can be regarded as well constructed, Boston, New York, and San Francisco.

A majority of the first Federal Reserve Board, four out of the five appointive members, were fully aware of the mistakes made in districting the country. A committee consisting of F. A. Delano, W. P. G. Harding, and Paul M. Warburg, was appointed to study the problem of redistricting. This group was aware of the fact that any effective revision

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[32] Location of Reserve Districts in the United States, Letter from Reserve Bank Organization Committee transmitting briefs and arguments presented to organization committee, Senate Document No. 485, 63rd Cong., 2nd Sess.

of the districts had to be done before much time elapsed, and that it would necessarily mean some consolidation of districts, and thus a reduction in the number of reserve banks. Despite the fact that a majority of the Board favored revision there were two serious difficulties in the way of any major change in the districts. In the first place, two members of the Organization Committee were members of the Board, Secretary of the Treasury McAdoo, and Comptroller of the Currency Williams. Secretary McAdoo was, of course, chairman of the Board. It was only to be expected that these men would resent and oppose any considerable changes in the districts. As a second difficulty the members of the Board who favored redistricting, particularly Warburg, were on record as having favored either the Aldrich Plan or a much smaller number of banks than was eventually provided.

It was quite clear that any attempt on the part of this group to consolidate or reduce the number of districts would immediately be labelled an invidious effort finally to accomplish the objective of the Aldrich Plan, a single central bank. Knowing that the revisionist group could muster a majority should the matter come to a vote by the Board, Secretary McAdoo and Governor Hamlin forestalled any effort at revision by securing an opinion from the Attorney-General, dated November 22, 1915, stating that the Federal Reserve Board was without power to abolish any reserve district or reserve bank.[33]

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[33]The story of this redistricting episode can be followed in Warburg, Paul M., The Federal Reserve System, Vol. 1, pp.

The language of the Act on this point was not clear and there was considerable difference of opinion regarding it. This opinion, together with a later opinion of April 14, 1916 to the effect that the Board had no power to change the location of any reserve bank, prevented any further effort to make extensive modifications in the district outlines.

An opinion of an A ttorney General is not, of course, conclusive as to the proper interpretation of a statute. In view of the importance of the whole districting question and the need for altering and consolidating the districts that may arise in the future, it is important to note that this is not a settled question. Of course, any consolidation of the

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424-55, and Willis, H. Parker, op. cit., pp. 726-36. The two opinions rendered by the Attorney General as to the power of the Federal Reserve Board to consolidate any of the districts and, therefore, reduce the number of banks, or to change the location of any federal reserve city can be found in the Federal Reserve Bulletin, Dec., 1915, pp. 396-400, and in the Annual Report of the Federal Reserve Board, 1916, pp. 128-133. Willis includes in an Appendix what is entitled the opinion of the Attorney General of April 14, 1916, Willis, pp. 758-769. Actually what is presented here is a combination of the two opinions rendered by the Attorney General. This combination of the two opinions as a statement of the opinion of April 14, 1916 gives certain erroneous implications. Warburg in his discussion of the controversy defends both the motives of the revisionist group and the merits of the proposal to redistrict the Federal Reserve System. Willis questions the motives of those members of the Board who advocated redistricting, implying in his argument that the real intent was to secure in the end a single central bank. An examination of the evidence on both sides of this controversy does not support the implications made by Willis. It seems rather clear that the Warburg group was quite sincere in their belief that the districts ought to be reconstructed in such a way as to rectify the principal mistakes made by the Organization Committee. It is also clear that this group was sincere in believing that the Federal Reserve Board had been given the power to review the decision of the Organization Committee.

districts would be attended by many difficulties now that so much time has elapsed, but certain possible developments in the future may make changes essential. The provision of the statute in controversy is as follows:

> "The determination of said Organization Committee shall not be subject to review except by the Federal Reserve Board when organized; Provided, That the districts shall be apportioned with due regard to the convenience and customary course of business and shall not necessarily be coterminous with any State or States. The districts thus created may be readjusted and new districts may from time to time be created by the Federal Reserve Board, not to exceed 12 in all."[34]

A reasonable interpretation based on the spirit and intent rather than the letter of the statute would indicate that the Board had been given the power to review the decision of the Organization Committee, and that such changes, including a consolidation of some districts, were within the power of the Board as would serve to enable it to effectively carry out its policies, and to accomplish the objectives of the Act. The burden of the argument of the Attorney General rested upon a strict interpretation of the statute. He held, citing the decision of the Supreme Court in Interstate Commerce Commission versus Cincinnati, New Orleans & Texas Pacific Railway Co. (167 U.S. 479), (1897) that the power to consolidate districts was not expressly given, and could not be implied from the words of the statute.[35] He argued that a power not expressly conferred could arise as an incident to

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[34]The Federal Reserve Act, Sec. 2, Par. 1.

[35]Opinion of T. W. Gregory, Attorney General of the United States, The Federal Reserve Bulletin, December 1915, p. 398.

the exercise of some other power only because essential to the exercise of the one granted, or because it might be included as a lesser power of a like nature. The power to consolidate or abolish districts he did not think essential to the exercise of the power to readjust districts, or a lesser one than the power to readjust districts. A realistic examination, however, of this problem indicates that it was really necessary to have the power to consolidate districts, or change the location of reserve cities if any effective readjustment was to be made. It was this limitation that prevented the Board from making any other than minor changes in the several reserve districts.

The Board's committee on redistricting in a report on November 17, 1915, recommended that the System would be greatly strengthened by consolidating the twelve banks into either eight or nine banks. Certain statements made in this report are worth noting:

> "Observation of the actual working of the Federal Reserve Banking System and of the factors that make for strength and for weakness, has satisfied your Committee that there is a limit in the present circumstances of the country, beyond which decentralization may defeat its purpose without making for independence. ......To achieve the purposes of the Act the component units of the Federal Reserve System must be strong enough in themselves to be effective, large enough to command respect, and active enough to exert a continuous and decisive influence in the banking affairs of the district. This means that in the less well developed and settled parts of the country a well constructed district must embrace a territory sufficiently wide in extent and diversified in its interests to give balance to its banking situation, and not too much tied up to a single crop or line of industry, and that every district should be free from any suggestion of sectionalism.......Of the twelve

> Federal reserve banks one half may be said to be strong and the other weak. The remedy for this situation, in the opinion of your Committee, is such a readjustment of the districts as will leave us with perhaps eight or nine districts, all of adequate extent and banking power and each able to support a strong and active regional center."[36]

However, the revisionist group was accused at that time and since of attempting to establish a single central bank. Looking at this matter from the viewpoint of effective governmental administration, it was unfortunate that two of the three members of the Organization Committee should have been made members of the Board, as it prevented practically any appeal from or check on the decision of the Organization Committee in a matter of great importance to the whole banking structure of the country.

Regional control reserve banking has not developed in the United States as the framers of the Federal Reserve Act intended. There were, of course, many difficulties in accomplishing this, some more serious than others. It is not possible to conclude that had the districts been arranged more satisfactorily such regional control would have resulted. It is clear, however, that the district arrangements which prevailed would have made the realization of this objective extremely difficult even had other problems not existed. The contrast between the large, well-diversified, well-balanced San Francisco district and some of the small, one-crop, politically-shaped southern districts is a striking one.

One objective of the St. Louis bankers as they

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[36]Revised Report of the Federal Reserve Board Committee on Redistricting, Nov. 17, 1914, Warburg, <u>op. cit</u>., pp. 767-74.

attempted to construct a St. Louis district had been the creation of a strong foreign exchange market that could sell exports in dollars. Festus J. Wade had remarked in a letter to the Organization Committee,

> "We are in the very center of territory which annually creates fully 50 per cent of our foreign exports from the farm plantation, mine and factory, and while it is true heretofore nearly all foreign exchange transactions gravitated to the east, because of the concentration of capital, under the new law, St. Louis can, and I am sure will, develop a business in foreign exchange bills that will rank second in the list of the eight regional banks, if you give us a reserve bank and the territory we suggest."[37]

The partitioning of the suggested territory among four reserve districts made the attainment of this objective impossible, as later experience has demonstrated.

The problem in the Eighth District, as it was finally constructed, was not lack of diversification. It included territory in which there was manufacturing and banking capital as well as agriculture. The agricultural territory itself was also highly diversified, including a wide range of agricultural activities. The problem was rather the size of the district, and the fact that territory logically related and dependent on St. Louis was not included. Established financial relationships were interrupted. In order to have developed a number of the logical objectives of central banking in this area it was necessary that a large and more integrated district be provided.

On May 11, 1914, the Organization Committee designated five banks, the German National Bank, of Little Rock,

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[37]Exhibits and letters submitted at hearings. (St. Louis)

Arkansas, the Ayers National Bank, of Jacksonville, Illinois, the Second National Bank, of New Albany, Indiana, the National Bank of Kentucky, Louisville, and the First National Bank, of Memphis, to execute the organization certificate.[38] Representatives of these banks met in St. Louis on May 18th to sign the certificate, transmitted it to the Comptroller, and the Federal Reserve Bank of St. Louis became a body corporate.

The nine members of the board of directors were divided into three groups, designated A, B, and C, according to the provisions of Section 4 of the Act. Class A directors were to be primarily representatives of the stockholding banks. Class B directors were required to be, at the time of their election, "actively engaged in their district in commerce, agriculture, or some other industrial pursuit." The member banks in each district were divided into three groups according to size, and the banks in each group were entitled to elect one Class A director and one Class B director. Each member bank was required to select, at a meeting of its board of directors, a district Reserve elector, to cast the vote of the bank. Class C directors were to be appointed by the Federal Reserve Board, one of which was to be designated as chairman of the board of directors. No Class C director could be an officer, director, employee, or stockholder of any bank, although the one designated as

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[38] Annual Report of the Federal Reserve Bank of St. Louis, Dec. 31, 1915, p. 5.

chairman of the board, and as Federal Reserve Agent, was required to be a man of "tested banking experience." The term of office for all directors was three years, arranged so that the term of one director of each class would terminate each year.

A convention of member banks of the Eighth District was held in St. Louis on June 4, 1914, at which the procedure for nominating directors of the bank was determined.[39] Festus J. Wade, temporary chairman, appointed a rules committee consisting of one member from each state in the district.[40] This committee reported rules providing that no proxy votes should be taken, and that each group of banks should meet separately and nominate two directors to represent each group. A vigorous protest was made that this would give St. Louis bankers control of the convention since they had more delegates present. However, a motion that a representative from each state cast a vote for all member banks of that state was defeated by a vote of 88 to 63. Walker Hill, president of the Mechanics-American National Bank, of St. Louis, and Murray Carleton of the Ferguson, Carleton Dry Goods Co., St. Louis, were selected as nominees by member banks of Group 1. F. O. Watts, president of the Third National Bank, of St. Louis, and W. B. Plunkett, president of the Plunkett-Jarrell Grocery Co., of Little Rock, were nominated by rep-

[39]Section 4 of the Federal Reserve Act provided that the board of each member bank should nominate one candidate for Class A and one candidate for Class B directorship.

[40]St. Louis Post-Dispatch, June 5, 1914.

resentatives of Group 2. Group 3 selected Oscar Fenley, president of the National Bank of Kentucky, Louisville, and former United States Senator LeRoy Percy, of Greenville, Mississippi. As only one nominee was selected for each of the places on the board of directors at the St. Louis meeting the election was merely a formality. All those nominated were elected by the preferential ballots sent out by the Organization Committee.

The Federal Reserve Board announced on September 30, 1914 the three Class C directors.[41] William McC. Martin was appointed Federal Reserve Agent and chairman of the board, W. W. Smith was made deputy Federal Reserve Agent and vice-chairman of the board, and John W. Boehne, of Evansville, Indiana, was selected as the remaining Class C. director.[42]

The member banks of the Eighth District were at first classified into groups consisting of an equal number

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[41] First Annual Report of the Federal Reserve Bank of St. Louis, 1915, p. 5.

[42] The first board of directors consisted of the following men:

Class A.

Frank O. Watts, term expiring one year from Jan. 1, 1915.
Oscar Fenley, term expiring two years from Jan. 1, 1915.
Walker Hill, term expiring three years from Jan. 1, 1915.

Class B.

Murray Carleton, term expiring one year from Jan. 1, 1915.
W. B. Plunkett, term expiring two years from Jan. 1, 1915.
Le Roy Percy, term expiring three years from Jan. 1, 1915.

Class C.

William McC. Martin, term expiring one year from Jan. 1, 1915.
Walter W. Smith, term expiring two years from Jan. 1, 1915.
John W. Boehne, term expiring three years from Jan. 1, 1915.

of banks as follows:

	No. of Banks	Aggregate capital and surplus of each member bank
Group No. 1	151	$100,000 or more
Group No. 2	151	Less than $100,000, but more than $50,000
Group No. 3	151	$50,000 or less

As the result of an amendment to paragraph 16 of Section 4 of the Act of September 26, 1918, the Federal Reserve Board re-classified the banks for voting purposes. This change was designed to give more equal representation to the stockholding banks on the basis of banking capital. The Eighth District member banks were grouped as follows in 1918:[43]

	No. of Banks	Aggregate capital and surplus of each member bank
Group No. 1	34	In excess of $599,000
Group No. 2	168	$100,000 to $599,000
Group No. 3	307	Below $100,000

This classification has remained unchanged since 1918 except for the number of banks in each group.

The Act did not originally require that the member banks in each group elect Class A directors from men associated with banks assigned to their own group. One of the original directors, Frank O. Watts, was elected by the banks in Group 2, although he was president of the Third National Bank, which was assigned to Group 1. An amendment of September 26, 1918, provided as follows: "No officer or director of a mem-

[43] Annual Report of the Federal Reserve Board, 1918, p. 80.

ber bank shall be eligible to serve as a Class A director unless nominated and elected by banks which are members of the same group as the member bank of which he is an officer or director."[44] As a result a Group 2 banker, J. C. Utterback, of Paducah, Kentucky, was elected to succeed Mr. Watts in December, 1918.

The first regular meeting of the board of directors was held on October 28, 1914, in the board room of the Mississippi Valley Trust Co., St. Louis, three days after the Secretary of the Treasury had announced that he intended to open all the Reserve Banks on November 16, 1914.[45] At this meeting a corporate seal and by-laws were adopted, and the following officers were elected: Hon. Rolla Wells, governor; William W. Hoxton, deputy governor and secretary; C. E. French, cashier. Arrangements were made for a vault with the Mississippi Valley Trust Company in order to store the gold being received in payment of the first installment of capital stock. Temporary quarters were secured on the fourth floor of the Boatmen's Bank Building, located on the northeast corner of Olive Street and Broadway. On November 16, 1914, the Federal Reserve Bank of St. Louis opened its doors for business with a staff which consisted of six officers and seventeen other employees.

The Organization Committee in its proposed by-laws had suggested an executive committee of three members of the

[44] The Federal Reserve Act, Sec. 4, paragraph 17.

[45] First Annual Report of the Federal Reserve Bank of St. Louis, 1915, pp. 6, 7.

board, but the by-laws adopted at the first meeting provided for an executive committee consisting of the governor, Federal Reserve agent, and three directors chosen from Classes A and B. Besides the governor and Federal Reserve Agent, Walker Hill, F. O. Watts, and Murray Carleton were elected to serve on the first executive committee. Shortly after the bank was organized this committee was given the power to fix the discount rates.[46]

Eight days after the opening of the Bank it inaugurated limited clearing facilities. On December 4, 1914, the clearing facilities were extended, and the Bank offered to collect for member banks checks and drafts drawn on all member banks in this district and checks and drafts on other Federal Reserve Banks.[47] However, due to the lack of a development of a check clearing system outside of the Eighth District, the St. Louis Bank was soon forced, on December 18, 1914, to refuse to accept for collection checks drawn on member banks in the district bearing the endorsement of banks located in cities outside the district. The collection system established by the Bank in the Eighth District was at first mandatory on all member banks. Ten of the other Federal Reserve Banks, however, started their collection system on a voluntary basis. In order to place the banks of the St. Louis district on the same basis as the banks of other districts membership in the clearing system was made optional after

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[46] Ibid., p. 8.
[47] Ibid., pp. 12, 13.

May 17, 1915. At that time about twenty per cent of the member banks withdrew.

A rediscount rate of 6 per cent for paper of all maturities was established on the opening day. The first offering of paper, amounting to $1,000,000, was received two days after the bank opened. By January, 1915, lower rates for paper of shorter maturities were established, a 4½ per cent rate being announced for paper maturing within 30 days.[48] By September the rate had been reduced to 4 per cent for 30, 60, and 90 day paper. Also in September preferential rates were established for 10 day paper, commodity paper, and trade acceptances. Thus a system of differential rates of rediscount for different kinds and maturities of paper was established that prevailed for a number of years.

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[48] Ibid., pp. 8, 9.

CHAPTER III

ORGANIZATION AND ADMINISTRATION

The Establishment of Branches

It may be noted from the discussion in the previous chapter that both the Preliminary Committee and the Reserve Bank Organization Committee sidestepped the question of branches. The Preliminary Committee said in its report,

> "There is, however, no purpose to be served in attempting a very careful process of sub-districting until the districts themselves have been organized so that what is said in this discussion has been confined entirely to the districts themselves without effort at the detailed study of the sub-district question. ***** Care and judgment should be exercised even in establishing branches on the first named basis and they should not be created unless they are actually needed for immediate purposes. Even in the latter event, there should be no undue haste in creating them, but the headquarters banks should be allowed to get a satisfactory start before the complicating elements involved in branch organization are allowed to enter into the problem."[1]

Nevertheless, the problem of branch banks was one intimately connected with the number of reserve banks to be established, the size of districts, and the convenience of the facilities of the Reserve System to all parts of each district. There were many who believed that the districts should be large, but that the territory should be served by the establishment of numbers of branches.

The Federal Reserve Act as originally written had

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[1]Report of Preliminary Committee on Organization, Confidential No. 49, pp. 40-42.

provided that:

> Each Federal Reserve bank shall establish branch banks within the Federal Reserve District in which it is located and may do so in the district of any Federal Reserve bank which may have been suspended. Such branches shall be operated by a board of directors under rules and regulations approved by the Federal Reserve Board. Directors of branch banks shall possess the same qualifications as the directors of the Federal Reserve banks. Four of said directors shall be selected by the Reserve bank and three by the Federal Reserve Board and they shall hold office during the pleasure respectively of the parent bank and the Federal Reserve Board. The Reserve bank shall designate one of the directors as manager.[2]

The first branch bank was established at New Orleans, the Federal Reserve Bank of Atlanta having petitioned the Board for approval of the establishment of a branch in that city. This branch institution opened its doors for business on September 10, 1915 as a full-fledged branch bank, having as its sub-district the parts of Louisiana and Mississippi that were included in the Atlanta district, and two counties in Alabama. Undoubtedly, the Atlanta Bank was only too willing that a branch be established at New Orleans in order to appease the dissatisfied banking interests of that city. The Federal Reserve Board, however, regarded the New Orleans branch as experimental. During the year 1916 the gross earnings of this branch were $62,052, and the total expenses of operation $28,645, leaving a net profit of $33,407.

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[2]Section 3 of the original <u>Federal Reserve Act.</u> The language of this section was not clear. Whether the Board had any other function than approving rules and regulations for the operation of branches could not be determined from this language.

This profit represented a return of 7.5 per cent on its capital of $445,000, theoretically allotted to the branch bank. The Board remarked as to these results,

> "It is, however, reasonable to assume that much of this profit would have accrued to the Federal Reserve Bank of Atlanta had there been no branch at New Orleans, as only $13,871 were derived from local discount operations. In view of the experience gained from the operation of the one branch bank in the entire system, it would seem wise, in considering the establishment of other branches, to take into account whether there is an actual need for them--immediate or prospective--growing out of the added convenience to the member banks which would naturally fall within the territory allotted to the branch, or whether the application for a branch is primarily a manifestation of local civic pride."[3]

In its report for the year 1915 the Board suggested as an alternative to the expensive, fully-equipped branch bank, the establishment of offices or agencies to perform certain services where it would be of particular value to the member banks. In accordance with this recommendation the St. Louis Bank opened an agency in Memphis on September 25, 1916, to handle cotton paper during the crop-moving season.[4] Notes, trade acceptances, and bank acceptances, secured by warehouse receipts issued by the Memphis Terminal Corporation, were discounted for member banks and the collateral held by the agent of the Bank in Memphis. Substitutions of one receipt for another were thus permitted without delay and inconvenience. The paper for rediscount was sent direct to

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[3] Annual Report of the Federal Reserve Board, 1916, p. 15.

[4] Annual Report of the Federal Reserve Bank of St. Louis, 1916, p. 13

the St. Louis Bank, but the warehouse receipts were held in Memphis. From the time of the opening of the agency until December 30, 1916, paper to the amount of $1,640,000 was rediscounted the cotton warehouse receipts for which were held in Memphis. The success of this experiment led to its continuance the following year during the cotton season, which lasted from about the beginning of October until February.[5]

The branch problem soon came up in the St. Louis district. On July 5, 1916 the member banks of Louisville sent a petition to the board of directors of the St. Louis Reserve Bank, asked for the establishment of a branch of the Bank at Louisville, and requested a hearing.[6] The hearing was held on September 20, 1916, in St. Louis, at which time a committee from Louisville, headed by Embry L. Swearingen, president of the First National Bank of Louisville, presented arguments for the establishment of a branch in that city. No decision on the petition was made by the board of the St. Louis Bank, but a conference was called to meet on December 21, 1916, with the Federal Reserve Board in Washington.

The Federal Reserve Board had as yet adopted no policy with regard to the establishment of branches. In fact, the Board had no clear idea as to what authority it had in this connection, except to lay down rules and regulations for the operation of branches. Section 3 of the Act was not clear as to whether the Board might authorize the establish-

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[5]<u>Ibid.</u>, 1917, p. 14.
[6]<u>Ibid.</u>, 1916, p. 13.

ment of a branch except upon the initiative of a Federal Reserve Bank. The Louisville petition was the first one received by the Board after the opening of the first branch bank at New Orleans. The Louisville hearings are, therefore, interesting as to the attitude and policy of the Board at this time.

On the day before the hearing in Washington the board of directors of the St. Louis Bank passed a resolution opposing the creation of a branch at Louisville:

> Whereas, the question of the establishment, of branch banks is one of broad general policy, and this board has been giving the question of the establishment of a branch bank in this district its careful consideration, and
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> Whereas, at the recent conference of Federal Reserve Agents the opinion was expressed that branches were not needed at the present time and, therefore, should not be established, and
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> Whereas, at the recent conference of Governors the opinion was also expressed that branches were not needed at the present time and that all the needs of member banks could be adequately cared for by agencies and that, therefore, at the present time branches should not be established, and
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> Whereas, the experience of the Federal Reserve Bank of St. Louis in Memphis has been that the rediscounts of member banks located in that city can be passed on so promptly as to give entire satisfaction to member banks and that, through an agency, the present needs of member banks can be adequately cared for, and
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> Whereas, a conference has been called on the subject of establishing a branch bank at Louisville,
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> Therefore, Be It Resolved, that the Chairman of this Board be appointed to represent this bank at that conference and that he be instructed to present to the conference, as to the judgment of the members of this Board, that, at the present time, conditions do not warrant the establishment of a branch bank in this district, though final action on the proposal be postponed until after a

report has been received from the said conference.[7]

Louisville interests presented at the hearing before the Board four main arguments in support of their petition for a branch bank. First, it was asserted that much of the paper originating in the Louisville area was of a peculiar nature, whiskey and tobacco paper. A local board in Louisville would be much better prepared to pass on such paper for rediscount, as the local bankers were thoroughly familiar with it. Second, they stated that bank balances were being diverted from Louisville banks to St. Louis banks as the result of pressure exerted on member banks in western Kentucky. Instances were cited in which representatives of St. Louis banks had solicited business in the Louisville territory by asserting that these banks could better represent them because of their location in St. Louis, that they could get better service from the Reserve Bank by "having a friend in court". Third, it was alleged that Louisville bankers found it necessary to keep larger balances with St. Louis banks, and with the Federal Reserve Bank, than should be required. In order to put themselves on an equal basis with St. Louis banks, Louisville bankers were required to keep excess reserves with the Federal Reserve Bank for the purpose of obtaining immediate credit for drafts drawn on Louisville banks in favor of the Federal Reserve Bank. Finally, the Louisville bankers

[7]Resolution passed by the Board of Directors, St. Louis Reserve Bank, on December 20, 1916. Introduced by William McC. Martin in the hearing on the petition of Louisville bankers.

offered to guarantee the expenses of a branch bank so that it would not be a detriment to the Reserve Bank. It was suggested that Louisville be assigned a district containing 85 member banks in western Kentucky and southern Indiana, which would provide a capital of $502,006, and reserve deposits of $2,072,191. It was also stated that a working agreement with the Louisville Clearing House would make the expenses of the branch reasonable.[8]

There was some evidence that dissatisfaction with districting arrangements played an important part in the desire for a branch bank. Representative Sherley, of Kentucky, remarked during the hearing, "We feel our state has just been arbitrarily cut in two, for there is no possible combination that could have been as unfortunate for Louisville as the one she drew in the lottery of division of districts."[9] It will be remembered that there was evidence that Louisville preferred to be included along with the rest of Kentucky in a district in which Cincinnati was the reserve center. There was indicated in the hearing a belief by Louisville interests that Indiana and Kentucky were not adequately represented on the board of directors of the St. Louis Reserve Bank.

William McC. Martin, chairman of the board of the St. Louis Reserve Bank, made an answer to certain of the

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[8]Hearing before Federal Reserve Board on behalf of City of Louisville petitioning for a branch Federal Reserve Bank of the St. Louis Reserve district, Washington, Dec. 21, 1916. These are stenographic minutes. Material for all this discussion of the Louisville claims was taken from these minutes.

[9]*Ibid.*, p. 46.

Louisville arguments. He introduced evidence showing that only 12 out of 59 member banks in Kentucky, excluding Louisville, had deposits in St. Louis banks amounting to only $96,115, while 45 of these banks had deposits in Louisville amounting to over $1,000,000. As to the argument that Louisville banks were required to keep excess reserves with the Reserve Bank, Martin produced the following figures as to required and actual reserves:

	St. Louis banks	Louisville banks	All other banks
Required reserves	$11,014,000	$1,882,000	$9,228,000
Actual reserves	13,085,000	1,924,000	10,000,000

Martin stated the position of the Reserve Bank by making several points. First, the establishment of an agency in Louisville would provide every clearing facility that was needed or wanted. Second, the experience gained at Memphis indicated that paper for rediscount could be passed on so promptly as to make unnecessary any local board for that purpose. Third, while the System was only two years old he did not think it desirable to establish a branch to create business that did not already exist. Louisville had contended that a branch bank could create much additional business.

Paul M. Warburg presided at the hearing in the absence of Governor Harding of the Board. The members of the Board agreed that the issue was whether any branches should be established at this time, that a number of cities had legitimate claims, but that if one branch was established in Louisville a number of other cities would also have to be given the same privilege. They stated their belief that the System needed more financial strength before branches were instituted, as all the Reserve Banks were having difficulty meeting expenses and dividends. Warburg remarked informally regarding the St. Louis situation,

> "St. Louis is far away from earning its dividend. What St. Louis and other banks are doing--they are living on nothing. The local business is practically only ten per cent of the business they are doing. They have invested some money in government bonds--that is not local business. The rest they are getting through New York. In order to keep St. Louis going there is not enough local business to earn a fraction of the dividend or the running expenses of St. Louis. And, still, you come to us and say in the district which is perhaps the poorest outside of California, we should go ahead and open a branch, and if we do it there, we are increasing the charges."[10]

Warburg objected strongly to the proposal of the Louisville bankers that they guarantee the expenses of the branch. He pointed out that forcing business to sustain a branch at Louisville would limit the power of the Reserve Bank to control credit. It is well known that Warburg believed that a central bank could not properly perform its functions if it was guided by a desire for profits. Several times during the early years of the Federal Reserve System he publicly urged the Reserve Banks not to attempt to earn their dividends by encouraging or stimulating a demand for credit.[11]

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[10] _Ibid._, pp. 60-61.

[11] One of these occasions was on October 22, 1915, in a speech to the Conference of Governors at Minneapolis. He remarked in part, "Earning capacity must never be considered the test of the efficiency of Federal Reserve Banks. Personally I should have felt heartily ashamed had all our banks,

To the Louisville complaint of losing balances, F. A. Delano, a member of the Board, replied that all banks were losing balances as reserves were being transferred to the Reserve Banks, that the law intended that small banks should be freed from the necessity of keeping idle balances with city banks. The bankers of Louisville had contended that the intent of the Act was decentralization, and that the establishment of branches would contribute to that end. Warburg replied briefly to this, "You do not decentralize by having 500 centers -- there you have none at all."[12]

Further evidence that the Board was not convinced of the desirability of branches at this time is a remark made by Delano regarding the New Orleans bank,

> "We established a branch in New Orleans for a year. That branch was a pretty heavy drag on the Atlanta Bank. Even now, though it is contributing to the Atlanta Bank, the Atlanta Federal Reserve Bank considers that it could do everything that it does with that branch, if it had a good agent on the spot with telephone communication with the parent bank. So, with the night letter service, and all that, they could perform every function at an expense of perhaps one-third of what they are now spending."[13]

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considering the circumstances under which they began operations, earned their dividends in the past year. Such an earning, with all it implied, would have been proof that they had completely misunderstood their proper function and obligations. ....Unless in times of great ease of money Federal Reserve Banks withdraw the bulk of their money from actual employment, they can not possibly be prepared to have their funds available at the turn of the tide when their beneficial powers should make themselves felt." The Federal Reserve Bulletin, November, 1915.

[12]Hearing before the Federal Reserve Board on behalf of City of Louisville, op. cit., p. 81.

[13]Ibid., pp. 64-65.

The hearing closed after Louisville was given an assurance that eventually a branch bank would be established there, but that no definite time could be fixed as to the development of conditions sufficient to warrant it. Warburg stated that a development of business in bankers' acceptances would bring a need for branches, citing the fact that New Orleans and Memphis banks had been buying acceptances against cotton. So, for the time, the problem of branches in the Eighth District was dropped.

In June, 1917, the Federal Reserve Act was amended to clarify the provisions regarding the establishment of branches. Section 3 originally provided that each Federal Reserve Bank "shall establish branch banks" to be "operated by a board of directors under rules and regulations approved by the Federal Reserve Board."[14] The Section, as amended, provides that the Federal Reserve Board "may permit or require" any Federal Reserve Bank to establish branches within its district, and that such branches, subject to such rules and regulations as the Federal Reserve Board may prescribe, shall be operated under the supervision of a board of directors to consist of not more than seven or less than three directors, of whom a majority of one shall be appointed by the Federal Reserve Bank of the district and the remaining directors by the Federal Reserve Board.[15]

In April, 1917, the United States entered the great

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[14]Annual Report of the Federal Reserve Board, 1917, pp. 24-25.

[15]The Federal Reserve Act, Sec. 3, paragraph 1.

European conflict. The most important function of the Federal Reserve System became that of fiscal agent to the government. The System was mobilized, as were other American institutions, to aid and direct the financing of American participation in the war. In this new situation the services which branch banks could perform became more important. There is also evidence that the Board regarded the discussion in connection with the amendment of June, 1917, as something of a mandate to approve the establishment of additional branches. The Board authorized during 1917 branches at Omaha, Louisville, Portland, Seattle, Spokane, Pittsburgh, Cincinnati, Detroit, Baltimore, and Denver.[16] All these branches did not begin operation in 1917, only the ones at Louisville, Omaha, Portland, Seattle, and Spokane having been opened for business by the end of that year.

On July 3, 1917, the board of directors of the Federal Reserve Bank of St. Louis granted a petition for a branch bank at Louisville, which was approved by the Federal Reserve Board. It was decided to create a board of five directors for the new bank, the Act then permitting a board of three, five, or seven.[17] The St. Louis Bank elected three directors, and the Board appointed two directors.[18] The

[16] Annual Report of the Federal Reserve Board, 1917, p. 25

[17] The amended section provided for a board of directors of three to seven members, but the fact that the Reserve Bank was authorized to appoint a majority of one made it necessary to create a board of three, five, or seven members.

[18] The directors making up the first board were: George W. Norton, director of the National Bank of Commerce, Louisville,

territory assigned the new branch consisted of all that part of Kentucky in the Eighth District, and thirteen counties in Indiana.[19] The bank opened for business on December 3, 1917.

On June 5, 1918, the St. Louis Bank granted a petition for a branch bank at Memphis, which was later approved by the Federal Reserve Board. The committee appointed to consider the application of Memphis, which consisted of William McC. Martin, W. W. Hoxton, and J. G. McConkey, rendered a report giving three reasons for recommending favorable action on the petition.[20] First, the committee noted the useful services performed by the agency at Memphis instituted to handle cotton warehouse receipts. This agency had been in operation during two cotton seasons, and had undoubtedly played a part in encouraging state banks to enter the System. Practically all the eligible state banks in Memphis had by this time become members of the System. Second, the committee thought that facilities for clearing checks would be of

W. C. Montgomery, vice-pres. of the First-Hardin National Bank, Elizabeth, Ky., W. P. Kincheloe, a national bank examiner of Louisville, F. M. Sackett, pres. of the Louisville Board of Trade, and Charles E. Hoge, pres. of the First State National Bank, Frankfort, Ky. Kincheloe became Manager.

[19] The territory assigned Louisville as of March 1, 1938 consisted of that part of Kentucky in the 8th District, except the town of Morganfield, and the following counties in Indiana: Clark, Crawford, Dubois, Floyd, Harrison, Jackson, Jefferson, Lawrence, Martin, Orange, Perry, Scott, Switzerland, and Washington.

[20] Report of the Committee of the Federal Reserve Bank of St. Louis on the Application of Memphis, Tenn., for a branch bank. This report is contained in the files of minutes of the Board of Governors of the Federal Reserve System.

advantage to the Memphis banks in that they should reduce float and add additional par points. It was also pointed out that the branch should be able to reduce expense in the handling of coin in this territory. The third reason was one that involved Arkansas banking law. The Arkansas banking statutes required that banks carrying reserves for Arkansas banks had to keep an 8 per cent cash reserve in their vaults. The Bank Commissioner had ruled, however, that in cities where there was a Federal Reserve bank or branch, deposits with such Reserve banks would be considered as equivalent to cash in the vault. As the banks in Memphis held considerable reserves for Arkansas banks, the establishment of a branch would relieve them from the necessity of holding this 8 per cent vault reserve. The committee concluded its report by indicating that for the four and one-half month period, December 1, 1917 to April 15, 1918, the revenue from rediscounts of Memphis banks had been $69,669. As the estimated expenses of operation of a Memphis branch, including dividend requirements, for that period were $22,648, a net gain of $47,201 would have resulted. The committee thought that the added benefits that would accrue to Memphis banks might offset the increased costs of operation.

The Memphis branch opened for business on September 2, 1918.[21] The St. Louis Bank elected three directors,

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[21] Annual Report of the Federal Reserve Bank of St. Louis, 1918, p. 22.

and the Federal Reserve Board appointed two directors.[22] John J. Heflin became the first manager of the Memphis branch. The territory now assigned to the Memphis bank includes those parts of Mississippi and Tennessee in the Eighth District, and 10 counties in Arkansas.[23]

Shortly after the decision on the Memphis branch bank, on June 19, 1918, a petition to establish a branch bank in Little Rock was granted.[24] The St. Louis Bank elected three directors, and the Board appointed two directors,[25] John M. Davis became the first manager. The territory now assigned the Little Rock branch consists of the State of Arkansas with the exception of 24 counties.[26]

The war-time expansion in credit provided earnings for the new branches which far exceeded the estimates made

[22]The first board of the Memphis branch bank consisted of the following: John J. Heflin, J. D. McDowell, R. B. Snowden, T. K. Riddick, and S. E. Ragland.

[23]As of March 1, 1938, the territory of the Memphis branch consisted of that part of Mississippi in the District, that part of Tennessee in the District with the exception of Union City and Paris, and the following counties in Arkansas: Craighead, Crittenden, Cross, Lawrence, Lee, Mississippi, Phillips, Poinsett, St. Francis, and Woodruff.

[24]Annual Report of the Federal Reserve Bank of St. Louis, 1918. pp. 22, 23.

[25]The first board of the Little Rock branch bank consisted of the following: John M. Davis, Edward Cornish, W. L. Hemingway, Moorehead Wright, and George W. Rogers.

[26]As of March 1, 1938, the territory of the Little Rock branch consisted of all of the State of Arkansas except the following counties: Baxter, Benton, Boone, Carroll, Clay, Craighead, Crawford, Crittenden, Cross, Fulton, Greene, Lawrence, Lee, Madison, Marion, Mississippi, Phillips, Poinsett, Randolph, St. Francis, Sebastian, Sharp, Washington, Woodruff. The following towns are also excluded: DeValls Bluff (assigned to Memphis), Mena, and Newport.

before they were established. For the first full year of its operation, 1918, the gross earnings of the Louisville branch amounted to $166,666, the expenses were $61,841, and the net earnings, $104,825.[27] During the year the Louisville branch had discounted for member banks paper amounting to $83,438,291, and had purchased $804,907 of bankers' acceptances. The Memphis bank was in operation only four months by the end of 1918, but its earnings amounted to $155,974. Net earnings of $87,634 were left after the deduction of expenses of $68,340. During the four-month period the branch discounted $71,166,365 of paper, and purchased $820,489 of bankers' acceptances. All three branches were in operation during the whole of the year 1919, the Little Rock branch having been opened on January 6, 1919. The volume of operations and earnings increased considerably over those of 1918. Table 22 gives a comparison of the operations of the three branches during 1919. At the end of this year 95 banks were assigned to the Louisville branch, 42 banks to the Memphis branch, and 57 banks to the Little Rock branch.

Two types of branches have been established by the Federal Reserve banks. Those established at Cincinnati, Pittsburgh, Birmingham, Jacksonville, Nashville and Oklahoma City do not discount paper, but confine their operations to the clearing and collection of checks, and to supplying

[27]Annual Report of the Federal Reserve Bank of St. Louis, 1919, pp. 15-18.

Table 22

Volume of the Different Classes of Paper Discounted for Member Banks by the Federal Reserve Bank of St. Louis and its Branches, 1919*

(Thousands of dollars)

	St. Louis Parent	Louisville Branch	Memphis Branch	Little Rock Branch
Member banks' collateral notes secured by war obligations	$1,114,791	$ 431,383	$ 237,353	$ 78,637
Member banks' collateral notes otherwise secured	3,743	65	235	......
Customers' paper secured by Government war obligations	15,917	2,999	12,082	2,084
Agricultural and live stock paper	2,347	15	550	850
Trade Acceptances	2,717	807	2,140	2,282
Other discounts	111,009	31,217	33,935	12,473
Totals	$1,251,524	466,486	286,295	96,326

Bankers' Acceptances Purchased by Branches

By Louisville branch from members	By Memphis branch from members	By Little Rock branch from members
$1,074	275	3

* Annual Report of the Federal Reserve Bank of St. Louis, 1919, pp. 31-34.

currency to the member banks in the branch territory.[28] The other branches render practically the same services to the member banks assigned to them as does the parent bank. These branch banks carry the reserves of member banks on their books, discount paper for member banks, participate directly in inter-district clearing settlements, as well as perform the routine functions of supplying coin and currency, and collecting and clearing checks.

The branch banks of the Eighth District, Memphis, Louisville, and Little Rock, have as complete powers and functions as any of the branch banks in other districts. They discount paper for the member banks in the territory assigned them, although the directors of the parent bank must approve these discounts.[29] Reserves of member banks are carried on the books of the branch, and the routine functions of a Reserve bank, which include the clearing and collection of checks, and the supplying of currency, are also performed. The following services are also provided member banks in the branch territory: the transfer of funds, safe-keeping of

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[28] Annual Report of the Federal Reserve Board, 1920, p. 92.

[29] The term "discount", used here and in later discussions, refers to both discount and rediscount. The Reserve banks, of course, rediscount commercial paper and discount member bank notes. The procedure does not differ except in technical details. Particularly in recent years, member banks have generally preferred to borrow by means of discounting their own notes accompanied by collateral in the form of commercial paper or government securities. There are several reasons for this practice, the most important one being the greater simplicity and convenience of it.

securities, the purchase and sale of securities, and the collection of non-cash items. Each branch now has seven directors, four appointed by the parent bank and three appointed by the Board of Governors.[30]

The By-Laws that govern the Eighth District branches are practically identical for each branch. The four directors appointed by the St. Louis Bank may be persons experienced in banking or engaged in agriculture, industry, or commerce. The three directors appointed by the Board of Governors must be persons not actively engaged in banking, although they may be stockholders or directors of banks. All the directors must be persons whose financial and business interests are representative of the branch territory, and must reside within this branch territory. One of the directors appointed by the parent bank must reside outside the Reserve branch city.[31] The term of office for the Managing Directors is three years. No director who has served continuously for six years may be reappointed except after an interval of three years. The Managing Director, who is the active executive of the branch, is designated by the St. Louis Bank from the directors appointed by it, and serves a term of only one year; but he may be reappointed without limitation. The Chairman of the branch board is chosen by the branch directors from the three appointed by the Board of Governors.

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30 Report to Stockholders, Federal Reserve of St. Louis, for the year ended December 31, 1938, p. 7.

31 By-Laws Governing the Operations of the Louisville Branch of the Federal Reserve of St. Louis, as amended Jan. 21, 1939.

The board of directors of a branch bank may elect a Credit Committee, consisting of the Managing Director and not more than three other directors. This Committee meets at the call of the Managing Director whenever any credit matter arises concerning which he would like its advice in making recommendations to the parent bank. Immediate credit is given a member bank when paper is discounted, although the discount must be approved by the board of the parent bank. In practice, if the St. Louis Bank failed to approve a particular discount it would simply ask that different collateral be substituted by the member bank. In effect, credit is extended by the branch, but the credit policy is determined by the St. Louis Bank.

The operations of the branch banks are carried out under the direction and control of the St. Louis Bank. The territory served by the branch is that which may be assigned to it from time to time by the parent bank. The officers of the branch are chosen by the directors of the parent bank, and include the Managing Director, a Cashier, and an Assistant Cashier. The salaries of all officers and employees are fixed by the directors of the parent bank, and all expenditures are subject to their approval.

A large part of the work of the branches in recent years has been devoted to the performance of fiscal agency functions. The growth since 1930 of federal agencies and government corporations dealing with the economic life of the country has greatly increased the amount of work of the Federal Reserve System in its capacity as fiscal agent for the

Federal Government. While the parent bank handles the redemption, exchange, refunding, and issue of securities for the Treasury, the branch banks handle only the redemption of matured or called securities. Both the parent bank and the branches pay matured coupons on securities and treasury checks. The branches as well as the parent bank collect remittances and make payment for the Reconstruction Finance Corporation and related agencies, such as the Disaster Loan Corporation, the R.F.C. Mortgage Company, and the Federal National Mortgage Association. Considerable work is done for the Commodity Credit Corporation in the handling of loans on agricultural crops. The warehouse receipts for cotton and other crops are held by the branch or parent bank, delivered to the proper person if the borrower sells the commodity, and handled for the Corporation in case the cotton or other commodity is concentrated for sale by the Corporation. Among the other federal agencies for which both the parent bank and the branches perform services are the following: Home Loan Bank, Farm Credit Administration, Home Owner's Loan Corporation, United States Housing Authority, Federal Housing Administration, Federal Land Bank, Federal Intermediate Credit Bank, Public Works Administration, Collector of Internal Revenue, Joint-Stock Land Banks, Federal Farm Mortgage Corporation, Federal Deposit Insurance Corporation. The services rendered differ for the several agencies. They include the acceptance of deposits, the payment of checks, and the making of collections. The distribution of fiscal agency work between the parent bank and its branches is determined by the parent bank. In the case of the Reconstruction Finance Corporation, the Federal Home Loan Banks, and the Federal Intermediate Credit Banks, all the Federal Reserve banks and branches are required to make available to these institutions any records or other information they may have as to the condition of individuals or corporations who are applicants for loans, or whose obligations are offered to, or held by these institutions, and to make examinations for these agencies.[32]

There is a question as to whether the increased amount of fiscal agency work may have made the branch bank more essential than before. The work of the branches has been measurably increased as a result of the activities of new federal agencies. However, it appears that most of this work could be done as well by the parent bank. In some cases there is only a slight added convenience in the performance of fiscal agency work as a result of the location of branches in various parts of the District. In considering the establishment or elimination of a branch this is one of a number of factors which must be taken into account, but consideration should be given only to the added value of having such services performed by a branch rather than by the parent bank.

The policy with regard to the establishment and maintenance of branches cannot be decided solely with refer-

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[32] Sec. 8 of Reconstruction Finance Corporation Act, Jan. 22, 1932; Sec. 22 of Federal Home Loan Bank Act, July 22, 1932; Sec. 208e of Federal Farm Loan Act, June 3, 1935.

ence to costs and the profitableness of Reserve bank operation. Rather the value of the services which may be rendered by a branch bank to member banks, and to the Government, must be set against any increase in cost. If the value of the services is greater than the increased cost, the branch should be maintained. Conversely, if the cost of maintaining a branch exceeds the value of the services performed it should be eliminated.

Member banks located in Reserve bank or branch cities have some advantages that other member banks do not have. The recognition of this situation led the Board to authorize the Federal Reserve banks to pay charges on the shipment of currency to and from member banks.[33] As it is clearly impossible to establish branches in every case where some additional service may be performed for member banks, it has been the policy of the Board, and the St. Louis Bank, to adopt procedures which would place all banks on as equal a footing as possible in making use of the facilities of the Reserve System.

Administration

The management of the Bank is carried on under the supervision and control of its board of directors, subject to such supervision as is vested by law in the Board of Governors of the Federal Reserve System. In the first election nominees for the board of directors were selected at a con-

[33] For the purpose of discouraging the circulation of silver dollars the Bank does not pay the charges on the shipment of these coins to member banks.

vention held in St. Louis. Since that time the procedure for nominating and electing directors has followed that set forth in Section 4 of the Federal Reserve Act.

Every year two of three groups into which all member banks are divided elect one director each, either a Class A director or a Class B director. Each member bank is permitted to nominate one candidate, the nomination being made by resolution of the board of directors of the member bank. A list of the candidates together with a preferential ballot is mailed to each bank. The ballot is executed by an officer of the bank designated for that purpose, and must be cast within fifteen days after receipt. On the day set for the polls to close the ballot box is opened in the board room of the Federal Reserve Bank, the votes counted and the results announced.

Little interest in these elections has been shown by the member banks. Ordinarily, agreement is reached by them on the person to be placed on the board before the election is held. Only one or two contests for places on the board have occurred in the history of the Bank. In the case of directors elected by Group 1 a candidate is usually selected by members of the Clearing House Association in St. Louis, and he is usually unopposed for election. Correspondent relationships play a large part in the election of directors by Groups 2 and 3. Re-elections of members of the board have been quite common and membership has shown considerable stability.

During the first twenty-five years of the operation of the Bank twenty-eight men have served on the board of directors, including the present members. There have been eleven Class A directors, nine Class B directors, and ten Class C directors, two men serving both as a Class B director and as a Class C director. The average term for Class A directors has been 6.8 years, for Class B directors 8.3 years, and for Class C directors 7.5 years. The average term of service for all directors has been 7.5 years.

A number of directors served for many years on the board. W. B. Plunkett was a member from the time of organization of the Bank until 1938, a continuous period of service of twenty-three years. John W. Boehne and John G. Lonsdale were on the board for continuous periods of eighteen years. LeRoy Percy was a member of the board for fifteen years, William McC. Martin for fourteen years, and a present member, Max B. Nahm, has served for twelve years. In all, ten members have served terms of ten years or more, while fifteen men have served more than six years, or more than two terms of three years each.

These long terms of service on the board have to a certain extent represented a recognition of ability and interest in the work of the Federal Reserve System on the part of individuals, but, in a measure, they are merely evidence of a lack of interest by the member banks. The terms of Class C directors, except the Chairman and Deputy Chairman, are now limited by the Board of Governors to a period of six years. It is quite clear that men should not be re-elected to the board unless they have shown interest in, and attention to, the duties of the board.

Tenure of Service of Directors of St. Louis Reserve Bank*

Class A Directors 1914-1940

Director	Residence	Tenure
Frank O. Watts	St. Louis, Mo.	November, 1914-December, 1918
Oscar Fenley	Louisville, Ky.	November, 1914-December, 1916
Walker Hill	St. Louis, Mo.	November, 1914-December, 1920
Sam A. Zeigler	Albion, Ill.	January, 1917-December, 1922
J. C. Utterback	Paducah, Ky.	January, 1919-December, 1927
John G. Lonsdale	St. Louis, Mo.	January, 1921-December, 1938
John C. Martin	Salem, Ill.	January, 1923-April, 1932
Max B. Nahm	Bowling Green, Ky.	January, 1928-present
F. Guy Hitt	Ziegler, Ill.	June, 1932-December, 1937
G. R. Corliss	Anna, Ill.	January, 1938-present
Sidney Maestre	St. Louis, Mo.	January, 1939-present

Class B Directors 1914-1940

Director	Residence	Tenure
Murray Carleton	St. Louis, Mo.	November, 1914-December, 1915
W. B. Plunkett	Little Rock, Ark.	November, 1914-December, 1938
LeRoy Percy	Greenville, Miss.	November, 1914-December, 1929
David C. Biggs	St. Louis, Mo.	January, 1916-February, 1919

*Compiled from Annual Reports of the Federal Reserve Bank of St. Louis, 1915-1940.

Class B Directors 1914-1940 (Cont'd.)

Director	Residence	Tenure
Rolla Wells	St. Louis, Mo.	April, 1919-January, 1929
J. W. Harris	St. Louis, Mo.	January, 1929-present
M. P. Sturdivant	Glendora, Miss.	February, 1930-December, 1938
Harvey C. Couch	Pine Bluff, Ark.	January, 1938-present
John R. Stanley	Evansville, Ind.	January, 1939-present

Class C Directors 1914-1940

Director	Residence	Tenure
William McC. Martin	St. Louis, Mo.	November, 1914-January, 1929
Walter W. Smith	St. Louis, Mo.	November, 1914-January, 1917
John W. Boehne	Evansville, Ind.	November, 1914-December, 1932
C. P. J. Mooney	Memphis, Tenn.	August, 1917-November, 1926
Paul Dillard	Memphis, Tenn.	November, 1926-December, 1937
Rolla Wells	St. Louis, Mo.	January, 1929-May, 1930
John S. Wood	St. Louis, Mo.	June, 1930 December, 1936
John R. Stanley	Evansville, Ind.	January, 1933-December, 1938
William T. Nardin	St. Louis, Mo.	January, 1937-present
Oscar G. Johnston	Scott, Miss.	January, 1938-present
Douglas W. Brooks	Memphis, Tenn.	January, 1940-present

Membership on the board has been fairly well distributed among the several states comprising the Eighth District. During most of the period of the bank's history each state has been represented by at least one director. St. Louis has, of course, furnished a large number of the directors, twelve in all. Illinois has been represented by four directors, Indiana by two, Arkansas by two, Mississippi by three, Kentucky by three, and Tennessee by two.

TABLE 23

Number of Director Years Served by Directors from each State*

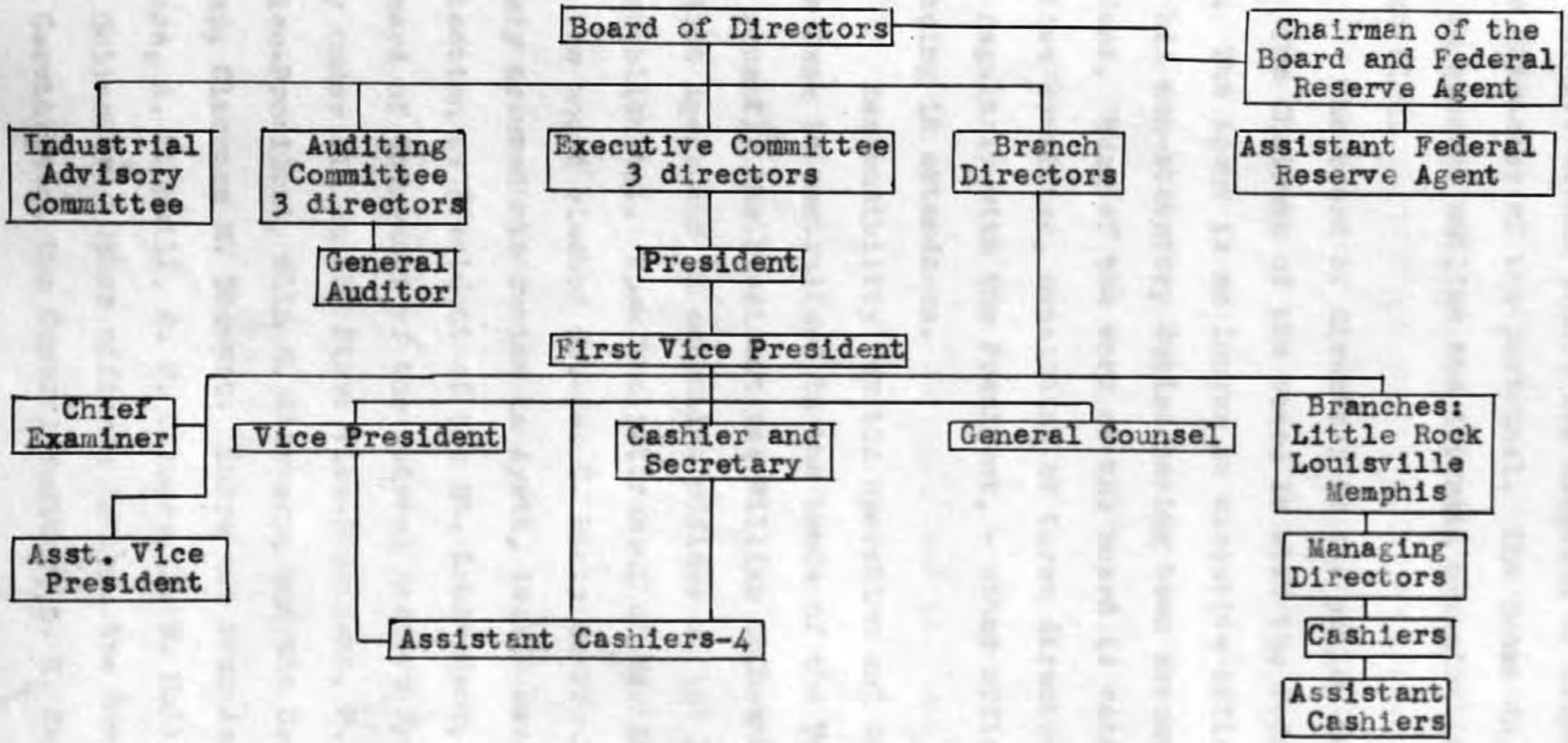
State	Number of Director Years
Missouri	81
Indiana	25
Illinois	23
Arkansas	26
Mississippi	26
Kentucky	23
Tennessee	20

*Compiled from Annual Reports of Federal Reserve Bank of St. Louis.

The internal organization of the Federal Reserve Bank of St. Louis was patterned on the plan suggested by the Preliminary Committee on Organization. Modifications and changes of a minor character have been made from time to time, but a major change occurred in 1935 when the responsibility for carrying out all the functions of the Bank was centralized in the hands of the President. This was done to comply with the provisions of the Banking Act of 1935 which changed the title of the Governor to that of President, and made him the chief executive officer of the Bank.

There is no rigid and unvarying scheme by which certain functions are supervised by certain officers and specific work necessarily assigned to each position. There is a considerable flexibility in the administrative structure

FEDERAL RESERVE BANK OF ST. LOUIS, 4/1/40
ORGANIZATION CHART



Functions supervised: General Service; Provision of Space; Provision of Personnel; Furniture and Equipment; Currency and Coin; Loans, Rediscounts, and Acceptances; Check Collection; Non-Cash Collection; Wire Transfers; Safekeeping; Purchase and Sale of Government Securities; Fiscal Agency, Custodianship and Depository; Accounting; Legal; Public Relations; Examination; and Statistical and Analytical.

CHART 1

which permits within limits the adaption of responsibilities to the character of the personnel. The chart on page 108 shows in general outline the internal organization at the present time.

The board of directors is the policy determining body. The Chairman of the board is also the Federal Reserve Agent. The Agent is no longer an executive officer of the Bank, his non-statutory duties having been assumed by the President. Much of the work of the board is delegated to an executive committee, consisting of three directors, which meets regularly with the President, - other officers of the Bank being in attendance.

Responsibility for the operation and administration of the Bank is centralized in the hands of the President. Until recently the President was William McChesney Martin, the first Agent and an executive officer of the Bank since its establishment. Upon the retirement of Martin in March, 1941, the board elected Chester C. Davis as President, who actively assumed his duties in April, 1941. Davis was, until his election as President of the St. Louis Bank, a member of the Board of Governors of the Federal Reserve System. Directly under him is the First Vice-President, F. Guy Hitt, the Vice-President, Olin M. Attebery, and the Secretary and Cashier, Clarence M. Stewart. There are four Assistant Cashiers, A. H. Haill, S. F. Gilmore, F. N. Hall, and G. O. Hollocher. Other officers include the General Counsel, L. H. Carstarphen, the General Auditor, L. H. Bailey, and the

Assistant Vice-President, H. H. Weigel. Each officer supervises certain of the various functions performed.

There are seventeen departments, each of which is in the charge of a department head, or manager. These departments are as follows: Banking House; Personnel; Furniture and Equipment; Currency and Coin; Loans, Rediscounts, and Acceptances; Check Collection; Non-Cash Collection; Wire Transfers; Safe-keeping; Purchase and Sale of Government Securities; Fiscal Agency; Custodianship, and Depository; Accounting; Legal; Public Relations; Examination; Auditing; Research and Statistics.

The General Auditor is responsible only to the board of directors and the auditing committee, composed of three directors. The branch bank officers report mainly to the President, the First Vice-President, and to the branch board of directors. The branch directors are responsible to the directors of the parent bank. The Industrial Advisory Committee appointed by the St. Louis Bank under the provisions of Section 13 (b) of the Federal Reserve Act makes recommendations to the executive committee with regard to direct loans to industry.

A number of prominent and able St. Louis bankers have served as the representative for the Eighth District on the Federal Advisory Council. Rolla Wells, at that time Governor of the Bank, was the first representative on the Council, serving one year, December, 1914 to December, 1915. F. O. Watts, president of the Third National Bank, served on the Council for six years, April, 1916 to June, 1922. Festus J. Wade, of the Mercantile Trust Company and president of the Clearing House Association at the time of the hearings before the Organization Committee, served from June, 1922 to December, 1924. Breckinridge Jones, president of the Mississippi Valley Trust Company, was the Eighth District representative from January, 1925 to December, 1927. Jones was particularly influential in inducing state banks to join the System. Walter W. Smith, president of the First National Bank, was a member of the Council for twelve years, January, 1928, to December, 1939. The present Eighth District representative, S. E. Ragland, president of the First National Bank in Memphis, is the first banker outside of St. Louis to serve on the Council. He was elected in January, 1940.

One of the most serious problems of administration in most of the Federal Reserve banks for a number of years concerned the relations between the Governor and the Federal Reserve Agent. The Federal Reserve Act provided for a Federal Reserve Agent in each bank, who, as chairman of the board of directors, was to be the titular head of each bank. Further, the Agent was to be the representative of the Federal Reserve Board and to act as the liaison agent between each bank and the Board. The Agent was to make reports to the Board and to see that its policies were carried out. The Act made no reference to the position of Governor, and it was not clear whether the Agent was to be the real operating head, or some operating officer was to be chosen by the board of directors in each bank. As it was the evident intention of the framers of the Act that there should be an independent operating head, and as this was clearly the desire of the member banks, the Federal Reserve Board came to the conclusion that such a head should be chosen and assigned him the title of Governor.[34] As to the question of the relative status of the Agent and the Governor the Board "finally resolved to say to all inquirers that the distinction between the federal reserve agent and the operating head of the bank was to be in a general way the distinction between the maker of a policy or the developer of a general system of organization and the factor employed to carry it out."[35] While this would seem to imply that the Agent should be the real head of the Bank the situation was far from being clear.

As a result the relative importance of the Agent and the Governor varied as among the several banks for a number of years, depending upon the circumstances of personnel in the individual bank. Eventually the position of Agent became subordinate to that of Governor in all the banks, this being the result of a number of factors. In the first place the salaries of the Agents were fixed at less than that of the Governors in all the banks except Kansas City and Richmond, in five of the banks the salary of the Agent being only one-half that of the Governor.[36] The Federal Reserve Board

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[34]Willis, H. Parker, The Federal Reserve System, p. 688.
[35]Ibid., p. 689.
[36]Annual Report of the Federal Reserve Board, 1915, pp. 189-190.

fixed the salaries of the Agents, and while it took account of the necessity of paying salaries sufficient to attract able men in the banking field, it did not provide salaries equivalent to those paid to the principal executives of banking institutions in the various Reserve cities. There was undoubtedly a feeling on the part of members of the Board that the Agents, as representatives of the Board, should not receive salaries in excess of those of members of the Board, as only in the case of the New York Bank was the salary of the Agent fixed higher than the $12,000 received by Board members. The salaries of the Governors, however, were fixed by the boards of directors of the several Federal Reserve banks subject to the approval of the Board. The Board approved salaries for the Governors that were in most instances equivalent to those paid to the heads of member banks in the several districts. Thus, in the very beginning the Governor was given a position of greater prestige by virtue of salary than was the Agent. Secondly, there was a strong feeling, particularly on the part of the member banks, that if the Agent was to become the real head of the Bank, because of his relationship to the Board as its representative, the ideal of decentralized regional banking would be sacrificed to centralized administration of the Federal Reserve System by the Board. Only by establishing the Governor as the real head of the Bank could independence of the Board be maintained. Third, the Board, even in the early period, undermined the position of the Agent by establishing direct contacts with the Governors.

Finally, in a situation in which doubt existed as to the authority of the two positions the dominant personality was likely to become the real head of the Bank. In some cases differences of opinion and friction became the source of serious difficulty, but eventually one of the two men in each bank came to predominate, and usually this was the Governor. In several instances where the Agent was the stronger man he later became Governor.

There was never any difficulty in the relations between the Agent and the Governor in the St. Louis Federal Reserve Bank. William McC. Martin, who had been connected with the Mississippi Valley Trust Company as Vice-President, became the first Chairman and Federal Reserve Agent, and the Bank was organized and opened under his direction. The first Governor was Rolla Wells, who held this position until February,5, 1919. Wells accepted the post as Governor under considerable pressure from the Board in Washington. He was equipped with a broad experience, having served as a director of several banks, and having financed and promoted a number of business enterprises. His father had been the first to develop public transportation facilities in the city of St. Louis, and Rolla Wells himself had spent the earlier part of his life in the street railway business.[37] Wells served two terms, 1901 to 1909, as Mayor of St. Louis during one of its most important periods of development, and was responsible for many public improvements, both in material facilities

[37]Wells autobiography, Episodes of My Life, was published in 1933.

and in the character of municipal government. He was one of the guiding spirits of the World's Fair of 1904, which in significance for its time and in influence has not been equalled since. The abilities and experience of these two men, Wells and Martin, provided an excellent combination for the development of the technique of central banking.

Wells resigned December 18, 1918, to become effective when a successor was named, and on February 5, 1919, David C. Biggs was appointed Governor. Biggs had worked in a bank as a young man, had served three years as a Class B director from January, 1916, and was Vice-President of the International Shoe Company before his appointment as Governor. The same spirit of cooperation prevailed between the Governor and Agent after Biggs became Governor.

Another problem that caused considerable difficulty in the other banks was the relationship between the executive committee of the board of directors and the Governor and Agent. This was settled very early and without difficulty in the St. Louis Bank, and it had some bearing on the status of the Federal Reserve Agent. The by-laws proposed by the Organization Committee suggested an executive committee to be composed of three directors, but the by-laws passed at the first meeting of the board of directors provided for an executive committee to consist of the Governor, Federal Reserve Agent, and three directors chosen from Classes A and B.[38] The

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[38] By-laws of the Federal Reserve Bank of St. Louis, Annual Report of the Federal Reserve Bank of St. Louis, 1915, p. 20.

Governor was to act as chairman of the executive committee. Unlike the situation in most of the other banks the Federal Reserve Agent had a place on the executive committee, and thus did not become an outsider by being omitted from this very important mechanism.[39] Although this was not the case at the outset, the executive committee was given during the first year the right to fix the discount rates.[40]

Biggs submitted a letter to the directors on December 5, 1928, stating that he did not wish to be re-elected Governor, and on January 16, 1929, William McC. Martin was elected to that office. This change brought the relation between A gent and Governor in the St. Louis Bank into technical conformity with the rest of the System. By this time the position of Federal Reserve Agent had become definitely subordinate to that of Governor elsewhere in the System. Rolla Wells, who had served as a Class B director since his resignation as Governor, was appointed Federal Reserve Agent on January 23, 1929. As he could not find time to devote actively to his duties he resigned on May 6, 1930. There have been two Federal Reserve Agents since Wells. John S. Wood, of St. Louis, was appointed on June 2, 1930, and served until the end of 1936. William T. Nardin, Vice-President and General Manager of the Pet Milk Company, was appointed at the beginning of 1937, and is the present Agent.

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[39]In most of the other banks the Governor was a member of the executive committee, frequently the chairman, but the Agent was usually not a member. Willis, H.P., op. cit., p. 696.

[40]Annual Report of the Federal Reserve Bank of St. Louis, 1915, p. 8.

The duties of the Federal Reserve Agent, in addition to his responsibility as chairman of the board of directors and as the representative of the Federal Reserve Board, formerly consisted of taking charge of Federal Reserve note issues and the reserve and collateral against them, and handling member bank relations, bank examinations, auditing and statistics. The Banking Act of 1935 created the office of President to supplant that of Governor, and made the President the chief executive officer of the Bank, all other officers to be responsible to him.[41] Although the Act made no change in the functions of Federal Reserve Agent, the Board of Governors by regulation made the position an honorary one. The non-statutory functions of the Agent, other than as Chairman of the board of directors, have been transferred to the Bank. Martin became President of the Bank in March, 1936, under the terms of the new Act.

[41]Paragraph 4, Section 4, The Federal Reserve Act, as amended by act of August 23, 1935.

CHAPTER IV

THE BANK IN OPERATION

Source of funds

The funds of a Federal Reserve Bank come from a number of sources: amounts paid in on capital stock subscriptions by member banks; reserve deposits of member banks; deposits of the United States Government; deposits of foreign banks; and other deposits, the principal item of which consists of the deposits of non-member banks for clearing accounts. Reserve deposits constitute by far the largest source of funds.

On December 4, 1914, the Federal Reserve Bank of St. Louis had a paid-in capital of $923,000, or one per cent of the capital and surplus of member banks.[1] During 1915 additional calls were made on subscriptions, increasing the required payments on capital stock to three per cent of the capital and surplus of member banks. On December 31, 1915, the Bank had a paid-in capital of $2,781,000.[2] Although by the provisions of the Federal Reserve Act the member banks subscribed to the capital stock of the Federal Reserve Banks an amount equal to 6 per cent of their capital and surplus, no additional calls have been made on these subscriptions. On December 31, 1940 the paid-in capital of the Bank amounted to $4,211,650.[3] Table 24 indicates the changes from year to year

1Annual Report of the Federal Reserve Board, 1914, p. 197.
2Ibid., 1916, p. 360.
3Annual Report to the Stockholders for 1940, St. Louis Federal Reserve Bank, p. 4.

TABLE 24

Capital Paid In on December 31*

(thousands of dollars)

1915	$2,781	1928	$5,408
1916	2,800	1929	5,268
1917	3,475	1930	5,053
1918	3,800	1931	4,693
1919	4,064	1932	4,360
1920	4,365	1933	3,944
1921	4,603	1934	4,088
1922	4,827	1935	3,757
1923	5,009	1936	3,782
1924	5,129	1937	3,868
1925	5,127	1938	3,946
1926	5,293	1939	4,073
1927	5,342	1940	4,212

Member Bank Reserve Deposits on December 31*
(thousands of dollars)

1915	$13,077	1928	$83,560
1916	30,925	1929	79,771
1917	45,797	1930	69,521
1918	52,831	1931	59,456
1919	72,283	1932	62,027
1920	66,903	1933	97,260
1921	64,613	1934	129,419
1922	73,798	1935	159,725
1923	70,100	1936	182,277
1924	80,511	1937	204,984
1925	81,447	1938	209,543
1926	82,116	1939	270,676
1927	89,862	1940	326,872

*Compiled from Annual Reports of the St. Louis Federal Reserve Bank, 1915-40 in the amount of paid-in capital of the Bank.

The initial reserve payments made by member banks of the Eighth District amounted to $10,759,277, of which all but $260,451 was paid in cash from the member banks' vaults, the remainder having been deposited by correspondents to the credit of member banks.[4] After June, 1917, the member banks were required to keep all their legal reserves in the Federal Reserve Banks, and by December 31, 1917, the reserve deposits of the St. Louis Bank had increased to $45,796,968.[5] Member bank reserves increased rapidly during the war period and reached a high point of $72,282,788 at the end of 1919. Reserve deposits decreased in 1920 and 1921, but increased gradually during the later twenties. During the early depression years member bank reserves dropped sharply, but after 1932 increased enormously. Reserve deposits, which amounted to $62,027,000 at the end of 1932, increased to $326,872,451 at the end of 1940. This has been due to the difficulties member banks have experienced in investing their funds without great uncertainty as to the risks incurred, and to several factors which have contributed to increase member bank reserves, such as open market purchases of securities by the Federal Reserve System, and the large importation of gold since the beginning of 1934.

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[4]Letter of Federal Reserve Agent to the Federal Reserve Board of December 30, 1914, First Annual Report of the Federal Reserve Board, 1914, p. 201.

[5]Annual Report of the Federal Reserve Bank of St. Louis, 1917, p. 23.

After 1933, government deposits increased considerably in amount, and now represent a larger proportion of the funds of the St. Louis Bank than during the twenties. While during the period before 1933 Federal Government deposits did not usually exceed one or two million dollars such deposits at the end of 1940 amounted to $23,892,502.[6] Since 1935, the deposits of foreign banks have shown a marked increase, due to the unsettled political conditions abroad and the events leading up to the war which commenced in the late summer of 1939. Foreign deposits had declined to $141,000 at the end of 1933, but at the end of 1940 amounted to $23,248,036. Foreign deposits had, of course, declined to less than normal working balances in 1933, and these were restored after the devaluation of the dollar in January, 1934, but the great bulk of the increase in foreign deposits came after 1935.[7]

Earnings

The Bank, was in operation for the last month and a half of 1914, and during this time earned $9,463. The only source of earnings at first was to be found in discounting notes for member banks, except for investment in government securities. During the early months of 1915, however, the Federal Reserve Banks were authorized to purchase tax warrants and acceptances based on the importation and exportation of goods. Earnings for 1914 and 1915 amounted to $87,603 while

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[6] Annual Report to the Stockholders for 1940, St. Louis Federal Reserve Bank, p. 4.

[7] The foreign deposits shown on the books of the St. Louis Bank are participations in such deposits with the Federal Reserve Bank of New York.

expenses during this period were $184,773. The difference of $97,169 was regarded as organization expense, and was paid out of the net earnings for 1916. For 1916 the Bank showed net earnings of $141,018, and was enabled not only to meet the loss for the first fourteen months but to pay a small dividend. Earnings increased greatly in 1917 due to the large demand for funds following our entrance into the war in April, 1917. Net earnings for 1917 amounted to $502,156.[8]

For the war and immediate post-war years the earnings of the Bank were enormous. For 1917 the net earnings equalled 14 per cent of the paid-in capital on December 31 of that year. In 1918 the net earnings were nearly four times those of 1917 and amounted to 51 per cent of the paid-in capital. For 1919 the net earnings equalled 67 per cent of the capital. The Bank had the largest net earnings in its history for 1920, $5,255,661, which represented a return of 120 per cent on its capital. For 1921 net earnings equalled 70 per cent of the capital. During these years the Bank was enabled to pay all its back dividends, and add a total amount of $9,375,475 to its surplus account.

Earnings were never as large after 1921. Net earnings for the years 1922 through 1929 were substantial, except for the year 1924, and tended to follow somewhat the trends of business. In 1924 the net earnings were $247,607, which was not a sufficient amount to cover dividends. In the

[8]All figures for earnings were secured from the annual reports of the Federal Reserve Bank of St. Louis, 1915-1940.

TABLE 25

Earnings and Expenses of St. Louis Reserve Bank*

Year	Total Earnings	Current Expenses	Net Earnings	Net Earnings after Additions and Deductions	Dividends Paid	Transferred to Surplus	Franchise Tax
1914-15	$ 87,603	$ 184,773	$ -97,169		$	$	$
1916	297,949	156,931	141,018	43,848	31,100	12,748	
1917	738,713	236,557	502,156	502,156	284,566	217,590	
1918	2,676,828	726,021	1,950,807	1,777,810	404,838	1,372,973	
1919	3,884,478	1,174,793	2,709,685	2,355,154	234,660	2,120,494	
1920	7,180,117	1,924,456	5,255,661	4,875,566	253,711	4,621,854	
1921	5,166,315	1,961,250	3,205,065	2,951,926	270,253	1,042,564	1,639,109
1922	2,456,447	1,623,222	833,225	647,572	283,166	276,450	87,956
1923	2,753,435	1,472,675	1,280,760	1,182,163	296,810	407,070	478,283
1924	1,688,143	1,440,536	247,607	203,937	304,976	-101,039	
1925	2,055,637	1,390,099	665,538	-93,540	306,753	-400,293	
1926	2,511,509	1,380,104	1,131,405	683,022	314,420	368,602	
1927	2,228,079	1,368,664	859,415	775,681	317,727	457,954	
1928	2,901,925	1,336,794	1,565,131	785,159	321,855	423,011	40,293
1929	3,247,936	1,438,417	1,809,519	885,884	319,231	56,665	509,988
1930	1,745,685	1,398,936	346,749	1,114	315,839	-314,725	
1931	1,188,631	1,350,924	-162,293	-61,263	289,409	-350,672	
1932	1,625,432	1,360,610	264,822	243,485	268,505	-25,020	
1933	1,629,136	1,473,311	155,825	-90,766	246,643	-337,409	
1934	1,824,453	1,455,534	368,919	139,996	241,009	-100,966	
1935	1,850,595	1,564,938	285,657	235,288	236,187	-899 (sec. 13 b)	
1936	1,863,217	1,450,685	412,532	225,165	225,724	-559 (sec. 13 b)	(Pd. to Treasury)
1937	1,802,734	1,371,093	431,641	362,957	229,420	129,385	4,152
1938	1,564,278	1,415,267	149,011	254,607	234,488	18,323	1,796
1939	1,609,930	1,357,979	251,951	457,430	239,368	224,725 (sec. 7) -6,663 (sec. 13 b)	
1940	1,920,779	1,373,208	547,571	986,572	248,242	744,005 (sec. 7) -5,675 (sec. 13 b)	

*The figures under "net earnings" indicate net operating earnings. The figures listed "net earnings after additions and deductions" are the result of adding or subtracting from net earnings the following items: depreciation on bank premises, depreciation of furniture and equipment, reserve for probable losses, assessments of Board of Governors, fund for self-insurance, prior service contributions to Retirement System, Loss on sale of U. S. Securities, Profit on sale U. S. securities, profit on foreign exchange, withdrawn from reserve for losses. Source: Annual Reports of the Federal Reserve Bank of St. Louis.

TABLE 26

Earnings of Federal Reserve Bank of St. Louis by Sources*

Year	On Discounted Bills	Bills Purchased	U. S. Securities	Profit on sale of U. S. Securities	Warrants	Transfers-net earnings	Reserve Penalties	Industrial Advances and Commitments to Industrial Advances	Miscellaneous
1914	$ 9,463	$	$	$	$	$	$	$	$
1914-15	54,298	6,387	7,488		16,325	3,071			34
1916	46,041	81,599	70,362	21,650	31,619	30,000	2,036		14,641
1917	358,239	170,233	110,301		13,691	57,920	14,968		13,361
1918	2,218,017	226,164	89,096			48,209	52,107		43,184
1919	2,918,462	564,496	320,412			10,570	52,373		18,166
1920	6,382,357	273,425	391,612				104,164		28,560
1921	4,739,032	41,427	284,151				80,640		21,065
1922	1,303,808	255,750	832,169				45,915		18,805
1923	1,968,788	253,773	520,780				38,857		-28,763
1924	1,140,682	141,778	352,652				27,441		25,650
1925	837,819	454,428	712,085				24,475		26,830
1926	1,258,227	340,294	841,145				22,017		49,826
1927	815,951	331,302	999,656				16,189		64,981
1928	1,928,302	206,700	725,490				15,023		26,410
1929	2,508,183	153,655	539,675				22,740		23,683
1930	660,996	285,169	753,034				17,431		29,055
1931	388,769	177,420	560,695	153,306			21,800		33,544
1932	496,823	108,496	920,177	115,524			40,251		55,369
1933	133,497	44,693	1,372,392	139,059			9,938		68,616
1934	12,520	4,762	1,741,855	308,050			699	8,877	55,740
1935	992	734	1,728,739	244,755			543	45,639	73,948
1936	1,495	798	1,804,145	308,766				38,121	18,658
1937	5,075	662	1,752,810	116,947				27,315	16,872
1938	2,895	9	1,528,595	385,083				14,953	17,826
1939	1,992	14	1,585,350	201,044				5,844	16,730
1940	2,332	0	1,894,530	528,208				3,923	19,994

*Annual Reports of the Federal Reserve Bank of St. Louis

TABLE 27

Percentages of Earnings from each Source to Total Earnings, St. Louis Reserve Bank*

Year	Total Earnings	Discounted Bills	Purchased Bills	U. S. Securities	Profit on U. S. Securities	Warrants	Transfers-Net Earnings	Reserve Penalties	Industrial Advances and Commitments	Miscellaneous
1914	$ 9,463	100.00								
1914-15	87,603	61.98	7.29	8.55		18.64	3.51			.03
1916	297,948	15.45	27.39	23.62	7.27	10.61	10.07	.07		4.91
1917	738,713	48.50	23.04	14.93		1.85	7.84	2.03		1.81
1918	2,678,777	82.86	8.45	3.33			1.80	1.95		1.61
1919	3,884,479	75.13	14.53	8.25			.27	1.35		.47
1920	7,180,118	88.89	3.81	5.45				1.45		.40
1921	5,166,315	91.73	.80	5.50				1.56		.41
1922	2,456,447	53.08	10.41	33.88				1.87		.77
1923	2,782,198	70.76	9.12	18.72				1.40		
1924	1,688,143	67.57	8.40	20.89				1.63		1.52
1925	2,055,637	40.76	22.11	34.64				1.19		1.31
1926	2,511,509	50.10	13.55	33.49				.88		1.98
1927	2,228,079	36.62	14.87	44.87				.73		2.92
1928	2,901,925	66.45	7.12	25.00				.52		.91
1929	3,247,936	77.22	4.73	16.62				.70		.73
1930	1,745,685	37.86	16.34	43.14				1.00		1.66
1931	1,341,937	28.97	13.22	41.78	11.42			1.62		2.98
1932	1,740,956	28.54	6.23	52.85	6.64			2.31		3.43
1933	1,668,195	8.00	2.68	82.27	2.34			.60		4.11
1934	2,132,503	.59	.22	81.68	14.45			.03	.42	2.61
1935	2,095,350	.05	.04	82.50	11.68			.03	2.18	3.53
1936	2,171,983	.07	.04	83.06	14.22				1.76	.86
1937	1,919,681	.26	.03	91.31	6.09				1.42	.88
1938	1,949,361	.15	(.0005)	78.42	19.75				.77	.91
1939	1,810,974	.11	(.0008)	87.54	11.10				.32	.92
1940	2,448,987	.10	0	77.36	21.57				.16	.82

*Figures for total earnings include profit on sales of U. S. securities, and do not agree with figures for total earnings in Table 25.
Computed from previous tables on earnings.

other years net earnings varied from $665,538 in 1925 to $1,809,519 in 1929. Except for 1924 and 1925 the Bank was enabled to make additions to its surplus account.

Since 1929, the Bank has experienced difficulty in making sufficient earnings to cover dividends and to meet various deductions on account of depreciation. The Bank experienced a net operating loss only in the year 1931, when current expenses were greater than earnings by $162,293. In the other years since 1929 net earnings have varied between $155,825 in 1933 and $547,571 in 1940. It must be pointed out, however, that the discussion so far has referred only to net operating earnings. No account has been taken of deductions from these earnings for such items as depreciation on bank premises, depreciation of furniture and equipment, reserves set aside for losses, or losses on the sale of United States securities. Neither has account been taken of certain additions to these earnings such as profits on the sale of United States securities. If these items are taken into consideration the record during the depression years until 1937 does not appear so favorable. In order to pay dividends it was necessary for the Bank to withdraw varying amounts from surplus in seven years, 1930-1936. During the period before 1929 it was necessary for the Bank to make withdrawals from surplus only in two years, 1924 and 1925.

In order to get a clearer picture of the earnings experience of the St. Louis Bank it is necessary to study the sources of its earnings and the basic factors which have brought about changes in these sources. During the period of approximately twenty-five years marked changes have occurred in the importance of various sources of earnings. This is evidenced particularly in one comparison that can be made between the year 1921, which was a year of considerable depression, and the year 1937 in which a considerable recovery had occurred from the depression conditions of the early thirties. In 1921 nearly 92 per cent of the earnings resulted from the discounting of bills for member banks, while in 1937 nearly 92 per cent of the earnings consisted of interest on investments in United States securities.

During the first two years of operation the principal problem of the St. Louis Bank was to induce the member banks of the district to make use of the rediscounting privilege and borrow from the Federal Reserve Bank instead of commercial banks outside the district. On March 4, 1915, reports to the Comptroller of the Currency indicated that rediscounted paper with the Federal Reserve Bank of St. Louis represented 18.40 per cent of the total borrowing by member banks in the district.[9] On November 10, 1915 this figure had increased to 25.17 per cent. The banks in Tennessee had made most use of the rediscounting privilege, and the banks in Kentucky the least use. In this early period, the smaller banks rather than the larger banks showed the greatest tendency to use the Reserve Bank.[10]

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[9] Annual Report of the Federal Reserve Bank of St. Louis, 1915, p. 11

[10] Ibid., 1915, p. 10.

The Bank pointed out in its report for 1915 that if member banks in the district had borrowed from the Reserve Bank the $7,830,000 which they secured by loans from banks outside the district during 1915 the earnings of the Reserve Bank would have been increased by $52,200.[11] During 1916 the percentage of rediscounts to total borrowing by member banks in the district showed a tendency to increase. On March 7, 1916, paper rediscounted with the Reserve Bank equalled 30.6 per cent of total borrowing, and on November 17, 1916, it represented 53.6 per cent.[12] The total paper rediscounted for member banks during the third quarter of 1915 amounted to $1,631,000, while for the third quarter of 1916 it increased to $3,054,000.[13]

During 1915 the Bank purchased $2,264,828 of tax warrants, and $1,800,565 bankers' acceptances, but most of the warrants and all the acceptances were purchased outside the district through the Federal Reserve Banks of New York, Boston, and Atlanta.[14] Tax warrants were not much used in this district for financing local governments, and the bankers' acceptance had not yet been developed to any appreciable extent. During 1916 the Bank purchased $20,681,822 of bankers' acceptances, but only $242,500 were bought in this district, the remainder being purchased through the Reserve

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[11] Ibid., 1915, p. 12.

[12] Ibid., 1916, p. 9.

[13] Compiled from Federal Reserve Bulletins, 1915, 1916.

[14] Annual Report, Federal Reserve Bank of St. Louis, 1915, p. 15.

Banks of New York and Boston.[15] The St. Louis Bank had from the first sought to encourage the use of bankers' acceptances, and results were eventually secured. During 1917 the Bank purchased $29,732,272 of bankers' acceptances, and of this amount $7,590,201 were purchased from banks in this district.[16] In its report for 1918 the Bank indicated its interest in the development of the open market through the purchase of bankers' acceptances. Its policy was to avoid as much as possible the direct purchase of bills from the accepting banks, taking bills only from those banks which found it impossible to sell their obligations on the open market. It also assisted local dealers in carrying the acceptances in their portfolios by means of a 15-day purchase and resale agreement.[17]

During the first fourteen months discounted bills accounted for 62 per cent of the earnings and warrants for nearly 19 per cent.[18] In 1916, while the volume of rediscounting increased slightly over the initial period, only 15 per cent of the earnings came from this source. The Bank had invested during 1916 much larger amounts in acceptances and United States securities. Twenty-seven per cent of the earnings were derived from bills purchased in the open market, and 24 per cent from investment in government bonds.

In 1917 earnings from discounted bills were approximately one-half of the total earnings, 48.5 per cent, which

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[15] _Ibid._, 1916, p. 5.
[16] _Ibid._, 1917, p. 5.
[17] _Ibid._, 1918, p. 9.
[18] Figures as to the per cent of earnings from each source to total earnings are given in Table 27 for each year.

reflected the increased demand for funds resulting from war-time activity. The marked increase in the volume of rediscounting may be seen by comparing the amounts of paper discounted by quarters during 1917:[19]

First quarter, 1917	$ 3,012,074
Second quarter, 1917	14,425,230
Third quarter, 1917	55,512,198
Fourth quarter, 1917	108,168,147

Earnings from bills purchased on the open market represented 23 per cent of the total, while earnings from investment in United States securities declined to 15 per cent.

During the period from 1918 through 1921 earnings from discounted member bank paper assumed a position of predominant importance. Earnings from this source represented 83 per cent of total earnings in 1918, 75 per cent in 1919, 89 per cent in 1920, and 92 per cent in 1921. This development reflected the tremendous expansion in bank credit which took place during these years, occasioned in part by the increased price level resulting from the shift to production of war materials, but due in greatest measure to the financing of the war by means of bank credit. The post-war inflation and liquidation, 1919-1921, resulted in the greatest use of Federal Reserve credit in the history of the System. A large portion of the Liberty bonds and other government war securities absorbed by the general public were purchased by borrowing from the banks, and these banks in turn made use of Federal Reserve Bank credit. In 1918 a total of $1,085,000,000

[19]Compiled from the Federal Reserve Bulletin for 1917.

of paper was discounted for member banks, and of this amount $778,000,000 was secured by Liberty bonds and Treasury certificates of indebtedness.[20] In 1919, $1,895,000,000 of a total of $2,101,000,000 of discounted paper was secured by such government obligations. This situation continued during 1920 although a somewhat smaller portion of member bank paper discounted was secured by government obligations. In 1920 the St. Louis Reserve Bank discounted $1,350,000,000 of fifteen-day member bank collateral notes, almost entirely secured by government obligations, and $1,088,000,000 of commercial paper, which was secured by government obligations to the extent of less than 10 per cent. The peak of expansion in bank credit was reached in 1920, and thereafter the volume of discount operations declined. Government obligations continued to be of major importance as collateral for member bank rediscounting until 1923.

During the years from 1922 through 1929 earnings from discounted bills continued to be the most important source of earnings, although of less significance than in the previous four years. With the decline in borrowing in 1922 the St. Louis Bank increased its purchases of government securities and bankers' acceptances in order that expenses and dividends might be covered. Thus earnings from investment in government securities again became important. In 1922 earnings from such securities represented 34 per cent of the total,

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[20] These figures and those immediately following are from the annual reports of the Federal Reserve Bank of St. Louis.

and earnings from purchased bills represented 10 per cent.

The Federal Reserve Board during 1923 formulated a definite policy with regard to the purchase and sale of government securities and commercial paper on the open market. In 1922 a committee of officers of the Reserve banks had been established, but its function had been limited to the purpose of coordinating transactions in government securities by the Reserve banks with similar transactions conducted by the banks for the Treasury.[21] In April, 1923, the Board established as a general principle the policy of coordinating discount operations and open market operations in their efforts to control the general credit situation. Purchases and sales of securities by the Reserve banks were to be made with primary regard to their broader consequences and in accordance with the general credit policy of the System.[22] The Board realized that there was a relationship between the volume of securities held by the Reserve banks and the volume of rediscounting by member banks, the sale of securities leading to additional borrowing by reducing the reserves of member banks, and the purchase of securities leading to a possible repayment of borrowed funds. The committee of Reserve bank officers became the Open Market Investment Committee.

As a result of the establishment of this open market policythe proportion of earnings of the St. Louis Bank

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21 Annual Report of the Federal Reserve Board, 1923, p. 13.
22 Ibid., 1923, p. 15.

due to investment in government securities tended to fluctuate with the credit policy of the Federal Reserve System. Because the sale or purchase of securities by any Reserve bank tended to affect the reserves of member banks throughout the country, it was impossible for any purely district credit policy to be carried out by means of open market operations. Government securities sold by a Reserve bank on the open market, for instance, are not necessarily purchased by member banks in its district, or by individuals with funds drawn from member banks in its district.

Due to improvement in business and an increase in member bank borrowing, the St. Louis Bank during 1923 gradually liquidated its investments in government securities until by the end of the year it had completely disposed of them. After 1923 most of its purchases and sales of securities were made through the Open Market Investment Committee and in accord with its policy. Earnings from investment in securities increased considerably in 1925, representing 35 per cent of total earnings, dropped slightly in 1926, and increased in 1927 to 45 per cent of total earnings. The efforts of the Reserve System to check the development of speculative uses of credit during 1928 and 1929 were reflected in a decline of earnings from securities to 25 per cent in 1928, and to 17 per cent in 1929.

Open market purchases of acceptances were also supervised by this Committee, and the St. Louis Bank purchased most of its acceptances through the Committee. The policy with regard to open market purchases of acceptances was affected, however, by the desire of the Reserve System to encourage the use of this type of commercial paper. The Reserve banks stood ready at all times to purchase such acceptances as were offered to them by member banks or dealers at the buying rates fixed by each Reserve bank.[23] Further, the Reserve banks followed a practice of holding these purchased bills until maturity, never selling them in the open market. In open market transactions in government securities the initiative was exercised by the Reserve banks, while in the case of open market purchases of acceptances, except for the influence of changes in the buying rates established by the Reserve banks, the initiative was taken by the member bank or dealer. Earnings from purchased bills were particularly significant in 1925, 1926, and 1927, representing 22 per cent, 14 per cent, and 15 per cent, respectively, of total earnings in these years. Earnings from purchased bills dropped to less than 5 per cent in 1929. Earnings from purchased bills thus tended to follow earnings from securities in these years.

The decade of the thirties presents a very different picture with regard to earnings. The speculative boom and the prosperity of the twenties came to an end in the fall of 1929. Beginning with the last two months of 1929 the Federal Reserve System reversed its open market policy and began to make large purchases of securities. These purchases, together

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[23] Ibid., 1925, p. 8.

with gold imports which began in 1930 and continued into 1931, enabled member banks to reduce greatly their borrowing from the Federal Reserve banks. Earnings of the St. Louis Bank from rediscounted paper fell to 38 per cent of total earnings in 1930, and to 29 per cent in 1931. Meanwhile, the St. Louis Bank participated in the open market purchases of securities, and its earnings from securities increased to 43 per cent in 1930, and 42 per cent in 1931. By 1932 the Federal Reserve System had definitely adopted a policy of attempting to stimulate recovery by pumping funds into the member banks through open market purchases. The easy money policy of 1930 and 1931 had failed to arrest the decline in business. Purchases of securities on a much larger scale were made in 1932. Earnings from securities increased to 53 per cent of total earnings in 1932, and to 83 per cent in 1933. The export of gold in the first half of 1932 and the large currency withdrawals for hoarding occasioned some borrowing by member banks in 1932. The actual amount of earnings from rediscounted paper of the St. Louis Bank increased from $388,769 in 1931 to $496,823 in 1932, although the earnings from this source remained the same per cent of total earnings.[24] There was a sharp increase in the amount of borrowing in March, 1933, during the bank crisis, but, thereafter, rediscounting declined to insignificant proportions. Large purchases of acceptances were made by the St. Louis Bank in 1930

24 Annual Report of the Federal Reserve Bank of St. Louis, 1932, p. 17.

and 1931, and earnings from this source were 16 per cent and 13 per cent, respectively, of total earnings.

After 1933, the only significant sources of earnings were investment in United States securities and profits on the sale of these securities. Due to the appreciation in the value of government bonds as interest rates declined and idle funds seeking opportunities for investment increased, the transactions of the Federal Reserve banks in government securities became the source of considerable earnings. These earnings first became of importance in 1931 when they amounted to 11 per cent of the total earnings of the St. Louis Bank. Since then they have varied from 2 per cent of earnings in 1933 to 22 per cent of earnings in 1930. Income from investment in securities has varied from 78 per cent to 91 per cent of earnings during these years. In no year since 1933 have the combined earnings from discounted paper and purchased bills been as much as 1 per cent of total earnings.

On June 19, 1934, there was added to the Federal Reserve Act Section 13(b) which authorized the Reserve banks to aid in providing working capital for established industrial or commercial enterprises. Under this provision a Reserve bank might make direct advances to such business enterprises if it appeared that credit could not be obtained at reasonable rates from the usual sources; or it might discount, purchase, or make advances on paper acquired by banks or other financial institutions in providing such working capital. Loans under this Section were not to be made for periods exceeding five years. The St. Louis Bank encouraged the banks in this district either to make and hold such loans under commitments from the Reserve Bank, or to participate with the Reserve Bank in making joint advances.[25] If a bank obtained a commitment from the Reserve Bank it could make such a loan for a period not exceeding five years, and at any time within the period of the commitment turn the asset into cash, receiving the entire interest until the commitment was exercised. The amendment provided, however, that the Federal Reserve Bank could not assume more than 80 per cent of the loss that might be sustained in the case of loans made by banks and acquired by the Reserve Bank.

By the end of 1934, the St. Louis Bank had entered into commitments with respect to $1,348,800 of loans under Section 13(b), and had made direct advances to business enterprises of $474,000 for working capital. In most cases the direct advances had been made in instances in which banks had provided additional funds jointly with the Reserve Bank.[26] In 1935 the Bank executed $4,423,000 in commitments, and made $290,000 in direct advances.[27] The largest earnings from this source were in 1935 when the Bank earned a total of $45,639 from commitments and direct advances.[28] In no year have the earnings from this source amounted to more than approximately 2 per cent of total earnings.

[25] _Ibid._, 1934, pp. 8, 9.
[26] _Ibid._, 1934, p. 9
[27] _Ibid._, 1935, p. 8.
[28] _Ibid._, 1935, p. 17.

There is, of course, no immediate prospect of any significant change in the present complexion of earnings of the St. Louis Bank. As long as the debt of the Federal Government is being increased, particularly in view of the fact that a large part of outstanding government securities bear very low rates of interest, it would be difficult for the Federal Reserve banks to divest themselves of their holdings of Government securities without seriously affecting the market for government bonds, the commercial banks, and the financial structure of the government. Excess reserves of member banks are very large, the largest in the history of the Federal Reserve System, so that there can be no prospect in the immediate future of much borrowing from the Reserve banks by member banks. The possible changes in the more distant future will be discussed in a later chapter on credit policies.

<u>Expenses</u>

The earnings of the St. Louis Bank have been sufficient to cover current operating expenses except in the first year of its operation and in 1931. The expenses increased rapidly during the war years due to the tremendous volume of operations, and to the additional services provided free to member banks. After 1921 the total expenses were materially reduced, but continued at a much higher level than before the War. Since 1922 the current operating expenses have been remarkably constant, varying by only about 16 per cent from the average for these years. Expenses were lowest in 1928,

$1,336,794, and highest in 1935, $1,564,938.[29] Expenses do not tend to vary with the amount of business activity, or the dollar volume of the Bank's transactions. Approximately two-thirds of the total operating expenses are represented by salary and wage payments.

While depreciation on bank buildings and equipment is not regarded as operating expense, nevertheless, expenditure for this purpose has been significant in the total expenses of bank operation. Until 1935 the St. Louis Bank 192
occupied rented quarters, at first the fourth floor of the Boatmen's Bank Building at the corner of Olive Street and Broadway. In December, 1915, it moved into quarters in the New Bank of Commerce Building on the northeast corner of Broadway and Pine. This building was renamed the Federal Reserve Bank Building, which the Bank continued to occupy, taking over additional space in this building and the adjoining building as its needs increased, until June 1, 1925, when it moved into its own building. In December, 1918, and in November, 1919, the Bank concluded arrangements for the purchase of the land and buildings on the north side of Locust Street with frontage on both Broadway and Fourth Street. Construction on the new building was not begun until 1923, however, and the building was not finally completed until the summer of 1925.

The new, permanent quarters for the Bank are located

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29 Annual Reports of the Federal Reserve Bank of St. Louis.

in the center of the financial district of St. Louis. The building was well designed and arranged for the work of the Bank. The exterior of the building is attractive, but not elaborate or imposing. The conservative tradition among St. Louis bankers has never permitted the construction of expensive and impressive bank buildings. In this respect the Reserve Bank building was sufficient in structure to maintain the prestige of the Bank, but conformed to the tradition of St. Louis banking.

The total cost of the land and the building, including fixed machinery and equipment, amounted to $4,593,220, of which $1,354,874 represented the cost of the land and of the buildings demolished.[30] The St. Louis Bank also constructed buildings for its branches in Little Rock and Memphis. The building for the Little Rock branch, located at Third and Louisiana streets, was completed and occupied March 16, 1925. The total cost of the building, including equipment, was $421,694.[31] The building for the Memphis Branch at Jefferson avenue and Third street was not completed until June, 1929, and cost $378,613.[32] The Louisville Branch was the first unit of the Bank to transact business in its

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[30] Annual Report of the Federal Reserve Board, 1925, p. 122. The cost of vaults, machinery, and other fixed equipment amounted to $1,272,175, and the costs of construction of the building, including architect's fees, amounted to $1,966,171.

[31] Ibid., 1925, p. 122.

[32] Annual Report of the Board of Governors, 1935, p. 102.

own quarters. In May, 1919, the St. Louis Bank purchased for its Louisville branch the site, banking house, and equipment formerly occupied by the National Bank of Commerce at Fifth and Market Streets in Louisville. An addition to this building was completed in 1925. The total investment in the building and equipment of the Louisville branch amounted to $392,496.[33]

The total expenditures for buildings and fixed equipment made by the Bank thus amounted to $5,786,023. In 1919 $335,000 was deducted from net earnings for depreciation on bank premises. In nearly every year thereafter down to and including 1935 various amounts have been deducted for such depreciation.[34] By the end of 1935 the total amount charged to depreciation of bank premises was $3,365,552. On Dec., 31, 1938, the value of bank premises was carried on the books of the Bank as $2,291,885.[35]

There are several other items of importance in the expense of bank operation. Until 1922 expenditure for furniture and other equipment was regarded as a current expense. During the three years, 1919, 1920, 1921, a total of $303,992 was spent for this purpose.[36] Beginning in 1922 various amounts were deducted annually from net earnings to cover such expenditures. In 1925, the year the Bank moved into its own building, $257,373 was deducted for expenditures on furniture.

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[33] Annual Report of the Federal Reserve Board, 1925, p. 122.

[34] Annual Reports of the St. Louis Federal Reserve Bank.

[35] Report to the Stockholders of the Federal Reserve Bank. of St. Louis, 1938, p. 4.

[36] Annual Reports of the St. Louis Federal Reserve Bank.

During the years 1919 to 1935 a total of $1,048,117 was spent for furniture and equipment. Since 1935 such expenditures seem to be regarded again as current expense. Each of the Federal Reserve banks are assessed to meet the expenses of the Board of Governors of the Federal Reserve System. In recent years the annual contribution of the St. Louis Bank has been approximately $50,000. Another item of importance is the expense of printing, issuing, and redeeming Federal Reserve currency. In the last five years this expense has varied between approximately $50,000 and $100,000 annually. In 1936 the Bank instituted a retirement fund system for employees of the Bank, as provided by Congress for all Reserve banks. Prior service contributions by the Bank to this fund during the three years, 1936-1938, amounted to $579,602.

Since 1920 the St. Louis Bank has diligently striven to reduce its expenses at the same time that it increased the services offered to member banks. Economies have been effected whenever they did not mean withdrawing or curtailing a service of value to the member banks or to the government. Expenses were reduced considerably by 1923, and since then they have not increased despite an increase in the number of services offered. A study of the operation of the St. Louis Bank cannot but give one the impression that there are few instances where more value in services is rendered for the expenditures incurred.

Dividends

No dividends were paid until the end of the year

1916. In the first year of operation the Bank had a net operating loss of $97,169, but earnings for 1916 were sufficient to provide for the deficit in the first year, and to enable the Bank to pay the 6 per cent dividend for the period from the opening of the Bank to March 31, 1915.[37] Earnings increased in 1917 and the Bank paid a dividend on March 31 for the period from April 1, 1915 to June 30, 1915, a dividend on June 30 for the period July 1, 1915 to December 31, 1915, and a dividend on December 31, 1917, for the year of 1916.[38] At the end of 1918 the Bank paid dividends for the years 1917 and 1918, amounting to $404,838.[39] Since then the Bank has paid the maximum 6 per cent dividend provided by the Act in every year. Funds have been withdrawn from surplus to pay dividends in nine years, 1924, 1925, and 1930-1936. Net operating earnings before deductions were sufficient to pay dividends in 1925, 1930, 1934, 1935, and 1936.

<u>Surplus</u>

The Federal Reserve Act originally provided that after all expenses and the 6 per cent cumulative dividend had been paid by a Federal Reserve bank the remaining earnings should be paid over to the government as a franchise tax, except that one-half of the earnings should be assigned to surplus until it equalled 40 per cent of the paid-in capital.[40]

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[37] <u>Annual Report of the Federal Reserve Bank of St. Louis, 1916</u>, p. 1

[38] <u>Ibid.</u>, 1917, p. 1.

[39] <u>Ibid.</u>, 1918, p. 1.

[40] Sec. 7, <u>Federal Reserve Act</u>.

The St. Louis Bank was one of six of the Reserve banks that had failed by the end of 1917 to pay all its accumulated dividends. It had not, therefore, paid any franchise tax, although it had assigned $230,000 to surplus by the end of 1917. An amendment to the Federal Reserve Act of March 3, 1919, changed the requirement with regard to surplus, providing that all net earnings after dividends should be assigned to surplus until it equalled 100 per cent of the subscribed capital of the bank, and that thereafter 10 per cent of such earnings should be assigned to surplus and the remainder paid to the government as a franchise tax.[41] This amendment applied retroactively to 1918 earnings.

In 1918 the earnings of the St. Louis Bank were much larger enabling it to pay all back dividends and assign $1,372,973 to the surplus account. The following three years brought large earnings due to the heavy rediscounting of member bank paper incident to war finance, and the Bank assigned a total of $7,784,912 to the surplus account in these years. At the end of 1921 the surplus equalled 102 per cent of the subscribed capital stock of the Bank.[42] This large surplus was particularly advantageous in view of the large expenditures the Bank had been making and was to continue to make during the twenties for buildings and equipment for itself and its branches. Had the reserve banks been permitted to accumu-

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[41] U. S. Stat. 1314, Ch. 101.

[42] Annual Report of the Federal Reserve Board, 1921, p. 49.

late a surplus equal to only 40 per cent of their paid-in capital as the Act originally contemplated the St. Louis Bank would have had its capital funds for the most part invested in real estate for some years.

The surplus fell slightly below 100 per cent of subscribed capital during the years 1924, 1925, 1926, and 1927. This was occasioned in part by withdrawals from surplus to pay dividends in 1924 and 1925, and in part by the increase in the amount of capital stock as the Bank reached its peak membership during these years. After 1927 the amount of surplus continued to be more than 100 per cent of subscribed capital, despite withdrawals after 1929, until the Bank subscribed one-half of its surplus in 1934 for the stock of the Federal Deposit Insurance Corporation. This subscription to the stock of the Federal Deposit Insurance Corporation was required by the Banking Act of 1933. This reduced the surplus to $4,655,000 on December 31, 1934, which was somewhat larger than the paid-in capital of $4,088,000,[43] or 57 per cent of subscribed capital. An amendment to the Federal Reserve Act of June 19, 1934, authorized the Secretary of the Treasury to reimburse the Federal Reserve Banks over a period of time for the amount paid by them for stock in the Federal Deposit Insurance Corporation, such funds to be used by the Banks in making advances under Section 13(b). By December 31, 1938,

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[43] Annual Report of the Federal Reserve Bank of St. Louis, 1934, p. 19.

the St. Louis Bank had received from the Treasury $545,151, which was carried in a special surplus account.[44] On December 31, 1940, the total surplus funds of the Bank amounted to $5,457,788, or 65 per cent of the subscribed capital.[45]

Franchise Tax

The St. Louis Bank paid a franchise tax to the Federal Government in five years, 1921, 1922, 1923, 1928, 1929. These payments amounted in the aggregate to $2,755,629, of which more than one-half, $1,639,109, was paid in a single year, 1921. The Banking Act of 1933 repealed the provision for the payment of a franchise tax.

Note Issue

In order to provide a greater elasticity in the currency of the country the Federal Reserve Act in Section 16 authorized the issuance by a Federal Reserve Bank of notes against the deposit of an equal amount of commercial paper. A reserve of 40 per cent in gold had to be maintained in addition by the Bank against the Federal Reserve notes it had issued. These notes were limited in volume only by the amount of gold reserves and the amount of commercial paper held by the Federal Reserve banks, and their circulation could vary with the seasonal, cyclical, and emergency needs for currency in business and commerce. Since the establishment of the National Banking System until the passage of the Federal Reserve Act the only bank note in our currency had been the

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[44] Annual Report to the Stockholders, Federal Reserve Bank of St. Louis, 1938, p. 4.

[45] Ibid., 1940, p. 4.

national bank note, secured by government bonds bearing the circulation privilege. These notes were limited in volume by the amount of bonds bearing the circulation privilege, and on numerous occasions before 1914 severe currency shortages had occurred.

The St. Louis Bank issued these notes during its first year of operation, but deposited gold instead of commercial paper with the Federal Reserve Agent as collateral for the notes. Section 16 of the original Federal Reserve Act was interpreted as permitting this in its statement that a 40 per cent gold reserve had to be maintained against notes in actual circulation, "not offset by gold or lawful money deposited with the Federal reserve agent." The objective of the St. Louis Bank, like that of the other reserve banks, during the early years was to secure the withdrawal of gold and gold certificates from circulation and substitute Federal Reserve notes, thus enlarging the gold reserves of the System. The deposit of gold instead of commercial paper against the note issue facilitated this effort to conserve the gold in the Federal Reserve banks, because in the early years the Reserve banks had little commercial paper to use as collateral.

In its report for the year ending December 31, 1916, the St. Louis Bank remarked,

> "However, the substitution of Federal Reserve notes for gold has not progressed as rapidly or gone as far in this district as we would like. It is still not uncommon to find gold certificates paid out over the counter for pocket money by both member and nonmember banks when Federal Reserve notes would serve just as well. While member banks are believed

> to be making an effort to deposit their gold in this bank, nonmember banks seem to have quite a number of gold certificates which they are paying out freely."[46]

At the end of 1917 the Bank stated in its report that most of the gold in the district had been turned over to it, that practically all the member banks and many nonmember banks had turned their gold in and had taken Federal Reserve notes in exchange for it.[47] The Federal Reserve Act was amended in 1917 to provide that gold or gold certificates might be deposited against the issue of Federal Reserve notes as well as commercial paper, the gold being counted as part of the reserve as well. It became possible, thus, to issue the notes against a deposit of 60 per cent commercial paper and 40 per cent gold without providing any additional gold reserve; or, to deposit more than 40 per cent in gold and reduce correspondingly the per cent of commercial paper collateral.

The St. Louis Bank did not experience any considerable demand for notes until the entrance of the United States into the World War in the spring of 1917. The amount of notes of the St. Louis Bank in actual circulation on December 31 increased from $13,849,730 at the end of 1916 to $59,053,430 at the end of 1917, and to $126,129,875 at the end of 1918. This very large and rapid increase in the use of Federal Reserve notes came as a result of the rise of prices and the increased economic activity incident to the war. The amount of Federal Reserve notes in circulation

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[46] Annual Report of the Federal Reserve Bank of St. Louis, 1916, pp. 18-19.

[47] Ibid., 1917, p. 20.

reached a peak in December of 1919, when on December 26 there were $148,452,000 of notes in circulation.[48] The amount of notes in circulation in the Eighth District remained high during 1920, but declined rapidly in 1921 until on December 31, 1921, there were only $95,246,200 in circulation. The Federal Reserve note had demonstrated its capacity to contract and expand with the need for currency.

The Bank continued to use gold considerably as a deposit against Federal Reserve notes. The war-time expansion in the note issue was based for the most part on commercial paper, but after 1920 the gold cover was larger than the deposit of commercial paper except in 1923, 1925, 1926, and 1928. Since 1933 the notes outstanding have been almost completely covered by the deposit of gold certificates.

The amount of notes in circulation remained approximately the same during 1922, except for seasonal movements, but declined sharply in 1923, 1924, and 1925 to an amount less than half that in circulation at the end of 1922. The trend after 1925 was gradually upward, ending in a sharp expansion of the note issue in 1929. After 1929 the amount of notes in circulation declined slightly, but the developments incident to the banking crisis caused a rapid expansion in the note issue in 1932 and 1933. An increase in the number of bank failures in 1932 made necessary the use of a greater amount of currency. A growing fear as to the solvency of all banks caused a considerable amount of hoarding

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[48] Ibid., 1919, p. 27.

TABLE 28

Federal Reserve Notes Outstanding, in Circulation, and Collateral Pledged, St. Louis Bank, 1915-1940*
(thousands of dollars)

Dec. 31	Outstanding	Actual Circulation	Gold Cover	Commercial Paper
1915	$ 8,950		$ 8,950	
1916	16,890	$13,850	12,543	$ 4,351
1917	61,863	59,053	32,366	29,909
1918	129,120	126,130	66,674	75,086
1919	164,719	145,298	61,625	110,358
1920	155,392	135,785	49,337	116,080
1921	114,103	95,246	66,158	63,240
1922	113,038	93,659	70,573	43,110
1923	92,259	75,872	49,424	57,301
1924	64,600	57,812	56,590	31,494
1925	46,580	40,305	15,820	45,025
1926	53,504	48,396	19,509	39,072
1927	63,681	56,666	41,207	24,419
1928	76,261	64,463	29,986	46,821
1929	111,580	94,744	84,630	27,599
1930	94,870	84,599	74,885	20,427
1931	91,301	86,940	64,885	27,287
1932	111,871	103,930	73,255	6,202 paper 32,500 securities
1933	150,092	144,308	124,682	5,725 paper 22,000 securities
1934	147,362	142,880	141,936	2 paper 8,000 securities
1935	171,816	163,303	169,632	8 paper 3,000 securities
1936	196,265	183,914	171,632	30,000 securities 1 paper
1937	197,474	182,765	200,632	735 paper
1938	201,116	184,202	207,000	211 paper
1939	205,560	194,697	209,000	55 paper
1940	234,319	221,148	244,000	-----*

*Figures for 1915-1935 compiled from Annual Reports of the Federal Reserve Bank of St. Louis. Figures for 1936-1940 are from the Federal Reserve Bulletin, and date varies from Dec., 27, to 31. After 1933 the gold pledged to secure the note issue consisted of gold certificates only.

TABLE 29

Federal Reserve Bank Notes
Outstanding and in Circulation, St. Louis Bank*

Dec. 31	Outstanding	Actual Circulation
1918	$6,472,000	$6,216,000
1919	16,608,000	15,498,324
1920	9,608,600	9,486,750
1921	4,077,600	3,923,429
1922	**	
1933	8,233,700	8,066,700
1934	†	

*Annual Reports of the Federal Reserve Bank of St. Louis.
**During 1922 the special 2 per cent certificates were redeemed by the Treasury, and the St. Louis Bank eliminated its liability for the notes by depositing lawfulmoney with the Treasury.
†On June 21, the St. Louis Bank extinguished its liability for these notes by depositing lawful money with the Treasury.

of all forms of currency as well as of gold. The peak of expansion in the note issue was reached in March, 1933, when a general banking holiday was declared by the President. The daily average of notes in circulation during March, 1933, was $116,113,000 as compared to a daily average of $77,259,000 for March, 1931. Since 1933 the amount of Federal Reserve notes in circulation has not declined, but instead has increased. The amount of notes of the St. Louis Bank in circulation in the last two years has been approximately $200,000,000. This can be explained for the most part by a change in habits in the use of currency, the withdrawal of gold certificates from circulation, and the retirement of national bank notes. The establishment of service charges on demand deposit accounts by commercial banks has caused many small depositors to close their accounts and use currency instead of checks. Business firms now more frequently pay their employees in currency instead of by check.

There is a pronounced seasonal variation in the note circulation of the St. Louis Bank. Notes are issued particularly in the fall months when the crops are being moved. The volume of notes in circulation is smallest usually during the months of June and July. In August a demand for additional notes appears, and the note circulation increases through the fall months reaching a peak usually in December.

TABLE 30

Federal Reserve Notes in Circulation during 1931, 1932 and 1933*

St. Louis Federal Reserve Bank

(monthly averages of daily figures) in thousands of dollars

	1931	1932	1933
January	$82,485	$91,047	$122,653
February	79,470	93,216	136,155
March	77,259	92,822	166,113
April	76,307	91,048	150,457
May	74,609	90,430	146,980
June	72,988	91,032	142,580
July	72,853	98,216	139,053
August	73,225	100,872	135,172
September	76,039	101,082	134,582
October	81,546	100,807	139,515
November	85,958	101,491	143,264
December	86,929	103,318	144,861

*Compiled from Federal Reserve Bulletins for 1931, 1932, 1933.

Notes are returned to the Bank during the late winter and spring months, the volume of note circulation continually declining until the middle of the summer. This seasonal movement is to be explained by the predominantly agricultural character of the district. This seasonal movement seems to coincide with the fluctuations of "circulating deposits"[49] of member banks in the Eighth District as indicated in the studies of James W. Angell. Angell found circulating deposits in the St. Louis district to be relatively low in June and high in December.[50]

The seasonal variation in the note circulation has been less in recent years. This has been due in part to the increased circulation of Federal Reserve notes in urban centers, the result of influences noted above. The seasonal variation in currency circulation in urban centers differs from that in agricultural areas. It might also be pointed out that the St. Louis Bank provides member banks with currency issued by the Treasury if it is available, because of the cost it must incur in securing Federal Reserve notes. The Treasury has issued a larger amount of currency in recent years in connection with the silver program.

Another form of Federal Reserve currency was authorized by the Act, known as the Federal Reserve bank note. This note was to be secured, as was the national bank note,

[49]Net demand deposits less bankers' balances--equivalent to the aggregate of deposit currency.

[50]Angell, James W., The Behavior of Money, p. 69.

by government bonds. The national banks were not required to retire their bank notes, and none did so in the Eighth District until the bonds bearing the circulation privilege matured, and the circulation privilege was withdrawn in 1935. However, under the terms of the Pittman Act of 1918, which provided for the sale of silver by the Treasury, and the issuance of Federal Reserve bank notes to prevent currency contraction, the St. Louis Bank issued such notes secured by United States certificates of indebtedness. On December 31, 1919, there were $15,498,324 of such notes in circulation, which was the largest amount in circulation at any time.[51] The last of these notes were retired in 1922 by depositing lawful money with the Treasury for their redemption. The St. Louis Bank began issuing Federal Reserve bank notes again on March 18, 1933.[52] By the end of 1933, $8,340,000 of these notes had been issued. On June 21, 1934, the Bank extinguished its liability for the notes by depositing lawful money with the Treasury.[53]

The Glass-Steagall Act of 1932 made government bonds eligible as collateral for the issue of Federal Reserve notes. This provision was originally limited to a period of two years, but subsequent legislation extended the period of eligibility of government obligations. An Act of June 30, 1939, provided that until June 30, 1941, the Board of Gov-

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[51] Annual Report of the Federal Reserve Bank of St. Louis, 1919, p. 12

[52] Ibid., 1933, p. 11.

[53] Ibid., 1934, p. 10.

ernors of the Federal Reserve System could authorize the Federal Reserve Agent to accept government obligations as collateral security for Federal Reserve notes. The St. Louis Bank used $32,500,000 of bonds in 1932 as security for notes. Such provision for the eligibility of direct government obligations has given greater power of expansion to the Federal Reserve note issue in a period in which the Federal Reserve banks have had little or no commercial paper to use as collateral. The Federal Reserve note should not be made a bond-secured currency, but as long as gold certificates and commercial paper are also eligible as security this will not be the result.

The quality of greatest importance in any currency issue is elasticity. Nearly all the assets of a Reserve bank are now eligible as collateral security for the issue of notes. This situation has increased the elasticity of the Reserve bank note issue rather than diminished it. The significant fact about the Federal Reserve note is not the collateral behind it, provided sufficient eligible collateral is available, but the fact that it is a lien on the assets of the Reserve Bank. It is in a very real sense an asset currency.

Financing the War

The Federal Reserve Act authorized the Secretary of the Treasury to use the Federal Reserve banks as fiscal agents, and they were designated as fiscal agents beginning January 1, 1916. However, until our entrance in the war in

April, 1917, the sub-treasuries and the national banks continued to perform most of the work as fiscal agents for the government. When the Treasury undertook the tremendous problem of securing funds to finance the war effort of the United States, it determined to negotiate all loans through the Federal Reserve banks. The Reserve banks were in a position not only to handle effectively the sale and distribution of government bonds and short-term obligations, but to provide the credit by means of which member banks and individuals could quickly absorb large quantities of government obligations.

The Federal Reserve banks assisted the program of war finance in several ways. Preferential rates were established for the discounting of member bank notes secured by government war obligations, and for the rediscounting of customers' notes secured by such collateral. Thus the Reserve banks extended credit not only to member banks in order that they might buy bonds, but indirectly to individuals who borrowed from the banks in order to buy bonds. Further, non-member banks were permitted to borrow from the Reserve banks on notes endorsed by member banks. The Reserve banks themselves bought government obligations in considerable amounts. Finally, the Reserve banks in each district organized the campaign to sell government bonds to the public and to banks.

In carrying out the program of large-scale borrowing for the government the Reserve banks came to perform many fiscal functions. They accepted government deposits in large amounts. They handled all details connected with the sales and allotments of Treasury certificates of indebtedness, received subscriptions for Liberty bonds, and made deliveries of bonds and Treasury certificates. They collected all payments for bonds and certificates, and redeposited the funds collected with banks which had qualified as depositaries.[54] They held the collateral which was offered as security for government deposits by banks that qualified to hold such deposits. Transfers of funds were made by telegraph through the gold settlement fund of the Federal Reserve Board from banks in one part of the country to Federal Reserve banks in other parts of the country where disbursements were being made by the government. The Federal Reserve banks thus became the principal fiscal agents of the Federal Government.

In the Eighth District the organization that was first constructed to sell the Liberty bond issues was composed of an executive committee, and a central committee. Rolla Wells, Governor of the St. Louis Bank, appointed to the executive committee the presidents of the 18 clearing house associations in the District, and five other representatives from cities with no clearing houses. Each member of the executive committee was assigned the counties adja-

54. Annual Report of the Federal Reserve Board, 1918, p. 1.

cent to his city.[55] The central committee was composed of nine St. Louis men who devoted all their time to the work of placing the loan. The proportion of the total amount of the first Liberty bond issue that should be taken by the Eighth District was determined on three bases, banking strength, wealth, and population. The banking strength basis was used as the minimum. Quotas were then assigned to each of the local districts in charge of a member of the executive committee. For the second Liberty loan the organization was somewhat changed. There were three committees: a general committee composed of 38 men representing various cities in the District, an executive committee composed of 20 men, most of them members of the general committee, and an administrative committee composed of 16 St. Louis bankers and brokers.[56] The general committee and the executive committee both served in an advisory capacity, the administrative committee actively carrying on the work. For the third and fourth Liberty loans the organization was still further changed. The actual administration was conducted by a central committee, composed of three officers, a chairman for each state, and directors in charge of various departments.[57]

Treasury certificates were equally as important as the long-term Liberty bond issues in financing the war. These certificates were issued in anticipation of each of

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[55] Annual Report of the Federal Reserve Bank of St. Louis, 1917, pp. 15, 16.

[56] Ibid., 1917, pp. 16, 17.

[57] Ibid., 1918, p. 15.

the bond issues, and also in anticipation of tax receipts. The certificates could be used in payment for the bonds, and the payments were thus spread over a considerable period of time, preventing any undue disturbance of the money market. The St. Louis Reserve Bank urged all the banks in the District to set aside funds every two weeks to invest in these certificates, and met with a very favorable response. The percentage of all banks in the District subscribing to the various issues of Treasury certificates varied from 56.8 to 90.6.[58] Only in the case of the so-called "loan certificates" issued in 1919 after the Victory bond issue did the per cent of banks subscribing fall below 50.[59] This may be explained by the reluctance of the banks to invest further in low-yield government securities after the war was over. The proportion of national banks subscribing to the certificates was generally higher than in the case of the state banks and trust companies. In the case of many banks acting as government depositaries the certificates were purchased by crediting the government with a deposit on the books of the bank. At the end of 1918, 537 banks and trust companies in the District had qualified as depositaries out of a total of 3,092 institutions.[60]

The work of the St. Louis Bank in connection with the sales of the five Liberty loan issues was highly effective. In each case the quota assigned to the Eighth District

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[58] Annual Reports of the Federal Reserve Bank of St. Louis, 1918, pp. 38-9; 1919, p. 45.

[59] Ibid., 1919, p. 45.

[60] Ibid., 1918, p. 14.

Table 31

Treasury Certificates of Indebtedness
Sold in 8th District*

	Total amount sold in United States	Amount sold in 8th District
1917	$3,880,570,000	$82,728,000
1918	10,660,743,000	406,790,000
1919	11,177,329,500	388,339,500
	$25,718,642,500	$877,857,500

Liberty Bonds Sold in 8th District*

Issue	Total Sales in United States	Subscribed 8th District	Allotted-8th District
First	$1,989,453,550	$ 86,134,700	$ 65,469,600
Second	3,807,865,000	184,280,750	150,169,250
Third	4,158,599,100	199,835,900	199,835,900
Fourth	6,959,337,300	295,329,750	295,329,750
Victory	4,491,544,850	210,418,700	201,787,600
	$21,406,799,800	$ 975,999,800	$912,592,100

Analysis of Payments for Three Liberty
Bond Issues - 8th District*

Issue	Cash	Credit	Certificates of Indebtedness	Balance not due
Third	$ 56,290,303	$89,421,597	$ 54,124,000	
Fourth	54,313,998	133,959,027	82,274,000	$24,782,725
Victory	41,408,829	100,910,271	59,468,500	
	$152,013,130	$324,290,895	$195,866,500	

*Compiled from Annual Reports of the Federal Reserve Board and Annual Reports of the Federal Reserve Bank of St. Louis, 1917-1919.

was considerably over-subscribed. For the last three of the Liberty loan issues the Eighth District was the first of the districts to reach its quota. The total amount of Liberty bonds sold in this district was $912,592,100, which represented 4.3 per cent of all the bonds sold. The per cent of banks subscribing to the Liberty loan issues was higher than for the Treasury certificates, nearly 100 per cent of the banks participating.

The Treasury certificates were practically all purchased by the banks, only a negligible portion being purchased directly by individuals or corporations. In the case of the Liberty bonds the banks were the largest purchasers in the first instance. Almost half of the bonds were paid for by means of crediting the government on the books of the bank. Approximately $697,000,000 of the Third, Fourth and Victory bond issues were sold in the Eighth District, and of this amount $324,000,000 were paid for by means of credit on the books of banks.

The use of the credit of the Federal Reserve Bank of St. Louis for the purchase of Treasury certificates and Liberty bonds can be seen in the proportion of paper discounted by member banks that was secured by these war obligations. Particularly during 1918 and 1919 most of the discounted paper consisted of customers' notes and member bank notes with war paper as collateral.

Table 32

Total Bills Discounted and Bills Discounted Secured by War Obligations of the Government, St. Louis Bank

	Total Bills Discounted	Secured by War Obligations
1917	181,117,651	108,592,719
1918	1,085,137,254	777,982,269
1919	2,100,630,595	1,895,246,179
1920	2,438,040,714	1,441,230,964

While both Treasury certificates and Liberty bonds were sold largely by means of expanding bank credit, the large amounts of government obligations were absorbed by the public in the Eighth District in a satisfactory manner, and as quickly as could have been reasonably expected. The St. Louis Bank estimated that at the end of 1918 about $800,000,000 of war obligations were outstanding in the Eighth District.[61] The banks in five financial centers in the district, St. Louis, Louisville, Memphis, Little Rock, and Evansville, held approximately $75,000,000 of war obligations at the end of 1918.[62] This indicated a probable absorption by the public of some 500 to 700 millions of dollars of such obligations. On December 31, 1918, the total amount of bills discounted by the St. Louis Bank held on that date was $70,702,654, of which $53,117,641 was secured by war obligations, or 75 per cent.[63]

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[61] Annual Report of the Federal Reserve Bank of St. Louis, 1918, pp. 20-21.

[62] Ibid., 1918, p. 21.

[63] Ibid., 1918, p. 21.

At the end of 1919 there were approximately $1,047,000,000 of war obligations outstanding in the district.[64] Banks in the same five financial centers held a total of $42,530,000 of war obligations at the end of 1919, which was $29,014,000 less than the amount held at the end of 1918.[65] This would indicate an absorption of nearly a billion dollars in government securities. On December 26, 1919, the total loans and investments of the 35 reporting banks in these five cities were $591,306,000, of which $79,079,000 or 13 per cent was represented by war obligations or loans secured by war obligations.[66] On December 31, 1919, the total borrowings of member banks amounted to $77,679,473. Discounted bills secured by war obligations amounted to $45,068,227, or 58 per cent of the total borrowings.[67] War obligations, however, continued to support the inflated credit structure in a considerable way during 1920, as is indicated by the large proportion of paper secured by such obligations discounted by the Bank in 1920.

The use of Federal Reserve bank credit in financing the sale of government securities enabled the banks to avoid curtailing credit for ordinary commercial and industrial purposes. Credit was available for all reasonable business needs. The expansion of bank credit was not in itself the cause of the inflation of prices which occurred. It was the expenditure of funds secured from an expansion in bank credit by the

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[64] Ibid., 1919, pp. 21-22.
[65] Ibid., 1919, p. 22.
[66] Ibid., 1919, p. 22.
[67] Ibid., 1919, p. 22.

government in the purchase of war materials and supplies, creating a flow of monetary consumer purchasing power. This monetary purchasing power was not offset sufficiently by taxation, or by savings of current income, but was directed to the markets for consumer goods. Ordinarily, the effect of war expenditures on prices is largely determined by the proportion of funds secured by taxation to those secured by borrowing. If all the funds spent for war purposes were secured by taxation the artificial monetary purchasing power created would be offset by taxes, and the program would not be inflationary. If the funds, however, are secured by creating bank credit, or by borrowing past accumulated savings, the flow of money purchasing power from the war industries is not offset. The result in the latter case is the enforced spending of past savings and of artificial bank credit. If the government borrows funds that represent savings of current consumer income, the result is an offset to the flow of artificial money purchasing power. It is possible by the use of various techniques in selling government securities to induce the consumer to save current income to purchase such securities.

The result of the large use of Reserve credit in the purchase of government securities during the period 1917-1919 was to effect a gradual absorption of these securities by the public. To a limited extent the extension of bank credit for the purchase of securities encouraged the saving of current consumer income to make payment, but artificial money income was not offset in great measure by such saving. A program of heavier taxation and of direct absorption of current savings would have prevented much of the inflation of the period 1917-1920. The policy of government borrowing by means of credit inflation once having been determined, however, the use of Reserve credit enabled ordinary business enterprise to secure credit at reasonable rates of interest.

During most of 1918 a sub-committee of the Capital Issues Committee, appointed by the Federal Reserve Board, functioned in the Eighth District. An act of Congress of April 5, 1918, gave this Capital Issues Committee a legal status, and in July the District sub-committee became the "District Committee on Capital Issues".[68] The purpose of this Committee was to discourage unnecessary undertakings involving capital expenditures, or the issuance of new securities, so as to conserve capital, labor, and materials for war purposes. During the year the Committee considered 283 formal applications, approving 210 involving $65,378,677, and disapproving 73 involving $27,039,354.[69] In addition, the Committee secured the postponement, informally, of about 140 projects involving the expenditure of approximately $40,000,000.

[68] Annual Report of the Federal Reserve Bank of St. Louis, 1918, pp. 17-18.
[69] Ibid., 1918, p. 18.

CHAPTER V

THE MEMBER BANKS OF THE EIGHTH DISTRICT

All national banks are required to become members of the Federal Reserve System. Banks chartered under state laws are permitted to become members if they fulfill the requirements for membership as provided by the Act, and conform to the regulations prescribed by the Board for the admission of state banks. It was believed at the time the Federal Reserve Act was enacted that a large number of state institutions would join the System immediately, and that eventually nearly all the banks in the country would come under its jurisdiction. This hope was not realized, as very few state banks joined the System in its early years, and a large number still remain outside the System today. While member banks held 87 per cent of the deposits in all operating commercial banks at the end of 1939, they constituted only 44 per cent of the number of such banks.

Many steps have been taken to encourage, and to offer incentives to these banks to join. Regulations have been made for the purpose of meeting the objections offered by the state banks. Some Reserve banks have devoted much effort to the task of persuading these banks of the value of the services offered to member banks in relation to the obligations imposed by membership. This task has been particularly difficult in the Eighth District, as in other districts in the Middle West and South, because of the large number of small banks.

Services Offered Member Banks

The St. Louis Reserve Bank offers a number of services to member banks that are not required of it by the terms of the Act. The objective of the Bank has always been to provide such additional services to member banks as it was financially able to undertake, if these services could be provided more effectively, or at less expense, by the Reserve Bank.

Some of these voluntary services may be enumerated as follows:

1. Non-cash collection facilities. The Bank receives for collection from member banks notes, drafts, acceptances, bonds, and other non-cash items. No charge is made for this service. A member bank may send direct to other Reserve banks items payable in their districts. With a few exceptions no charges are made by these other Reserve banks.

2. Wire transfers. Transfers of funds between member banks in the District are made through their reserve accounts, of course. Transfers of funds from one district to another may be made over the leased wires of the System in multiples of $1,000 without cost to the member bank.

3. Exchange drafts on the Reserve Bank. Member banks may issue exchange drafts on their reserve accounts to supply funds for the immediate credit in the 36 Federal Reserve bank and its branch cities.

4. Safe-keeping. Member banks may deposit for safe-keeping securities, commercial paper, and bankers' acceptances owned by them.

5. Investment services. The Reserve Bank will buy and sell for member banks government securities and acceptances without any charge for the service.

6. Charges on currency shipment. The Reserve Bank pays all transportation and insurance costs on the shipment of paper currency and coin to and from member banks, except in the case of silver dollars.

7. Reporting and research services. Monthly reports on agricultural, business, and financial conditions are made available. Annual studies of operating costs and profit and loss experience of member banks have been made since 1937.

The St. Louis Bank has endeavored to inform banks in the District as fully as possible of the various services available through the Reserve System in order to enable them to realize the maximum advantage of membership in the System. Circulars explaining various phases of the operation of the Reserve System have been sent to the member banks. Personal contacts between officers and representatives of the St. Louis Bank and the member and non-member banks have been emphasized. In July, 1922, a regular system of visits to member banks was inaugurated. The District was divided into four sections, and a traveling representative was assigned to each.[1] Representatives were required to cover their sections at least twice yearly. Non-member banks as well as member banks were called on in those towns where member banks were located. In 1926 the number of representatives was reduced and the visits were made but once a year.

Regardless of questions as to the advisability of establishing the three branches at Louisville, Memphis, and Little Rock, the existence and operation of these branches has aided considerably in maintaining closer relations between the Reserve Bank and the member banks. It must be admitted, of course, that member banks located in reserve cities have an advantage in utilizing the services of the Reserve bank. The establishment of the branches, therefore, made these services more available to the banks located in these cities, and undoubtedly had some influence in increasing the membership of state banks in these cities. The St. Louis Bank was the first of the Reserve banks to inaugurate a conference between officers and directors of the Reserve Bank and officers and directors of the branch

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[1] Annual Report of the Federal Reserve Bank of St. Louis, 1922, p. 16.

banks. Such a conference was first held in St. Louis on April 16, 1919.[2]

Examinations

The Federal Reserve Act in Section 9 originally required that at least two examinations a year be made by the Comptroller of the Currency of all national banks and state member banks. The Federal Reserve Board was permitted, however, to accept the examinations of state authorities for state member banks. One of the several amendments made in 1917 for the purpose of encouraging state banks to join the System provided that if a Reserve bank approved the examinations made by a state authority, they could be accepted in place of examinations by the Comptroller, or by the Board.[3] This placed the control of examinations of state member banks in the hands of the Reserve bank. This amendment also provided that reports of condition were to be made to the Reserve bank.

During 1918 the St. Louis Bank made no separate examinations, but accepted the reports of examinations made by the various state banking departments.[4] However, near the close of 1918 the St. Louis Bank organized an examination department, and made an arrangement with the Missouri State Banking Department to have an examiner of the Reserve Bank participate with a state examiner in examining member

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[2] Ibid., 1919, p. 18.

[3] Section 9, paragraphs 5, 6, and 7, Federal Reserve Act.

[4] Annual Report of the Federal Reserve Bank of St. Louis, 1918, p. 12.

state banks in Missouri.[5] During 1919 similar arrangements were made with the banking departments of other states in the District.[6] During the twenties the St. Louis Bank participated in a large portion of the examinations made by state banking departments of member banks, but not in all of them. The Bank usually made an independent examination of a bank applying for membership, and in a few cases made independent examinations of state banks already members.[7]

In recent years state member banks have been examined regularly once a year by Federal Reserve examiners in conjunction with state examinations. This joint examination is desirable for a number of reasons: first, because more information can be obtained at less cost; second, because a bank should not be needlessly subjected to additional visits of examiners; third, because it promotes uniformity of standards in examination work; and, finally, because of the need for cooperation between the Reserve Bank and the several state banking departments.

Membership

At the time of the announcement of the decision of the Reserve Bank Organization Committee there were 458 national banks in the Eighth District with aggregate capital and surplus of $83,179,350. At the end of 1915, after the first full year of operation of the Reserve Bank, there

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[5] Ibid., 1918, p. 12.
[6] Ibid., 1919, p. 10.
[7] The Board of Governors of the Federal Reserve System may make an independent examination of any member bank with its own examiners if it deems it necessary.

TABLE 33

Examinations Conducted by the St. Louis Federal Reserve Bank*

	Number of Member State Banks	Partici-pations	Independent Examinations	Examinations Applying Banks
1919	68	48		
1920	91	80	12	
1921	105	89	12	12
1922	121	119	18	15
1923	129	122	12	16
1924	133	90	9	11
1925	130	107	8	8
1926	123	63	18	8
1927	111	71	3	3

* Compiled from Annual Reports of the Federal Reserve Bank of St. Louis.

were 467 member banks. All were national banks except one, the Mercantile Trust Company of St. Louis. This state institution had joined the System at the time of its organization.[8] At the end of 1915 there were 985 state banks and trust companies eligible for membership on the basis of capital requirements. They had a combined capital and surplus of $109,580,557.[9] In addition, there were 1,588 state banks and trust companies ineligible for membership, with total capital and surplus of $51,274,963. The Federal Reserve Bank of St. Louis, therefore, began operation with a membership having only about 35 per cent of the banking capital of the District. Had all the eligible state banks

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[8] Annual Report of the Federal Reserve Bank of St. Louis, 1915, p. 16.
[9] Ibid., 1915, pp. 15-16.

joined the System the St. Louis Reserve Bank capital would have been more than doubled.

An important problem was thus presented to the St. Louis Bank. If it was to secure control eventually of the majority of banking capital in the District, and thus make central banking more effective in this area, it had to induce a considerable number of the state institutions to join the System. No more state banks joined in the Eighth District until 1917.

There was no direct hindrance to membership of state banks in the banking laws of the several states of the Eighth District. In Arkansas, Illinois, Indiana, and Tennessee no specific legislation was enacted, but state authorities ruled that state banks might subscribe for stock in the Federal Reserve Bank under existing laws. There was a dispute in Missouri as to whether state banks could join, which was resolved by amending the banking statutes to authorize state banks[10] and trust companies[11] to enter the system. A provision of the Mississippi banking law enacted in 1914 stated, "No part of the stock of any bank, except regional reserve banks, doing business in this State, shall be owned by any bank under the provisions of this act."[12] Kentucky in 1914 also passed an act authorizing state banks and trust companies to subscribe for stock in the Reserve

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[10]Article II, Sec. 66, Banking Laws of Missouri, Revision of 1915.

[11]Ibid., Article III, Sec. 167.

[12]Sec. 64, Banking Law of 1914, Mississippi.

Bank.

State banks offered a number of objections to the provisions of the Act that related to state bank membership. Breckenridge Jones, president of the Mississippi Valley Trust Company of St. Louis, was one of the important leaders in the opposition of state banks throughout the country to membership in the Reserve System. He made numerous speeches in various parts of the country suggesting changes that were necessary before state institutions would find it advantageous to join.[13] Jones was quite influential among state bankers in the Eighth District, and undoubtedly his opposition discouraged applications for membership.during 1915 and 1916.

Breckenridge Jones advanced three basic objections to membership. First, he asserted that the Federal Reserve Board had imposed stricter requirements for membership than those originally specified in the Act. The first position taken by the Board had been that it could prescribe what part of the charter powers of a state bank or trust company could be exercised if it became a member of the Federal Reserve System. Later, the Board abandoned this position, and declared that if, in the opinion of the Board, the exercise of any of the charter powers of a state bank inter-

[13] "The Relation of State Banks and Trust Companies to the Federal Reserve Act", Address before Alabama Bankers' Convention, May 12, 1914. "Does the Federal Reserve System Need the State Banks", Address before Kansas State Bankers' Convention, April 22, 1915.

fered with the liquid condition of the bank, a limitation might be placed on the rediscounting privilege of the bank. The state banks feared, however, that the regulations might be changed after they entered the System, and that they might be restricted in the exercise of those powers which were not enjoyed by the national banks. Second, state banks, if they became members, would be required to send reports to, and be examined by, the Comptroller of the Currency. This, it was thought, would introduce a control not responsive to local conditions. Third, Section 22 of the Act had the effect of prohibiting the payment of interest on the balances of directors, officers, employees, and attorneys, and prohibiting loans to directors, officers, and attorneys, This would have constituted a considerable handicap to many small banks.

In response to these objections amendments to the Act were recommended by the Board and enacted by Congress on June 21, 1917,[14] and on September 26, 1918.[15] Section 9 was amended to read as follows,

> "Subject to the provisions of the Act and the regulations of the Board made pursuant thereto, any bank becoming a member of the Federal Reserve System shall retain its full charter and statutory rights as a State Bank or Trust Company, and may continue to exercise all corporate powers granted it by the State in which it was created, and shall be entitled to all privileges of member banks."

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14. Annual Report of the Federal Reserve Board, 1917, pp. 13-14.

15 Ibid., 1918, p. 81.

This provision was held to exempt state banks from Section 8 of the Clayton Act prohibiting interlocking directorates. Of more importance to the state banks, however, was the freedom which it granted from restrictions on loans to any one person in excess of 10 per cent of capital and surplus. The amendments of 1917 also substituted reports of condition to the Reserve banks, and examinations by the Reserve banks, or the Board, for examinations by and reports to, the Comptroller. Section 22 was amended in 1918 to permit the making of loans and the payment of interest to directors, officers, and employees, except that such loans had to have the approval of a majority of the board of directors.[16]

After it became clear, as the result of recommendations by the Board, that the objections of the state banks would be satisfied; Breckinridge Jones became one of the most enthusiastic supporters of the Federal Reserve System. The bank of which he was president, the Mississippi Valley Trust Company, became a member on May 4, 1917. Between April and November, 1917, seven large state banks in St. Louis with an aggregate capital and surplus of $18,800,000 were admitted to membership. Three other large banks, one in Louisville, one in Memphis, and one in Quincy, Illinois, became members in 1917.[18]

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[16] Loans to executive officers of a member bank were limited to an amount not exceeding $2,500 by amendments made in 1933 and 1935. Sec. 22 (g), Federal Reserve Act.

[17] Annual Report of the Federal Reserve Bank of St. Louis, 1917, p. 11.

[18] Ibid., 1917, p. 11.

In an address in September, 1917, Breckinridge Jones remarked concerning the entrance of his own bank into the System,

> "On which of two correspondents would you prefer to rely in times of stress — the member that you know has the right to rediscount with the Federal Reserve Bank and get needed money for you, or a non-member, who has no such right, and who may have to depend on the courtesy of one of its correspondents or depositories who is a member? I believe it true that practically every large trust company keeps the majority of its reserve accounts with National banks, or with state banks who are members. This is not alone for the reasons of reciprocal business, but because those large institutions realize that they need the protection of the Federal Reserve System, indirectly, at least. It seems reasonable that customers, especially those whose business requires large lines of credit, should do business with a bank which, in times of drought, has the right to go direct to the reservoir. Before we became members, we certainly felt that way. I could not answer the argument. We thought that in the long run our customers would arrive at the same conclusion, so we joined the System, and ever since have been glad that we did."[19]

Jones enumerated certain specific advantages that membership in the System provided for state banks at that time. They were as follows:[20]

1. Acceptances of a member bank could be sold on the open market at rates between ¼ and ½ per cent lower than the similar obligations of non-member banks. Non-member banks were limited in

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[19] Jones, Breckinridge, Address to American Bankers' Association, September 25, 1917, p. 21.

[20] *Ibid.*, (entire address).

trading in acceptances because they had no fixed channel to dispose of their acceptances except in the open discount market, which was limited and precarious in times of firm money rates.

2. State banks would be limited in the expansion of their commercial business unless they had rediscounting facilities.
3. If a state bank in a reserve city wished to have large deposits from member bank correspondents, it needed to join the System, as member banks could not deposit an amount greater than 10 per cent of their capital and surplus with non-member banks.
4. The privilege of borrowing on collateral loans from the Reserve bank constituted an important protection against sudden withdrawals of reserves.
5. In securing Federal Reserve notes and other currency the member bank was relieved from dependence on the convenience or ability of a city correspondent.
6. Postal Savings deposits could be placed only with member banks.
7. Member banks could make drafts on the Reserve bank which were available for immediate credit at any Reserve bank or branch.

8. A member bank was not required to use the check clearing and collection facilities of the System, but the privilege was a valuable one.

During 1918, 31 additional state banks and trust companies in the Eighth District joined the System.[21] The petition for the Memphis branch bank was approved on June 5, 1918. Shortly prior or soon after the granting of this petition one large bank and two medium-sized banks in Memphis joined the System. On June 19, 1918, the petition for a branch bank at Little Rock was approved, which was followed by the entrance of five medium-sized banks in that city during July and August. Undoubtedly, the establishment of branches in these two cities was one important factor in bringing these banks into the System.

The rapid growth in membership of state banks continued during 1919 and 1920 with the entrance of 27 state banks in 1919, and 24 in 1920. The number of state banks entering the System dropped noticeably in 1921, when only 14 joined.

The war was an important factor in the increase in membership, 1918-1920. An appeal by President Wilson was addressed to all state banks to join the System on grounds of patriotism. The sale of Liberty loans and other war securities through the banks brought about a closer rela-

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[21]Annual Report of the Federal Reserve Bank of St. Louis, 1918, p. 38.

TABLE-34

Membership 8th District, 1915-1938*

	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	Totals
Membership at the beginning of year		467	469	478	513	540	571	588	610	630	628	628	618		593	579	552	485	438	412	397	390	388	392	
Gains																									
New national banks		5	4	11	14	14	9	11	15	5	10	6	4	4	9	10	6	6	12	26	3		2		186
Conversion state to national		4				1			4			1	1	1						4			1		17
Admission of state bank or trust co.			12	31	27	24	14	17	17	10	5	4		3	8	9	1	1	21	8			6	2	220
Total gains		9	16	42	41	39	23	28	36	15	15	11	5	8	17	19	7	7	33	38	3		9	2	423
Losses																									
Merger of members					6	1	1		5	2	1	1	1	2	3	3	1						1		28
Voluntary liquidation			7	7	7	7	5	3	7	11	7	10	4	8	20	28	16	14	9	12	7	2	4	3	198
Suspension		1						2		2	3	6	16	1	3	9	56	34	39	39					211
Absorption by non-member														1	1	4		2							8
Conversion national to state bank		6							1																7
Withdrawal of state bank					1			1	3	2	4	4	3	2	4	2	1	4	11	2	3				47
Total loss		7	7	7	14	8	6	6	16	17	15	21	24	14	31	46	74	54	59	53	10	2	5	3	499
Net change		2	9	35	27	31	17	22	20	2	-0	-10	-19	-6	14	-27	-67	-47	-26	-15	-7	-2	4	-1	
Membership at end of year	467	469	478	513	540	571	588	610	630	628	628	618	599	593	579	552	485	438	412	397	390	388	392	391	
National	466	468	465	469	472	480	483	489	501	495	498	495	488	486	474	448	393	360	340	324	320	318	317	314	
State	1	1	13	44	68	91	105	121	129	133	130	123	111	107	105	104	92	78	72	73	70	70	75	77	
Paid in capital ($000 omitted) at end of year	$2,761	$2,800	$3,475	$3,799	$4,064	$4,365	$4,603	$4,827	$5,009	$5,129	$5,127	$5,293	$5,342	$5,408	$5,268	$5,053	$4,693	$4,360	$3,944	$4,088	$3,757	$3,782	$3,868	$3,946	

*Compiled from the Annual Reports of the Federal Reserve Bank of St. Louis.

tionship between the state banks and the Federal Reserve Bank.[22] While non-member banks were permitted to rediscount paper based on war securities if the paper was endorsed by a member bank, Federal Reserve credit to carry war securities could be obtained more easily if the state bank joined the System.

By the end of 1921 there were 105 state member banks. The distribution of these state member banks by states indicates a difference in attitude toward membership in the System. Approximately two-thirds of the total number were banks in Missouri and Arkansas, 33 and 36 banks, respectively, in these states had joined.[23] 15 banks in Illinois and 11 banks in Tennessee had become members. However, only 8 banks in the states of Kentucky, Indiana and Mississippi were members. It is interesting to note in this connection that the parts of Indiana and Kentucky included in the Eighth District were not regarded originally by the St. Louis bankers as territory logically to be included in the St. Louis District. Indiana and Kentucky were added to this District partly to secure sufficient banking capital to meet the terms of the Act. having lopped off

The period of growth in the membership of state banks and trust companies in the Eighth District extended from 1917 until approximately the end of 1923. The movement

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[22] Ibid., p. 12

[23] Ibid., 1921, p. 20.

TABLE 35

Size of State Institutions According to Capital and Surplus Joining System in 8th District, 1917-1923*

Year	Under $100,000	$100,000-$500,000	Over $500,000
1917	2	--	10
1918	6	22	3
1919	17	8	2
1920	10	14	--
1921	8	5	1
1922	3	12	2
1923	5	11	1
Total	51	72	19

*Compiled from Annual Reports of the Federal Reserve Bank of St. Louis

TABLE 36

Number of State Institutions Joining System in 8th District According to Large Cities and Country Area, 1917-1923*

	No. of Banks
St. Louis Metropolitan Area	42
Louisville	4
Memphis	4
Little Rock	6
Evansville	1
Country Area Outside	85

*Compiled from Annual Reports of the Federal Reserve Bank of St. Louis.

of state institutions into the System which developed during the war and post-war adjustment period continued through 1922 and 1923, 17 banks joining in each of these years. Only 10 state institutions joined in 1924, and, thereafter, no considerable number of banks joined the System until recently except in 1933 when 21 state banks were admitted.

An analysis of the state institutions entering the System during the period 1917-1923 indicates that the largest number of banks joining were medium-sized institutions with capital and surplus of $100,000 to $500,000. Of the 142 state banks admitted to membership during these years 72 were of this group. The smaller banks, those having capital and surplus under $100,000, evidenced little interest in the System. While by far the largest number of banks in the Eighth District were small banks of this type only 51 joined the System. Of the 19 large institutions that entered during this period 13 joined during 1917 and 1918.

It is interesting to note the influence of the location of the Reserve Bank in St. Louis on the membership of state banks in that city. Of the 142 banks admitted to membership in the period 1917-1923, 42 were located in the St. Louis metropolitan area. 15 of the banks were located in Little Rock, Memphis, Louisville, and Evansville, and 85 in the smaller communities of the District. By the end of 1923 practically all the banks in St. Louis were members of the System.

An amendment to the Federal Reserve Act on March 4, 1923, permitted state banks and trust companies to become members if they had capital equal to 60 per cent of that required of national banks for the community in which they were located, provided the capital was increased to the full amount required within five years.[24] This modification of the requirements for membership did not induce any significant number of state banks to join the System in the Eighth District. Only 2 banks took advantage of this provision in 1923.[25]

The membership of state banks and trust companies reached a peak in 1924 when 133 such institutions belonged to the System in this District. At that time the number of member banks represented 26 per cent of the total number eligible for membership, but the resources of these member banks represented 66 per cent of the resources of all eligible banks.[26] This demonstrates a substantial gain compared with the situation at the time the Bank commenced operation when the resources of member banks represented only 43 per cent of the resources of all eligible banks. After 1924 the number of state member banks declined steadily until 1935.

The decline of state bank membership after 1924

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[24]The Banking Act of 1933 eliminated this provision, but added a proviso to Section 9 of the Federal Reserve Act permitting state banks to become members with a capital of not less than $25,000 if located in a community of not more than 3000 inhabitants, unless the bank was not eligible for deposit insurance.

[25]Annual Report of the Federal Reserve Bank of St. Louis, 1923, p. 16.

[26]Ibid., 1924, p. 13.

is not to be attributed in large measure to a withdrawal of these banks. The number of withdrawals was small in every year except 1933 when 11 banks relinquished membership, the number ranging from 1 to 4 in every other year from 1922 to 1935. The number of admissions exceeded the number of withdrawals in every year except 1927 and 1932.

During the period from the establishment of the Bank until the end of 1938 a total of 220 state institutions were admitted to membership, and of this number 47 withdrew from the System. There were 77 state member banks at the end of 1938. The remaining 96 banks suspended or went into voluntary liquidation, except in a few instances in which one bank was absorbed by another bank.

The number of member banks, both national and state, declined from 630 at the end of 1923 to 388 at the end of 1936. During the period 1915-1938 a total of 198 member banks were voluntarily liquidated, and 211 member banks were compelled to suspend. A large portion of the voluntary liquidations occurred during the later twenties, but most of the suspensions occurred during the years 1931 to 1934. A total of 56 member banks suspended in 1931, 34 in 1932, 39 in 1933, and 39 in 1934. There have been no suspensions in the Eighth District since 1934.

On December 31, 1938, there were 392 member banks in the Eighth District, which represented 26 per cent of the total of 1,513 commercial banks. However, member banks held $1,724,838,000 of the total deposits of $2,301,673,000 held

TABLE 37

Number and Deposits of Member and Non-Member Banks and Non-Member Banks Eligible and Ineligible for Membership, 8th Federal Reserve District, December 31, 1939*

	Number	Deposits (000's omitted)
All Commercial Banks	1,513	$2,301,573
National Banks	314	1,195,740
State Member Banks	78	529,098
Eligible Non-Member Banks	664	428,385
Insured	634	412,366
Uninsured	30	16,019
Ineligible Non-Member Banks	457	148,450
Insured	398	140,210
Uninsured	59	8,240

*Compiled from Federal Reserve Bulletin, June, 1940, pp. 602-4.

by all banks. This represented 75 per cent of the deposits of all banks, which is somewhat less than the 87 per cent of all deposits held by member banks in all Federal Reserve districts on that date.

The smaller proportion of deposits held by member banks in this area is to be explained by the prevalence of the small state bank in this District. The existence of a large number of small state-chartered banking institutions is characteristic of the Middle West and South. The small state banker has never shown much interest in membership in the Federal Reserve System. Of the total number of eligible non-member banks 62 per cent had deposits of less than

TABLE 38

Number of Eligible and Ineligible Non-Member Banks Classified According to Amount of Deposits, 8th Federal Reserve District, December 31, 1939*

Deposits of --	Eligible Banks	Ineligible Banks
Under $100,000	19	111
$100,000 - $249,000	183	202
$250,000 - $499,000	209	66
$500,000 - $999,000	167	45
$1,000,000 - $1,999,000	55	33
$2,000,000 - $4,999,000	19	
$5,000,000 - $9,999,000	4	
Over $10,000,000	3	

*Federal Reserve Bulletin, June, 1940, p. 605.

$500,000, and 88 per cent had deposits of less than $1,000,000 at the end of 1939. Of the non-member banks ineligible for membership nearly three-fourths had deposits of less than $250,000.

State bank membership is largely concentrated at the present time in Missouri and Illinois. At the beginning of 1939, 62 of the 77 member state banks were located in these two states. The lack of state bank membership in several states, particularly Tennessee and Mississippi, has resulted in producing a situation in which a very small per cent of the total number of banks are members, including national bank members. At the beginning of 1939 there were 10 member banks out of a total of 109 banks in that part of Mississippi in the Eighth District, and 12 member banks out of a total of 100 banks in western Tennessee.

TABLE 39

Number of Member and Non-Member Banks in the 8th District Classified by States, January, 1939*

State	All Banks	National	State Member	Non-Member Eligible	Non-Member Ineligible
Arkansas	239	50	7	106	77
Illinois	277	105	17	111	44
Indiana	120	39	0	67	14
Kentucky	242	45	7	109	81
Mississippi	109	9	1	65	34
Missouri	469	54	45	198	172
Tennessee	100	12	0	49	39
Totals	1,556	314	77	704	461

*Files of the Federal Reserve Bank of St. Louis

Reasons for Failure of State Institutions to Join System

The reason most often given by bankers for failure to join the Federal Reserve System has been the fact that the Reserve banks do not pay interest on reserve balances, while balances with correspondent banks, which can usually be counted as part of the reserve under state banking laws, earned interest. This has undoubtedly been the most important factor in preventing state banks from joining the System, but its importance has been very greatly reduced since the Banking Act of 1933 prohibited member banks from paying interest on demand deposits. This prohibition of interest payment has had the effect of both inducing some banks to join and in a few instances causing banks to relinquish membership. Another factor of almost equal importance has been the feeling on the part of many bankers that most of the services provided by the Reserve bank can be secured from correspondent banks.

In a letter addressed to the Congressional Committee investigating membership in the Federal Reserve System in 1923, Governor Biggs of the St. Louis Bank indicated the principal reasons that in his opinion had prevented a larger membership of state banks in the Eighth District. Part of his letter follows:[27]

> "In my judgment, the principal reasons which result in eligible State banks and trust companies failing to become members of the Federal Reserve System are, in the order of their importance as follows:
>
> (1) No interest paid on reserve balances. At least this is the reason most often given. From the viewpoint of both the prospective member and the member bank this loss is something tangible, and it is rather difficult for the average banker to get a clear idea of the offsetting advantages of membership, which require explanation, and unless the banker is well skilled in banking he can not comprehend them at a glance as he can the loss of interest.
>
> To pay interest on reserve balances would necessitate increased revenue on the part of Federal reserve bank in times of easy money. This would easily result in active competition between Federal Reserve Banks and member banks. It is wrong in principle to pay interest on reserves, and, as a rule, member banks appreciate this when the matter can be fully explained to them.
>
> (2) Lack of knowledge of the system. Lack of knowledge of the system is gradually being overcome, although it is a slow process, as it is educational in its nature. It applies to both members and non-members, although naturally to a greater extent to the latter. This bank from the opening of its doors has tried to meet this problem and has done and is doing everything in its power to have member banks, non-member banks, and the public understand the system.

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27 Joint Hearings before the Committees on Banking and Currency, Congress of the U.S., pursuant to Public Act No. 503, Inquiry on Membership in Federal Reserve System, 1923, p. 65.

(3) No difficulty in obtaining necessary accommodation through correspondents, and knowledge that the majority of the facilities of the system can be so obtained.

This requires little further elaboration except to add that many banks have had relations with correspondents of long standing and they hesitate to take any steps that may interfere with such relations even when they realize that membership in the system does not necessarily interfere with the relations already established. They seem to be afraid that it may have a tendency that way. Correspondent banks have not always encouraged them to think otherwise.

(4) Requirements in respect to paper offered for discount. The requirements in respect to eligibility of paper are now extremely liberal, and about the only States that this applies to are those where the individual loan limit is considerably in excess of 10 per cent.

The requiring of financial statements of customers comes under this heading. In fact wherever the requirements raise the standard of banking there is liable to be the unfounded objection of "red tape".

(5) Needs of community or policy of bank does not make rediscounting necessary.

(6) Objection to par clearance of checks. The objection to par clearance of checks, so far as this district is concerned, is, in my judgment, of minor importance.

(7) Propaganda of those opposed to the system. Propaganda of those opposed to the system has undoubtedly created a certain amount of distrust on the part of some bankers as to the motives and purposes of the Federal Reserve Board and the management of the Federal reserve banks. It takes time to cure such matters. A more thoroughly informed understanding of the system and a word from a satisfied member will accomplish more than anything else."

The system of correspondent relationships which had been highly developed in this country before the establishment of the Federal Reserve System has persisted in the structure of American banking. The correspondent system as it existed before 1914 provided a sort of central banking mechanism, and enabled the banking organization of the country to provide a certain measure of mutual aid and protection. It was believed by some that it was the intent of the Federal Reserve Act that the Reserve banks should take over almost entirely the functions performed before by the correspondent banks, and provide the services formerly rendered by the correspondent banks.[28] Whether or not this was true it is quite clear from the experience since 1914 that any aggressive attempt on the part of the Reserve System to break down the correspondent system would have aroused great opposition, and would probably have resulted in many strong state-chartered institutions not joining the System, and perhaps some national banks re-incorporating under a state charter. Consequently, the Federal Reserve System did not attempt to destroy the correspondent system, but devoted its efforts to constructing a central banking mechanism in which the Reserve banks were to be the most important element while at the same time correspondent relationships were to be retained. Thus it happened that many services provided by the Reserve System became supplementary to the services provided by the correspondent system.

The maintenance of the correspondent system after 1914 acted as a deterrent to any considerable membership of those state banks that did not act as correspondents. The small or medium-size state bank found no compelling reason to join the System when practically the same services could

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[28]Willis, Henry Parker, "The Theory and Practice of Central Banking, pp. 91-93.

be obtained from a correspondent bank as were provided by the Reserve banks, and when access to Reserve bank credit could be obtained through a member correspondent bank. The accounts of country banks were profitable to the large banks in the reserve cities, and these large banks did not encourage their country correspondents to become members of the System because of fear that their accounts might be lost. In fact, in many instances membership was frankly discouraged by the city banks.

It is very doubtful whether many additional state banks would have joined the System even if the Reserve banks had paid interest on reserve balances equivalent to that paid on deposits by correspondent banks. Of course, it has been often demonstrated that the earnings of the Reserve banks have never been sufficient to do this, but had they been sufficient it is yet very doubtful that any material increase in membership would have resulted. The St. Louis Bank pointed out in describing the advantages of membership in a statement issued in 1930 that a state bank by becoming a member could operate with less reserve, and then lend or invest the released funds.[29] The banking laws in all the states in

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[29]The reserve requirements for non-member state banks in the several states of the Eighth District as of 1930 were as follows:

Arkansas -- reserve agents, 20% of demand and time deposits, 2/5 in vault; other banks 15% of demand and time deposits.
Illinios -- 15% of demand and time deposits.
Indiana -- 12½% of demand deposits, 3% of time deposits.
Kentucky -- reserve cities, 10% of demand and 3% of time deposits, 1/3 in vault; elsewhere, 7% of demand and 3% of time deposits, 1/3 in vault.
Mississippi -- cities over 50,000, 25% of demand and 10% of

the Eighth District, except in the case of Illinois in which the law is silent on the matter, provide that when a state bank becomes a member of the Reserve System it is required to maintain only those reserves required by the System. Charles Tippetts has pointed out in his study of the membership problem that a large proportion of the state banks could have offset the loss of interest on reserve balances by increased earnings on funds released since the reserve requirements of member banks were generally lower than those of non-member banks.[30] Of course, the increase since 1935 of member bank reserve requirements, and the prospect that these reserve requirements may be still further increased has lessened the advantage of membership in this one respect.[31]

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time deposits; cities less than 50,000, 15% of demand and 7% of time deposits.
Missouri -- cities 200,000 or over, 18% of demand deposits, 7/18 in vault; cities 25,000 to 200,000, 15% of demand deposits, 2/5 in vault; cities less than 25,000, 15% of demand deposits; anywhere, 3% of time deposits in vault.
Tennessee -- 10% of demand and 3% of time deposits.

Federal Reserve Bank of St. Louis, Advantages of Membership in Federal Reserve System, April, 1930.

[30] Tippetts, Charles S., State Banks and the Federal Reserve System, pp. 179-182.

[31] The Banking Act of 1935 authorized the Board of Governors to increase reserve requirements for member banks if they deemed it necessary to prevent injurious credit expansion up to a maximum of twice the present statutory requirements. The requirements are now 22 3/4, 17½, and 12 per cent of demand deposits for central reserve city banks, reserve city banks, and country banks, respectively, and 5 per cent for time deposits. A special report to Congress by the Board of Governors on January 1, 1941, recommended that the Open Market Committee be given the power to raise the requirements to twice the present maximum limit.

As long as the American banking structure continues to be based largely on the unit bank, it is not at all clear that it would be advisable to destroy the system of correspondent relationships. Important functions in integrating the operation of the American banking organization are performed by the correspondent system. But membership on the part of a small state bank is not incompatible with the maintenance of its correspondent relationships, nor is it in the long run unprofitable to the bank. A vigorous educational program among state bankers to acquaint them with the importance for the effective operation of American banking of Reserve membership, and the long run advantages of such membership to themselves may be productive of results.

One very important difficulty until recent years was to be found in the unsatisfactory condition of many of the smaller state banks. Many of them, although meeting the technical capital requirements, could not have been admitted to membership without lowering the standards because of the unsatisfactory character of their assets. To have done so would have weakened the Reserve System instead of strengthening it. Governor Biggs in commenting on the advisability of attempting to increase membership in 1923 stated,

> "This responsibility is one to be gravely considered in view of the fact that State banks are under State examination and supervision, and the character of this service varies greatly in the different States. In some States it is good, in others it is very lax, due to lack of proper appropriation for the procuring of competent examiners, political control, and, in some instances, inadequacy of the State law itself under which the State banking department operates.

> A careful plan will have to be devised on the part of the Federal Reserve System in order that it may keep in accurate touch with the condition of many small State banks in order that the system may not be weakened by their membership rather than strengthened." [32]

Until recently the St. Louis Bank never solicited membership among the state institutions because it did not wish to encourage a particular bank to join, and then have to reject it on examination. The situation is now quite different. Most of the weak and unsound banks were eliminated during the period 1931-1934. The establishment of the Federal Deposit Insurance Corporation subjected all the insured banks to the examination and supervision of this Corporation. An adequate system of examination has been developed by the St. Louis Bank, and Federal Reserve examiners regularly participate with state examiners in all examinations of state member banks. When an insured state bank joins the System the Federal Deposit Insurance Corporation turns over the examination of the bank to the Reserve examiners in order to prevent unnecessary examinations.

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As a result of these changed conditions the St. Louis Bank now engages in an active program of solicitation of members among the state banks. Since January 1, 1940, 25 state banks have been admitted to membership, 21 during the year 1940, and 4 during the first three months of 1941. Most of these banks were small, only 3 having capital and surplus of more than $100,000.[33] The remaining 22 banks had capital and

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[32]Hearings pursuant to Public Act No. 503, op. cit., p. 64.
[33]Files of the Federal Reserve Bqnk of St. Louis.

surplus of less than $100,000. The First Bank and Trust Co., of Cairo, Illinois, admitted on December 31, 1940, had the largest amount of capital and surplus, $300,000. These 25 new state bank members were all located in Missouri, Illinois, and Indiana. Ten were located in Missouri, 8 in Illinois, and 7 in Indiana. This represents the first substantial gain in membership since the early twenties. There are now more than 100 state bank members.

Earnings and Expenses of Member Banks

The Federal Reserve Board has collected data with regard to the earnings and expenses of member banks in the several reserve districts since 1923. The St. Louis Bank began making studies of operating costs and profits and losses of its member banks in 1937. The data collected by the Board indicate the experience only for the member banks as a whole in the Eighth District, but the studies of the St. Louis Bank make possible a comparison of the experience of member banks of different size on the basis of the amount of deposits held.

During the years 1923 through 1929 current earnings were relatively constant in relation to total loans and investments. Losses were largest in 1924 when the losses on loans amounted to 1.14 per cent of the loans, and losses on investments were .47 per cent of the total investments. Net profits varied from 7.41 per cent in 1927 to 9.57 per cent in 1929 of total capital funds, with the exception of 1924 when net profits were only 5.48 per cent of capital funds.

Earnings declined and losses increased after 1929. Losses on investments were substantially larger than losses on loans during 1931 and 1932, but during 1933 and 1934 losses on loans were quite large and were considerably greater than losses on investments. In 1931 losses on investments equalled 2.12 per cent of investments, while losses on loans were only 1.05 per cent of loans. In 1933, however, losses on investments were 2.97 per cent, while losses on loans amounted to 3.47 per cent. Net profits dropped to .59 per cent of capital funds in 1931, and net losses were sustained in three years, 1932, 1933, and 1934. In 1933 the net loss was 10.57 per cent of capital funds. The effect of the elimination of the weaker banks is noticeable in the fact that net profits increased to 6.91 per cent of capital funds in 1935, and to 10.91 per cent in 1936, although earnings were lower and losses were greater in relation to loans and investments than during the twenties.

Total current earnings in relation to loans and investments were highest in 1929, 6.71 per cent, but declined in every year after 1929 to 4.29 per cent in 1936. Current expenses, which had averaged about 4.80 per cent of loans and investments from 1923 to 1930, were reduced to about 3 per cent of loans and investments in 1935 and 1936.

In the studies of the experience of member banks begun in 1937 by the St. Louis Bank, the banks were divided into 7 groups on the basis of the amount of their deposits. Group I consists of the large banks with deposits of over

TABLE 40

Ratios of Earnings and Expenses, to Loans, Investments, and Capital Funds Member banks, 8th District, 1923-1936*

Ratios to Total Loans and Investments	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Total current earnings	6.69	6.55	6.62	6.56	6.47	6.49	6.71	6.20	5.87	5.51	5.03	4.78	4.56	4.29
Total current expenses	4.83	4.75	4.75	4.79	4.87	4.73	4.80	4.66	4.31	4.32	3.70	3.38	3.12	2.97
Net earnings	1.86	1.80	1.86	1.78	1.60	1.77	1.91	1.54	1.56	1.19	1.33	1.40	1.44	1.32
Net profit after losses	1.34	.91	1.34	1.27	1.15	1.32	1.46	.80	.10	-.48	-1.80	-.58	1.09	1.64
Interest and discount to loans											5.21	4.95	4.68	4.67
Interest and dividends to investments											3.51	3.31	3.14	2.71
Net profit to capital funds	8.00	5.48	8.66	8.29	7.41	8.73	9.57	5.03	.59	-2.75	-10.57	-3.54	6.91	10.91
Losses on loans to loans	.73	1.14	.79	.69	.60	.51	.46	.64	1.05	1.53	3.47	3.06	1.77	.92
Losses on investments to investments	.38	.47	.21	.24	.23	.24	.57	.89	2.12	1.96	2.97	2.47	1.68	.81

*Compiled from The Federal Reserve Bulletin, 1923-1936.

TABLE A1

Operating Ratios of Member Banks in the 8th District
Grouped According to Amount of Deposits, 1937-1940*

For Banks in All Groups

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	50.9	53.2	55.3	58.1
Interest on bonds, dividends, etc.	34.3	32.0	29.3	26.5
Total current expenses	71.6	70.9	70.7	71.6
Net earnings from current operations	28.4	29.1	29.3	28.4
Net additions to profits	21.4	23.1	26.5	25.7
Ratios to total loans and discounts:				
Interest and discount on loans	6.1	6.0	6.0	6.0
Net loss or recovery on loans	-0.5	-0.3	-0.4	-0.1
Ratios to bonds and other securities:				
Interest and dividends	3.5	3.3	3.3	3.1
Net loss or recovery on securities	-0.5	-0.6	-0.5	-0.3
Ratios to total assets:				
Total earnings from current operations	3.8	3.7	3.6	3.5
Net earnings from current operations	1.1	1.1	1.1	1.0
Net additions to profits	0.8	0.9	1.0	0.9
Ratios to total capital funds:				
Net earnings from current operations	8.8	8.8	8.9	8.6
Net additions to profits	6.6	6.9	7.7	7;6
Ratio of capital funds to total deposits		16.1	15.5	15.0
Number of Banks	384	383	381	394

*Federal Reserve Bank of St. Louis, Operating Ratios of Member Banks in Eighth Federal Reserve District.

TABLE 41 (Cont.)

Group I

Average Deposits of $10,000,000 and over

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	44.9	47.6	48.1	50.4
Interest on bonds, dividends, etc.	35.5	32.9	31.2	29.6
Total current expenses	70.2	73.4	71.7	71.8
Net earnings from current operations	29.8	26.6	28.3	28.2
Net additions to profits	25.0	17.6	25.1	24.8
Ratios to total loans and discounts:				
Interest and discount on loans	4.0	4.0	3.9	3.9
Net loss or recovery on loans	+0.03	-0.2	-0.1	-0.1
Ratios to bonds and other securities:				
Interest and dividends	2.9	2.6	2.6	2.5
Net loss or recovery on securities	-1.0	-0.9	-1.0	-0.9
Ratios to total assets:				
Total earnings from current operations	2.9	2.6	2.5	2.4
Net earnings from current operations	0.8	0.7	0.7	0.7
Net additions to profits	0.7	0.5	0.6	0.6
Ratios to total capital funds:				
Net earnings from current operations	9.8	8.0	8.8	8.7
Net additions to profits	7.7	5.3	7.6	7.5
Ratio of capital funds to total deposits		10.0	9.2	8.8
Number of banks	24	24	25	26

TABLE 41 (Cont.)

Group II
Average Deposits $5,000,001 to $10,000,000

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	38.8	39.9	45.1	49.6
Interest on bonds, dividends, etc.	45.5	41.9	34.6	30.2
Total current expenses	70.5	74.0	72.1	72.3
Net earnings from current operations	29.5	26.0	27.9	27.7
Net additions to profits	24.4	18.0	24.3	27.3
Ratios to total loans and discounts:				
Interest and discount on loans	5.2	5.0	4.9	4.6
Net loss or recovery on loans	-0.1	-0.2	-0.6	0.0
Ratios to bonds and other securities:				
Interest and dividends	3.4	3.1	2.9	2.6
Net loss or recovery on securities	-0.9	-0.6	-0.7	-0.4
Ratios to total assets:				
Total earnings from current operations	3.4	3.3	3.1	3.0
Net earnings from current operations	1.0	0.9	0.9	0.9
Net additions to profits	0.8	0.6	0.7	0.8
Ratios to total capital funds:				
Net earnings from current operations	9.5	8.3	8.6	8.1
Net additions to profits	7.7	5.8	7.5	7.6
Ratio of capital funds to total deposits		12.3	12.8	12.6
Number of banks	14	15	18	19

TABLE 41 (Cont.)

Group III

Average Deposits $2,000,001 to $5,000,000

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	43.2	43.3	48.6	52.0
Interest on bonds, dividends, etc.	39.3	38.5	33.7	28.5
Total current expenses	70.9	70.9	70.5	71.0
Net earnings from current operations	29.1	29.1	29.5	29.0
Net additions to profits	22.6	26.3	27.7	25.0
Ratios to total loans and discounts:				
Interest and discount on loans	5.4	5.3	5.3	5.2
Net loss or recovery on loans	-0.2	-0.3	-0.3	0.0
Ratios to bonds and other securities:				
Interest and dividends	3.3	3.1	3.2	2.9
Net loss or recovery on securities	-1.0	-0.5	-0.5	-0.5
Ratios to total assets:				
Total earnings from current operations	3.6	3.4	3.3	3.1
Net earnings from current operations	1.1	1.0	1.0	0.9
Net additions to profits	0.8	0.9	0.9	0.8
Ratios to total capital funds:				
Net earnings from current operations	9.5	9.1	9.2	9.4
Net additions to profits	7.3	8.1	8.4	7.9
Ratio of capital funds to total deposits		13.8	12.9	12.2
Number of Banks	49	48	55	60

TABLE 41 (Cont.)

Group IV

Average Deposits $1,000,001 to $2,000,000

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	48.7	52.4	53.5	56.4
Interest on bonds, dividends, etc.	35.4	32.3	29.7	27.1
Total current expenses	71.3	69.2	69.1	70.9
Net earnings from current operations	28.7	30.8	30.9	29.1
Net additions to profits	23.4	25.2	26.4	26.3
Ratios to total loans and discounts:				
Interest and discount on loans	5.9	5.9	5.9	6.0
Net loss or recovery on loans	-0.4	-0.1	-0.1	-0.2
Ratios to bonds and other securities:				
Interest and dividends	3.3	3.2	3.2	3.0
Net loss or recovery on securities	-0.3	-0.7	-0.7	-0.4
Ratios to total assets:				
Total earnings from current operations	3.8	3.6	3.5	3.4
Net earnings from current operations	1.1	1.1	1.1	1.0
Net additions to profits	0.9	0.9	0.9	0.9
Ratios to total capital funds:				
Net earnings from current operations	9.1	9.7	9.8	9.0
Net additions to profits	7.2	7.8	8.1	7.8
Ratio of capital funds to total deposits		14.2	13.6	14.0
Number of Banks	79	78	81	85

TABLE 41 (Cont.)

Group V

Average Deposits $500,001 to $1,000,000

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	49.8	53.1	56.0	58.8
Interest on bonds, dividends, etc.	36.1	33.0	30.2	27.3
Total current expenses	71.4	71.2	71.0	72.1
Net earnings from current operations	28.6	28.8	29.0	27.9
Net additions to profits	23.2	22.0	26.8	26.1
Ratios to total loans and discounts:				
Interest and discount on loans	6.3	6.2	6.3	6.4
Net loss or recovery on loans	-0.5	-0.5	-0.5	-0.3
Ratios to bonds and other securities:				
Interest and dividends	3.6	3.4	3.5	3.4
Net loss or recovery on securities	-0.4	-0.7	-0.6	-0.2
Ratios to total assets:				
Total earnings from current operations	3.9	3.9	3.9	3.7
Net earnings from current operations	1.1	1.2	1.1	1.1
Net additions to profits	0.9	0.9	1.1	1.0
Ratios to total capital funds:				
Net earnings from current operations	9.0	9.1	9.0	8.8
Net additions to profits	7.5	6.8	7.9	8.0
Ratio of capital funds to total deposits		15.7	15.6	15.1
Number of Banks	106	110	107	110

TABLE 41 (Cont.)

Group VI

Average Deposits $250,001 to $500,000

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	57.4	59.1	62.0	64.7
Interest on bonds,dividends,etc.	30.5	28.5	26.0	23.7
Total current expenses	71.7	70.0	70.9	71.1
Net earnings from current operations	28.3	30.0	29.1	28.9
Net additions to profits	24.4	24.6	27.9	28.4
Ratios to total loans and discounts:				
Interest and discount on loans	6.7	6.8	6.6	6.9
Net loss or recovery on loans	-0.3	-0.3	-0.3	0.0
Ratios to bonds and other securities:				
Interest and dividends	3.7	3.4	3.4	3.4
Net loss or recovery on securities	-0.1	-0.4	-0.3	-0.3
Ratios to total assets:				
Total earnings from current operations	4.1	4.0	3.8	3.8
Net earnings from current operations	1.2	1.3	1.3	1.2
Net additions to profits	1.0	1.0	1.1	1.1
Ratios to total capital funds:				
Net earnings from current operations	8.4	8.9	8.5	8.4
Net additions to profits	7.1	7.1	7.6	8.0
Ratio of capital funds to total deposits		17.2	16.8	17.2
Number of Banks	77	74	66	69

TABLE 41 (Cont.)

Group VII

Average Deposits up to $250,000

	1937	1938	1939	1940
Ratios to total earnings from current operations:	%	%	%	%
Interest and discount on loans	65.1	65.9	67.6	71.5
Interest on bonds, dividends, etc.	23.0	21.2	19.2	17.8
Total current expenses	75.2	73.0	71.9	74.0
Net earnings from current operations	24.8	27.0	28.1	26.0
Net additions to profits	- 0.2	19.5	23.5	15.2
Ratios to total loans and discounts:				
Interest and discount on loans	7.1	7.1	7.4	7.1
Net loss or recovery on loans	-2.8	-0.3	-0.6	-0.3
Ratios to bonds and other securities:				
Interest and dividends	3.6	3.6	3.9	3.1
Net loss or recovery on securities	-0.4	-0.2	0.3	-0.7
Ratios to total assets:				
Total earnings from current operations	4.3	4.3	4.5	4.3
Net earnings from current operations	1.1	1.2	1.3	1.1
Net additions to profits	-0.2	0.9	1.0	0.6
Ratios to total capital funds:				
Net earnings from current operations	5.8	6.0	6.1	5.4
Net additions to profits	-1.3	4.5	5.0	2.9
Ratio of capital funds to total deposits		28.1	29.0	27.3
Number of Banks	35	34	29	25

TABLE 42

Average Operating Ratios of Member Banks in 8th District, 1937-1940, Grouped According to Amounts of Deposits*

	Group I	Group II	Group III	Group IV	Group V	Group VI	Group VII
Ratio to total earnings from current operations:	%	%	%	%	%	%	%
Interest and discount on loans	47.8	43.4	46.8	52.8	54.4	60.8	67.5
Interest on bonds, dividends, etc	32.3	38.1	35.0	31.1	31.7	27.1	20.3
Total current expenses	71.8	72.2	70.8	70.1	71.4	70.9	73.8
Net earnings from current operations	28.2	27.8	29.2	29.9	28.6	29.1	26.5
Net additions to profits	23.1	23.5	25.4	25.3	24.5	26.3	14.5
Ratios to total loans and discounts:							
Interest and discount on loans	3.95	4.9	5.3	5.9	6.3	6.8	7;2
Net loss or recovery on loans	-0.1	-.2	-.2	-.2	-.5	-.2	-.1
Ratios to bonds and other securities:							
Interest and dividends	2.7	3.0	3.1	3.2	3.7	3.5	3.6
Net loss or recovery on securities	-.95	-.7	-.6	-.5	-.5	-.3	-.25
Ratios to total assets:							
Total earnings from current operations	2.6	3.2	3.35	3.5	3.85	3.9	4.35
Net earnings from current operations	.7	.9	1.0	1.1	1.1	1.25	1.2
Net additions to profits	.6	.7	.85	.9	1.0	1.05	.6
Ratios to total capital funds:							
Net earnings from current operations	8.8	8.6	9.3	9.4	9.0	8.6	5.8
Net additions to profits	7.0	7.15	7.9	7.7	7.6	7.45	2.8
Ratio of capital funds to total deposits	9.3	12.6	13.0	13.9	15.5	17.1	28.1

*Computed from Table 41.

$10,000,000, while Group VII consists of the smallest banks with deposits of less than $250,000. The period covered is not sufficient to indicate any particular trends, but it is adequate to compare the experience of banks of different size.

The proportion of earnings derived from interest and discount on loans, and that derived from interest or dividends on securities varies with the size of the bank, except for the largest banks. Banks in Group VII, those with deposits of $250,000 or less, received the largest proportion of earnings from discount on loans, averaging approximately 68 per cent, and the smallest proportion of earnings from investments in securities, approximately 20 per cent. Banks in Group II, those with deposits of $5,000,001 to $10,000,000, received the smallest proportion of earnings from loans, approximately 43 per cent, and the largest proportion of earnings from investments, averaging about 38 per cent. For banks in Groups II, III, IV, V, VI, and VII, earnings on loans decreased and earnings on investments increased as the size of the bank increased. Banks in Group I had larger earnings from loans and smaller earnings from investments than banks in Group II.

There does not seem to be any discernible relationship between losses on loans and the size of the bank. The smaller banks did not have any consistently unfavorable loss experience as compared with the larger banks. The banks in Group VII took very heavy losses on loans in 1937, 2.8 per cent, which produced a net deficit for the year for the group. Losses on investments varied with the size of the banks, Group I banks having the largest losses, and Group VII banks the smallest losses. This is probably influenced, however, by differences in accounting practice in handling losses on securities.

The operating ratio of current expenses to current operating earnings did not differ greatly among the several groups. Banks in Groups III and IV had the lowest ratio of expenses to earnings. The smaller banks and the largest banks had slightly higher ratios. The difference between the lowest and the highest ratios of expenses to earnings averaged less than 5 per cent, the lowest ratio in any year for any group of banks being 69.2 per cent, and the highest ratio in any year being 75.2 per cent.

The average rate of earnings on loans varied inversely and consistently with the size of the bank. The ratio of interest and discount earned to the total loans averaged slightly over 7 per cent for banks in Group VII, while for banks in Group I it averaged 4 per cent. For the other groups of banks the rate of earnings on loans varied between 4 and 7 per cent according to the size of the banks. This indicates, of course, that interest rates charged on customer loans are higher in the smaller communities and lower in the larger communities.

The rate of earnings on investments also varied with the size of the bank, although to a less extent than the rate of earnings on loans. Banks in Groups V, VI, and VII had the highest ratios of interest and dividends to the bonds and securities owned, and the ratio tended to decline as the amount of deposits became larger. The most marked difference existed between banks in Groups IV and V. The rate of earnings on investments was materially lower for the largest banks than for those in Group II. This reflects the difficulty experienced by the large city banks in investing their much larger funds with safety in securities with a good yield. The greater need for liquidity and the lack of securities that do not carry too much risk have caused them to invest heavily in low interest-bearing government obligations.

Banks in Groups III and IV, those with deposits of $1,000,001 to $5,000,000, have shown on the average the most profitable operation. If net additions to profits are related to the total assets of the banks the ratios for banks in Groups III, IV, and V and VI are approximately the same, averaging about 1 per cent. Banks in Groups I, II, and VII had decidedly lower ratios of profits to total assets, about .6 to .7 per cent.

If net additions to profits are related to the total capital funds of the banks the showing made by the largest banks is improved and that of the small banks is made worse. The capital funds of the larger banks are small in relation to the deposits held. Banks in Group I had capital funds in 1938 which equalled only 10 per cent of their total deposits, banks in Group II 12.3 per cent, banks in Group III 13.8, banks in Group IV 14.2 per cent, banks in Group V 15.7 per cent, banks in Group VI 17.2 per cent, and banks in Group VII 28.1 per cent. Banks in Groups III and IV were thus more profitable on the average because of larger profits in relation to total assets than in the case of the larger banks, and a smaller ratio of capital funds to deposits than in the case of the smaller banks.

For the member banks in all groups the ratio of net profits to capital funds was 6.6 per cent in 1937, 6.9 per cent in 1938, 7.7 per cent in 1939, and 7.6 per cent in 1940. Net profits fluctuated more in the case of the largest banks than in the case of the medium-size banks. Banks in Group I had net profits of 8.2 per cent in 1937, 5.3 per cent in 1938, 7.6 per cent in 1939, and 7.5 per cent in 1940.

CHAPTER VI

CREDIT POLICIES OF THE ST. LOUIS RESERVE BANK

The objectives of the credit policies of the Federal Reserve System have undoubtedly undergone some change during the period of twenty-five years that has elapsed since the System was originally established. The attitude that prevailed among Reserve authorities in the early years was that the policy of the Reserve System in the administration of credit should be largely a passive one.[1] The function of the Reserve System was to aid in the adjustment of the supply of credit to the changing needs of trade, and to facilitate the flow of funds from one part of the country to another as they were needed. The determination of the quantity of credit which should be created by banks, or the allocation of credit among various uses was to be left to the working out of economic forces, except that undue diversion of credit from legitimate agricultural, commercial, or industrial activities to the speculative markets for securities was to be prevented. This is well expressed in the requirement that Federal Reserve Banks should fix their rates "with a view of accommodating commerce and business."

As the Reserve banks and the Federal Reserve Board attempted to administer credit and to develop definite credit policies in the difficult period of post-war adjustment, and

[1]Hardy, Charles O., Credit Policies of the Federal Reserve System, pp. 3-17.

in the period of severely depressed business conditions following 1930, the objectives of credit control became more and more related to the stabilization of prices, and the encouragement and direction of production. In recent years the Board of Governors has definitely enunciated as an objective of its credit policy the maintenance of economic stability, and the improvement of consumer purchasing power.[2] In the attempt to achieve these objectives the Reserve System has assumed the function of regulating the volume or quantity of credit, and, to a limited extent, the function of regulating the use of credit.

It can not be stated that there is at the present time agreement as to the proper objectives of central bank credit control. Whether credit should be a "neutral" factor,[3] of whether credit should be so administered as to control movements in prices and changes in the level of economic activity, is a question difficult to determine in these times. Indeed, the question as to whether it is possible by means of credit control to stabilize prices or consumer income to any appreciable extent can not be answered finally by studying the experience gained under the unusual conditions of recent years.

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[2]Hersey, Arthur, "Historical Review of Objectives of Federal Reserve Policy", Federal Reserve Bulletin, April, 1940, pp. 279-289.

[3]The concept of neutrality should not be used to describe a practical monetary policy, rather only a possible objective of a monetary policy, perhaps one of several objectives. It should also be understood that the concept does not imply the absence of active credit control techniques. See Hayek, Friedrich A., Prices and Production, pp. 129-131.

There are a number of specific techniques of credit control available to the Federal Reserve authorities, some of which have been provided in the Federal Reserve Act, while others have been developed in practice. These may be listed as follows:[4]

1. Development of the tradition against borrowing
2. Changes in the discount rate
3. The use of open market operations
4. Direct dealing with individual banks
5. Publicity
6. Use of the power to increase reserve requirements
7. The determination of margin requirements on loans to carry securities

The Board of Governors of the Federal Reserve System was given the power to increase the member bank reserve requirements, and to fix margin requirements for loans on securities by the Banking Acts of 1933 and 1935, and the Securities Exchange Act of 1934. The other techniques of credit control have been in use during all or most of the period since the establishment of the System.

The two most significant techniques of control that may be exercised by individual Reserve banks consist of the power to fix the rate of discount, and direct dealing with individual member banks. As it was pointed out in a previous

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[4]Burgess, W. Randolph, The Reserve Banks and the Money Market, chap. 14, pp. 219-232.

chapter open market operations for the purpose of affecting the supply of credit cannot be carried on effectively by the individual Reserve bank. The buying and selling of government securities and acceptances in the open market by one Reserve bank would necessarily affect the reserves of member banks in other districts as well. Some kind of open market committee for the purpose of correlating the open market operations of the System has existed since 1923, when the Board formulated definite policies as to the use of this technique of control. The Banking Act of 1935 provided that no Federal Reserve bank should engage or decline to engage in open market operations except in accordance with the direction of the Federal Open Market Committee.[5]

There has always been a question as to the amount of control which the Board had the right to exercise over the rates of discount fixed by the Reserve banks. The original Act provided that each Federal Reserve bank should have the power to establish from time to time, subject to review and determination by the Federal Reserve Board, rates of discount to be charged for each class of paper. The Banking Act of 1935 added the following phrase, "but each such bank shall establish such rates every fourteen days, or oftener if deemed necessary by the Board."[6] This amendment does not clarify the issue, but it does give the Board the opportunity to review frequently rates established by the

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[5]Section 12A, paragraph 2 (b), Federal Reserve Act.
[6]Section 14, paragraph 5 (d), Federal Reserve Act.

Reserve banks. The Board clearly has the right to disapprove a change in rate voted by the directors of a Reserve bank, but whether it may order a rate change not authorized by the directors of a Reserve bank is yet a question. The Board has ordered a rate change in two instances. In January, 1920, it refused to approve an increase in the discount rate for paper based on government securities which was proposed by the New York Bank, and instead ordered an increase in the rate applicable to discounts of commercial paper.[7] In September, 1927, the Chicago Bank was ordered to reduce its rate from 4 to 3½ per cent at a time when the rate had been reduced to 3½ per cent at most other Reserve banks, including New York. The international situation, involving a dangerous growth of foreign funds in the New York money market, was given as the reason for this action by the Board, but it is probable that a flow of funds from New York to Chicago also played a part in the decision.[8] The action in the Chicago case aroused considerable disapproval. The vote of the Board on this action was four to three, Secretary Mellon being out of the country at the time.[9]

There are some who believe that regional differences in the discount policy are no longer of any significance, and that a unified discount rate policy has in reality evolved.[10] But it is clear that the Act still contemplates that the in-

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[7]Burgess, W. Randolph, op. cit., p. 223.

[8]Griswold, John A., A. History of the Federal Reserve Bank of Chicago, pp. 165-7.

[9]Ibid., p. 165.

[10]Hardy, Charles O., op. cit., pp. 295-307.

itiative in making rate changes shall be largely undertaken by the Reserve banks, and that the determination of discount rate policy shall be a matter in which both the Reserve banks and the Board shall have a part. Under the conditions existing since 1933 rate policy has had little importance since excess reserves have been large. In order to determine this issue more definitely it will be necessary to await a period in which the discount rate is used to control a credit expansion.

The Period 1914-1916

The most important problem with regard to credit policy that presented itself to the St. Louis Bank in the first two years of its operation was that of getting the member banks to use the credit facilities of the Reserve System. As was pointed out in the discussion of earnings in a previous chapter the member banks continued to borrow most of the funds which they needed from correspondent banks. The system of correspondent relationships had been well implemented in the American banking system prior to the establishment of the Reserve System, and the commercial banks had become accustomed to rely on their correspondent banks in various financial centers for whatever funds they needed. In this system the banks in interior financial centers depended upon their connections with banks in New York City, and the demand for funds thus centered in New York. The first task of the St. Louis Bank was therefore to educate the member banks to rely upon the Reserve Bank for whatever funds they needed to borrow. This task was of further importance to the Bank in that the earnings necessary to pay dividends would probably not be forthcoming until a considerable use of the credit facilities of the Bank was made.

As the discussion in a previous chapter related, the St. Louis Bank was able to secure a larger proportion of the demand for borrowed funds. While the total amount of paper rediscounted in 1916 was only slightly larger than for the first fourteen months of operation, $8,842,667 as compared with $8,231,083, the total borrowing by member banks from all sources was smaller in 1916.[11] During the last four months of 1916 the amount of borrowing exceeded $1,000,000 in each month. It was frequently the case during this early period that individual bankers did not know, or did not take the trouble to inform themselves, as to the proportion of their paper that was eligible for rediscount. Many believed that very little of their portfolio would meet the tests of eligibility set up in the regulations of the Board. Consequently, the Bank undertook to show individual bankers that much of their paper was in fact eligible for rediscount.[12]

From the beginning the St. Louis Bank adopted the policy of requiring financial statements of the customers of member banks, made either by the borrower or by the borrowing

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[11] Annual Reports of the Federal Reserve Bank of St. Louis for the years 1915 and 1916, pp. 22 and 35, respectively.
[12] Ibid., 1916, p. 19.

bank, whenever the paper of such a customer was presented for rediscount.[13] This had the result of causing a number of banks regularly to require such statements when they had not done so before. It also had the effect of standardizing credit and securing the definition of credit terms.

When the St. Louis Bank was opened for business on November 16, 1914, a uniform rate of 6 per cent was established for all classes and all maturities of paper eligible for rediscount.[14] The basis for setting the rate at 6 per cent was found in the interest rates then prevailing in the larger centers of the Eighth District. This rate was slightly below the commercial bank rates to customers in many instances, and approximately equal to the rates on commercial paper selling in the open market in the District. In December money became more plentiful and interest rates began to decline. Consequently, the Bank reduced its rate to 5½ per cent on December 10, 1914, and to 5 per cent on December 21[15] on paper maturing within 30 days.

During the late winter and early spring of 1915 the reserves and deposits of member banks increased rapidly and interest rates in the District continued to decline. From January to March bank rates to customers were 5½ to 6 per cent, and commercial paper was selling at 4½ to 5 per cent.[16]

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[13] Ibid., 1916, p. 20.

[14] Annual Report of the Federal Reserve Bank of St. Louis, 1915, p. 8.

[15] Discount Rates of the Federal Reserve Bank of St. Louis, 1914-21, pp. 18, 19.

[16] Annual Report of Federal Reserve Bank of St. Louis, 1915, p.9.

In March the customer rate declined to 5 per cent and the commercial paper rate to 4 per cent. On January 7, 1915, the Reserve Bank introduced a system of preferential rates based on the maturity of the paper. Rates were established at 4½ per cent on paper maturing within 30 days, 5 per cent on paper maturing within 60 days, and 5½ per cent on paper maturing within 90 days, while the original rate of 6 per cent on agricultural and livestock paper running from 90 days to 6 months was retained.[17] On February 4, 1915, the rate was reduced to 4 per cent on paper of all maturities up to 60 days, and to 4½ per cent on 60 to 90 day paper, and to 5½ on agricultural paper from 90 days to 6 months.[18] During the remainder of 1915 market rates of interest tended to fall slightly. Ordinarily, they would have risen during the crop-moving period, but a late harvest reduced the demand for funds for this purpose. Customer rates during the latter part of 1915 were 4½ to 5 per cent and commercial paper rates were 3½ to 4 per cent.[19] The rediscount rate structure remained essentially the same during the rest of 1915 except for the introduction of special rates for certain classes of paper.

The close relationship between the rates of rediscount established by the Bank and the market rates of interest

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[17] Discount Rates of the Federal Reserve Bank of St. Louis, 1914-21, pp. 18, 19.

[18] Ibid., pp. 18, 19.

[19] Annual Report of the Federal Reserve Bank of St. Louis, 1915, p. 17.

is clearly discernible. The Reserve Bank rates were bounded by the commercial paper rate as a lower limit and the customer rate as the upper limit. A definite rate policy thus appears to have been established during this initial period.

On June 24, 1915, a 3 per cent rate was established for paper maturing within 10 days. The purpose of this rate was to enable large city banks to borrow at a lower rate to meet demands for very short term payments, such as a heavy debit in the clearing house.[20] It was continued until September 16, 1916, when a 15-day rate was substituted.

Preferential rates for two special classes of paper were introduced on September 14, 1915. One of these was for so-called "commodity paper" having a maturity of not more than 90 days.[21] In order to secure this rate the bank offering it had to certify that the loan was originally made at a rate not above 6 per cent. The purpose of this special rate was to assist those who wished to carry cotton, wheat, and other similar commodities. The rate provided was 3 per cent, which was increased to 3½ per cent on December 29, 1916, and discontinued altogether on November 7, 1917.[22]

The other preferential rate introduced at this time was on "trade acceptances". Trade acceptances are helpful to the seller because they convert the open account into a discountable piece of paper, and are desired by the banker because they bear two names instead of one. The St. Louis

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20 Ibid., p. 9
21 Ibid., p. 9
22 Discount Rates of the Federal Reserve Bank of St. Louis, 1914-21, pp. 18, 19.

Bank determined upon a policy of encouraging this type of paper in the Eighth District in the financing of the sale of goods by manufacturers, jobbers and wholesalers to their customers. A preferential rate for the trade acceptance was continued until January 27, 1920. By this time the differential rate structure had been almost entirely abandoned, the only preferential rates continuing beyond this time being those on bankers' acceptances and on paper having government securities as collateral. The rate established for trade acceptances on September 14, 1915, was 3½ per cent, and the amount of preference was either ½ or ¼ per cent until the rate was discontinued.[23]

The Bank was never successful in securing a wide use of the trade acceptance in the Eighth District. The explanation for this is to be found in the attitude of customers of the banks, not in that of the banks. Most business firms preferred to extend credit to their customers on open book accounts, and then discount their own notes at the bank. One reason commonly given in support of this practice was that salesmen found it much easier to hold customers if they were indebted to the firm on its books. Another reason undoubtedly is to be found in the psychology of the customer. He was reluctant to sign his name to a draft thus agreeing to make payment on a certain date if he could avoid this by securing credit on open book account. It should not be understood, however, that the trade acceptance has little use

[23] Ibid., pp. 18, 19.

today in the Eighth District; rather, that its use is limited to certain transactions. The trade acceptance is commonly used today in this area in financing the movement of grain, and to a certain extent in the handling of other agricultural commodities.

During 1916 there was a continuous increase in the volume of business from month to month, and at the end of the year production was at a high level.[24] Prices for all commodities had risen, including those of the major agricultural crops, and conditions were generally prosperous. Despite this expansion in business, bank reserves increased and money was quite plentiful. The explanation for this is to be found in the fact that payments for materials purchased by the belligerent countries in Eurpoe were largely made in cash at this time -- sometimes cash payment was made before delivery. The inflow of gold from Europe was very large during 1916.[25] As a result interest rates in the District declined. Customer rates in the larger cities were about 5 per cent in January, 1916, but declined to a range of 4 to 4½ per cent by the end of the year.[26]

Rediscount rates at the St. Louis Bank remained substantially the same during 1916, and the general relationship between the rediscount rate and market rates of interest

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[24] Annual Report of the Federal Reserve Bank of St. Louis, 1916, p. 6.

[25] Annual Report of the Federal Reserve Board, 1916, pp. 1-3.

[26] Annual Report of the Federal Reserve Bank of St. Louis, 1916, p. 7.

continued to be essentially the same as that described for 1915. The rate on paper maturing from 16 to 90 days continued at 4 per cent. The rate on agricultural and livestock paper running over 90 days was reduced to 4½ per cent. As the result of an amendment to the Act which permitted the discounting of member banks' 15 day notes with eligible paper as collateral, the Bank established a 3 per cent rate for such notes on September 16, 1916, and fixed the same rate for rediscounted paper maturing within 15 days.[27]

The Period 1917-1919

The early part of 1917 was a period of great uncertainty and apprehension. The European war had provided an unprecedented expansion in production and business activity, a large influx of gold, and a considerable volume of foreign borrowing. Prices had risen considerably and were continuing to increase, and this had been followed by increased costs of production. One of two developments appeared likely, the conclusion of a general peace in Europe or the entrance of the United States into the conflict. In the event of peace a difficult readjustment and deflation had to be anticipated. In the event of war this country had to be prepared to expand production still further and extend much larger credits to the Allied countries. In either case a cessation of gold imports was to be expected. In order to strengthen its position to meet these expected demands the

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[27] Ibid., p. 8.

Federal Reserve System took steps to improve its reserve position. The Reserve banks disposed of holdings of municipal warrants and bonds which they had bought as investments.

With the entrance of the United States into the war in April, 1917, the credit policies of the System came to be guided by one objective, namely, the effective prosecution of the war. The System undertook the management of the sale of bonds and notes to finance the war, and endeavored to administer the credit facilities of the country in such a way as to secure the maximum production of war materials. With regard to discount policy the Federal Reserve Board stated in its report for 1917,

> Upon the Federal Reserve Board has fallen the responsibility of directing the policies of the system so as to insure prompt accommodation to banks whose customers require assistance either in providing for commercial demands caused by increased business activities, or in making their payments for bonds, as well as to banks which bought bonds for their own account. It was important that there be no disturbance in the money market and that interest rates should be normal and as free as possible from fluctuation. The Board accordingly, before the subscriptions to the first Liberty bond issue were closed, and in anticipation of the amendments which became law on June 21, established a preferential rate of discount for notes of member banks secured by Government obligations, whether certificates or bonds."[28]

One of the principal objectives of the Board was to prevent interest rates from rising any more than was necessary under the circumstances of the war. High interest rates would have hampered the development of productive facilities

[28] Annual Report of the Federal Reserve Board, 1917, p. 5.

for war materials, and would have caused war activity to curtail further the production of consumer goods. Further, the development of much higher interest rates would have forced the government to pay higher rates on its obligations, thus increasing the cost of the war. It therefore determined to permit the use of Federal Reserve credit on easy terms in order that funds might be available for the purchase of government securities and the financing of business activity.

On May 25, 1917, the St. Louis Bank established preferential rates of 3½ per cent on all rediscounted paper which was secured by Treasury notes, certificates, or Liberty bonds.[29] A rate of 3 per cent was fixed for the discount of the notes of member banks for 15 days with such government securities as collateral. These rates continued until December, 1917, when the rate for rediscounted paper with maturities from 16-90 days was raised to 4 per cent, and the rate on 15-day member bank collateral notes was raised to 3½ per cent.

No change was made in the rates on commercial paper until November and December, 1917. During these two months the rate on paper maturing within 15 days was increased to 4 per cent, the rate on 16-90 day paper to 4½ per cent, and the rate on agricultural and livestock paper to 5½ per cent.[31] The preferential rate on trade acceptances was also raised to 4 per cent at this time.

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[29] Discount Rates of the Federal Reserve Bank of St. Louis, 1914-1924, pp. 18-19.

[30] Ibid., pp. 18-19.

[31] Ibid., pp. 18-19.

Rates were again increased on April 8, 1918, by amounts of ¼ or ½ per cent. The rates on rediscounted paper of 16-90 days were increased from 4½ to 4 3/4 per cent, and the rate on trade acceptances was increased from 4 to 4½ per cent.[32] The rate was raised from 3½ to 4 per cent on 15-day member bank notes, and on customers' paper of 15 days or less when secured by government war paper. A rate of 4¼ per cent was established for customers' paper of 16-90 days maturity having war securities as collateral. On October 5, 1918, a special rate was provided for paper with 16-90 days maturity, secured by Fourth Liberty bonds, provided the paper had been taken by the member banks at a rate not in excess of the Fourth Liberty Loan coupon rate of 4¼ per cent.[33]

The general objective of the policy with regard to paper secured by government war securities was to adjust the discount rate to the rate of interest on the bonds and Treasury certificates. The Board "felt it to be its duty to adjust its discount rates in such manner as to assist the distribution of the various Treasury issues."[34] The amount of preference in the rate for paper secured by government war obligations was ½ per cent for the most part during 1917 and 1918, although after April 8, 1918, there was no difference in the rates for paper with a maturity of 15 days or less.

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[32] Ibid., pp. 18-19.

[33] Annual Report of the Federal Reserve Bank of St. Louis, 1918, p. 36.

[34] Annual Report of the Federal Reserve Board, 1918, p. 5.

Interest rates did not rise to abnormal levels in the Eighth District. At the beginning of 1917 interest rates to customers in St. Louis were 4 to 4½ per cent, and money was easy.[35] In other sections of the District customer rates were somewhat higher. By the end of 1917 customer rates had increased by 1½ per cent, rates in St. Louis being 5½ to 6 per cent.[36] Commenting on the sale of the two Liberty bond issues and the withdrawal of funds from the banks by the government, the St. Louis Bank stated in its 1917 report:

> "This showed its effect on the reserves of the banks throughout the district, but because they could rediscount with the Federal Reserve Bank of St. Louis, business felt little, if any, effect. In fact, the increase in rates to customers is probably due more to delay in transportation than to the bond issue. Mail in transit is all behind time, making the "float" in checks on the average a day late in this district. Cars can not be obtained for shipment, and this requires that the commodities, greater in value than for years previous, be carried longer."[37]

During 1918 interest rates showed very little increase in the Eighth District. Customer rates in the large centers were about 6 per cent during the year, rates in the country areas being somewhat higher.[38] The issue of commercial paper was considerably below normal throughout the year.

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35 Annual Report of the Federal Reserve Bank of St. Louis, 1917, p. 8.

36 Ibid., 1917, p. 8.

37 Ibid., 1917, p. 8.

38 Annual Report of the Federal Reserve Bank of St. Louis, 1918, p. 7.

The rate on commercial paper in the St. Louis market remained at about 6 per cent until December, when it dropped to a range of 5½ to 6 per cent.[39] Brokers encouraged the issue of commercial paper of short maturity in order to make such paper readily available for rediscount at the Reserve Bank.

It will be readily seen from the above analysis that the relationship between market rates of interest and the rediscount rate structure changed materially during our war years from that which had been developed in the Eighth District during 1915 and 1916. The structure of rediscount rates which had been fixed with customer rates as the upper limit and commercial paper rates as the lower limit became materially lower than either of these rates in 1917 and 1918. This development during the war years, however, may be justified as a proper policy. The objective was to provide the necessary credit for both government and ordinary business activity at normal rates of interest. This objective was achieved in the Eighth District. A material rise in interest rates was prevented by making funds available through easy access to the use of Reserve bank credit. A marked credit expansion was clearly necessary to support the greatly increased volume of production, particularly in view of the great rise in prices. The Federal Reserve System was without any power to prevent this price inflation, inasmuch as it was the necessary accompaniment of the governmental

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39. Ibid., 1918, p. 7.

policies adopted to prosecute the war.[40] It does not follow, however, that the same justification can be given for the rate policy adopted in 1919.

The difference between rediscount rates and market rates of interest may be clearly seen by noting the average annual rate of earnings on discounted bills of the St. Louis Bank in 1917 and 1918. In 1917 this average rate on all bills discounted was 3.85 per cent, and in 1918 the rate was 4.29 per cent.[41] This compares with market rates of interest in St. Louis of 5½ to 6 per cent during the latter half of 1917, and 6 per cent in 1918.

The major portion of the borrowing from the Reserve Bank in both 1917 and 1918 was done by discounting paper secured by government obligations. In 1918 this paper represented $777,982,269 out of a total of $1,085,137,254 of discounted paper. The rate of discount on war paper was thus the more significant rate, but this was less true during the war years than in 1919.

Period of Post-War Readjustment, 1919-1921

It might be expected that the readjustment to peace-time conditions would have brought quickly a reduction of prices and a lessening of business activity. However, the accumulated wants resulting from war restrictions, the very large purchasing power due to high wages, high prices

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40This point was discussed in the section on war finance in a previous chapter.

41Discount Rates of the Federal Reserve Bank of St. Louis, 1914-1921, pp. 28-29.

TABLE 43

Total Volume of Paper Discounted by the St. Louis Reserve Bank Each Month, 1917-1918*

	1917	1918
January	$605,729	$38,197,208
February	568,829	30,350,961
March	1,837,517	40,403,410
April	3,933,355	62,992,886
May	5,949,072	59,554,252
June	4,542,803	94,624,576
July	15,381,406	105,035,887
August	15,104,344	92,059,649
September	25,026,448	117,849,235
October	25,871,747	154,899,519
November	32,313,695	155,524,752
December	49,982,704	133,644,917
	$181,117,651	$1,085,137,254

*Annual Reports of the Federal Reserve Bank of St. Louis for 1917 and 1918.

for farm products, and war-time savings, created a large demand for goods. The volume of business increased from month to month during 1919, and prices rose rapidly. The prosperity of the Eighth District was due in large measure to the high prices received for farm products. While some crops were smaller than in the year before, particularly cotton, the high prices received maintained farm purchasing power at a very high level.[42]

A scarcity of goods in most lines soon developed, with raw materials and labor becoming difficult to obtain. A sellers' market developed in which the sellers could

[42]Annual Report of the Federal Reserve Bank of St. Louis, 1919, p. 23.

practically dictate their own terms. The St. Louis Bank remarked in its report, "The advancing market caused many buyers to order more than they needed, so as to avoid rising prices, and this kited prices still higher."[43]

There were many evidences of speculation and of the use of credit for speculation. The Board in its 1919 report gives an excellent picture in the following:

> "The purchasing power of the public growing out of high wages and large profits is greater than it has ever been before; and this purchasing power, competing with export demands arising out of the necessities of Europe, has raised prices to a point that takes no account of prudence. Every element of increased cost is added to price, and there is, therefore, no incentive to manufacturers to produce cheaply or to hold back because of any element of cost, whether of credit, labor, or material, as they can always sell their output at a profit. There is practically unlimited demand for credit not only for the manufacture and distribution of goods, but also for speculation in commodities and in the securities representing ownership of the industries producing those commodities and which profit by their production and sale."[44]

It was clear that increasing costs of production, inflated prices, and speculation in commodities and securities were not providing the proper conditions for an orderly readjustment to peace-time conditions. Higher interest rates were clearly needed to discourage the holding of commodities, to encourage their movement to consumer markets, and to check speculation. Despite this need interest rates in the Eighth

[43] Ibid., 1919, p. 23.
[44] Annual Report of the Federal Reserve Board, 1919, p. 3.

District did not increase, but instead declined. Customer rates at banks in St. Louis and rates for commercial paper which had stood at 6 per cent during 1918 declined to between 5 and 5½ per cent in the last nine months of 1919.[45] The only explanation of this would seem to lie in the easy money policy enforced by the Board.

The Federal Reserve Board decided that discount rates should not be raised even though the credit expansion which was taking place seemed to warrant it. Its first duty, as the Board conceived it, was to aid the Treasury in its financing operations.[46] The Board was fearful that higher rates of discount would prevent the absorption of the large amount of government securities already outstanding and the new securities to be issued. The sale of the $4,000,000,000 Victory loan began in April, 1919.

The attitude of the Board at this time is best seen in the following statement in defense of its policy in the 1919 report:

> "In order that the member banks might carry the burden of undigested Government securities they were obliged to rediscount with the Federal Reserve Banks, and in order that such rediscounting should not involve them in heavy loss it was essential that as long as the banks were lending to bond subscribers at coupon rates the rediscount rate should be related to the bond rate. The rediscount rates of Federal Reserve Banks, therefore, instead of being higher than the market rates, as in

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[45] Federal Reserve Bank of St. Louis, Monthly Review of Business Conditions in the Eighth District, March to December, 1919.

[46] Annual Report of the Federal Reserve Board, 1919, p. 2.

> theory and in normal practice they should have been, were made lower than the market rates. This circumstance is enough to prevent a normal functioning of a Federal Reserve Bank, whose rates should be so fixed that resort thereto is unprofitable to the borrowing institution and thus has a tendency to check expansion. The remedy for this condition is the absorption by investors of the undigested securities. This process could not be accelerated, as in normal times, by sharp declines in value, as the large volume to be digested precluded that possibility. Absorption can be brought about only by time and saving; and it often happens that a rising price causes better absorption than a falling quotation."[47]

While absorption of government securities by the public was undoubtedly important the evidence in the Eighth District does not indicate that war obligations constituted a heavy burden on the member banks during 1919, or that the low rates of discount maintained during 1919 encouraged the absorption of war securities by individuals and corporations. The aggregate of war obligations owned and loans secured by war paper did not constitute more than 23 per cent of the total loans and investments of the reporting member banks in St. Louis, Louisville, Memphis, Little Rock, and Evansville on any monthly reporting date in 1919.[48] Such assets varied from 12 to 23 per cent of total loans and investments, and averaged about 18 per cent during July, August, and September of 1919, after the Victory loan had been placed.

A study of the monthly statements of the reporting member banks in the Eighth District and of the paper discounted by the Federal Reserve Bank of St. Louis indicates

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47 *Ibid.*, 1919, p. 2.

48 Computed from *Monthly Review of Business Conditions*, 1919.

TABLE 44

Loans and Investments in War Obligations of Reporting Member Banks in Five Cities in Eighth District, 1919-1920*
(thousands of dollars)

1919	War Obligations Owned	Loans Secured by War Paper	All other Loans
March 7	$88,757	$22,556	$380,686
April 11	92,072	26,509	388,035
May 9	95,215	25,489	385,533
June 6	89,131	26,366	386,813
July 3	62,896	28,682	390,064
August 8	64,526	26,366	410,288
Sept. 5	66,893	27,753	402,088
Oct. 3	48,857	29,847	418,555
Nov. 7	41,137	28,187	438,588
Dec. 5	33,397	30,644	455,413
1920			
Jan. 9	50,190	30,571	482,471
Feb. 6	40,081	30,023	489,394
March 5	36,153	28,918	500,069
April 9	31,136	28,657	498,287
		(including rediscounts hereafter)	
May 7	29,562	39,030	550,213
June 4	25,165	39,102	545,360
July 2	19,622	37,112	537,743
Aug. 13	21,006	33,534	536,635
Sept. 10	21,590	31,790	543,580
Oct. 8	19,671	31,858	544,378
Nov. 12	20,185	31,940	526,953
Dec. 10	20,367	32,399	509,523

Discounted Bills Secured by Government War Obligations Held by St. Louis Reserve Bank, 1919-1920*
(thousands of dollars)

1919		1920	
May 16	$56,383	Jan. 9	$45,640
June 13	62,903	Feb. 13	50,405
July 11	47,711	Mar. 14	55,493
Aug. 8	59,490	April 16	50,319
Sept. 12	60,400	May 14	56,816
Oct. 10	58,095	June 18	55,250
Nov. 14	43,055	July 16	49,002
Dec. 12	36,126	August 13	41,547

*Federal Reserve Bank of St. Louis, Monthly Review of Business Conditions in the Eighth District, 1919-1920. The five cities consist of St. Louis, Louisville, Evansville, Memphis and Little Rock.

that the low discount rate probably delayed the digestion of securities by the public. The banks were not unwilling to continue to carry a considerable volume of government obligations bearing interest up to 4 3/4 per cent as long as these securities could be used as collateral to borrow additional reserves from the Reserve Bank at a rate of discount equal to or slightly less than the interest earned on the securities. As long as government bonds could be carried with loans from banks at rates no greater than the coupon rate on the bonds, purchasers were not likely to pay off these loans if funds could be more profitably used in business transactions. War obligations against which banks had extended credit, or which had been used to secure paper discounted by the Reserve Bank can not be regarded as digested. They are as much undigested as securities owned outright by the banks.

As is indicated by the table showing loans and investments in war obligations of the reporting member banks the volume of these securities owned by the banks continued to be large during the latter part of 1919 and the early months of 1920. The changes from month to month are for the most part accounted for by fluctuations in the amount of Treasury certificates held, the volume of Liberty bonds and Victory notes held remaining remarkably constant. The amount of loans secured by United States bonds and certificates did not decline, but tended to increase slightly during the last half of 1919. The St. Louis Bank continued to hold between 50 and 60 million dollars of discounted bills secured by war paper until November and December of 1919, when the amount declined substantially only to return to nearly the previous levels in the first half of 1920.

Nearly all the member bank borrowing in 1919 was done by discounting notes secured by war obligations. Of the total of $2,100,630,595 bills discounted by the St. Louis Bank in this year $1,895,246,179 were secured by war obligations.[49] This was, of course, inevitable with a preference of ½ per cent for such paper. That the effective rate of discount was that for war paper is even more clearly seen in the fact that the average annual rate of earnings on discounted bills during 1919 was 4.25, which compares with a rate of 4¼ per cent on 16-90 day paper secured by any kind of war obligations.[50] It is quite clear that the member banks were discounting paper secured by war obligations to secure reserves to provide additional credit to customers. All loans other than those secured by war paper increased from $380,686,000 on March 7, to $455,413,000 on December 5, 1919. This represents an increase of 20 per cent in a period of nine months.

Early in December the Board notified the Federal Reserve banks that it would consider suggestions for rate increases, although it wished to keep the rate on paper secured

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[49] See Table 33 on Page 162.

[50] Discount Rates of the Federal Reserve Bank of St. Louis, pp. 28-29.

by Treasury certificates equivalent to the interest on these obligations, as they were held largely by the banks.[51] Accordingly the discount rates of the St. Louis Bank were advanced in December and January to 6 per cent on commercial paper with the exception of bankers' acceptances, to 5½ per cent on paper secured by Liberty bonds and Victory notes, and to 4 3/4 per cent on paper secured by Treasury certificates.[52] During 1920 the rate on the latter paper was gradually increased, and on January 21, 1921, the rate was fixed at 6 per cent. The rate on paper secured by Liberty bonds and Victory notes was increased to 6 per cent on May 21, 1921. Immediately after the discount rates were raised, market rates of interest in St. Louis increased. The customer rate and the open market commercial paper rate increased by ½ per cent in January, 1920, and by June the customer rate stood at 7 per cent and the commercial paper rate at 8 per cent.

It may be concluded that the easy money policy of the Board in 1919 caused interest rates in the Eighth District to be artificially lower, and encouraged the development of a credit inflation. This policy did not encourage, but rather delayed the absorption of government war obligations. It would appear that the Reserve banks did not determine rate policy during this period, but were dominated by the Board with its policy of giving support to the

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[51]Annual Report of the Federal Reserve Board, 1919, pp. 3-4.

[52]Discount Rates of the Federal Reserve Bank of St. Louis, 1914-21, pp. 18-19.

Treasury without regard to general credit conditions. The Board had not developed any definite credit policy up to this time, and its policy in 1919 may best be explained by its over-powering fear of a decline in the government bond market.

During 1919 a marked inflation had developed in prices, credit, and wages. Cost was of secondary consideration in a sellers' market for all kinds of goods. These developments were accentuated in the early months of 1920. Production was speeded up as much as possible in order to realize top prices before the expected liquidation took place. The peak of the upward movement was reached about the middle of June.[53] However, soon after the beginning of 1920 a consumers' strike against the high cost of living began to develop, and spending for consumer goods decreased. Weekly debits to individual bank accounts in the Eighth District declined throughout the year 1920.[54] After the middle of the summer liquidation began, and prices of basic commodities declined. A sharp reaction commenced in the latter part of October which continued through November and December. This reaction was accompanied by drastic reductions in prices and considerable liquidation in stocks of goods. The rate of decline slowed down in the early months of 1921, and toward the end of 1921 it became evident that liquidation had run its course in a number of important industries. The

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[53] Annual Report of the Federal Reserve Bank of St. Louis, 1919, p. 5.

[54] Ibid., 1919, p. 54.

TABLE 45

Interest Rates in St. Louis, Mo.*

1919	Customer Rate (30-90 da. loans)	Commercial Paper Rate	Endorsed Bankers' Acceptances	Commodity Paper
March	5½ - 6	5¼ -5½		
April	5 - 5½	5¼ -5½	4¼ - 5½	5½ - 6
May	5 - 5½	4½ -6		
June	5 - 5½	5 -5¼	4¼ - 5	5½ - 6
July	5 - 5½	5 -5¼	4¼ - 5	5½ - 6
Aug.	5¼ - 5½	5 -5½	4⅛ - 4¼	5½ - 6
Sept.	5¼ - 5½	5¼ -5½	4⅛ -4¼	5½ - 6
Oct.	5¼ - 5½	5¼ -5½	4¼ -4¾	6
Nov.	5½	5¼ -5½	4¼ -4 5/16	6
Dec.	5 - 5½	5½	4½ -4¾	6
1920				
Jan.	5¼ - 6	6	4½ -4¾	6
Feb.	5½ - 6	6½	5	6
March	5¾ - 6½	7	5¼ -5½	6½
April	6 - 6½	7	6	6 - 6½
May	6½	7¼ -7½	6	6½
June	6½ - 7	8	-	7
July	6 - 7	8	6½ -7	7
Aug.	6½ - 7	8	6½ -7	6½ - 7
Sept.	6½ - 7	8	-	7
Oct.	6½ - 7	8	-	7
Nov.	6½ - 7	8	7	6½ - 7
Dec.	6½ - 7	8	7	6½ - 7

*Compiled from the Monthly Review of Business Conditions in the Eighth District, 1919-1922.

TABLE 45 (Cont.)

1921	Customer Rate	Commercial Paper Rate	Endorsed Bankers' Acceptances	Commodity Paper
Jan.	6½ - 7	7¾ - 8	-	6½ - 7
Feb.	6½ - 7	7½ - 8	5¾	6½ - 7
March	6½ - 7	7¾ - 8	5¾	6½ - 7
April	6½ - 7	7½ - 7¾	-	6½ - 7
May	6½ - 7	6¾ - 7½	5½ - 5⅝	6½ - 7
June	6 - 7	6½ - 7¼	5¾ - 5⅞	6½ - 7
July	6 - 7	6¼ - 7¼	5½	6½ - 7
Aug.	6 - 7	6 - 6¾	5 - 6	6½ - 7
Sept.	6 - 7	6 - 6½	-	6½ - 7
Oct.	6 - 6½	5½ - 6	4⅜ - 4½	6 - 7
Nov.	5¾ - 6½	5¼ - 6	4⅜ - 4½	6 - 6½
Dec.	5¾ - 6	5 - 5¾	4⅜	6 - 6¼
1922				
Jan.	5½ - 6	5 - 5¼	3⅞	5¾ - 6½
Feb.	5 - 5¾	5	4	5¾ - 6
March	5 - 5½	5	4	5½ - 6
April	4¾ - 5½	4½ - 5	4	5½ - 6
May	4½ - 5½	4¼ - 4½	4	5 - 6
June	4½ - 5½	4¼ - 4½	3⅜	5 - 5½
July	4½ - 5½	4 - 4½	-	5 - 6
Aug.	4 - 5½	4 - 4½	3⅛	5 - 6
Sept.	5	4 - 4¼	-	5 - 6
Oct.	4 - 5	4½ - 4¾	-	5 - 5½
Nov.	4 - 5½	4½ - 5	4¼	5 - 5½
Dec.	4 - 5	4½ - 5	-	5 - 6

St. Louis Bank remarked with regard to November and December of 1921: "Interests holding out to the very last in hopes of realizing the extreme high prices, and thus making big profits, had to bear the brunt of the radical reaction of the two closing months of 1920. The year closed with the most difficult stages of readjustment successfully disposed of."[55]

In the Eighth District the liquidation of 1920-1921 proceeded in a rather orderly way, due in greatest measure to the assistance and support rendered by the St. Louis Bank. The St. Louis Bank in the latter half of 1920 urged the commercial interests, particularly in St. Louis, to liquidate stocks of goods by aggressive sales campaigns and by reducing prices. In many instances the salesmen of St. Louis firms went out into the Southwestern territory two or three weeks before the representatives of Chicago firms. While losses were taken in conducting "sales" of merchandise, the losses were less than if inventories had been held in an attempt to get higher prices. The very large amount of Reserve bank credit extended by rediscounting enabled what might be regarded as forced liquidation to be held to the minimum.

One of the most difficult problems that presented itself in the Eighth District was the situation with regard to agriculture. In 1920 the crops were planted and harvested during the period of highest costs, while the market-

[55]*Ibid.*, 1919, p. 6.

ing of these crops took place during the period of decline.[56] Crops were of record proportions in 1920, but the drastic slump in prices reduced agricultural income considerably. Cotton was produced at heavier expense than in any preceding year, and the reduction in the price of cotton caused losses to many planters. The marketing of crops was slow and this made necessary longer and more extensive financing.[57] In 1921 the low prices for all crops together with the failure of the fruit crops and a reduced cotton crop brought considerable depression in the agricultural sections of the District. A large amount of cotton carried over from 1920 had to be sold at lower prices in 1921. Credit in large volume was extended for the purchase of live stock in order that farmers might take advantage of the cheap feed crops.

The St. Louis Bank rendered great assistance to agriculture during 1920 and 1921. While in 1919 the Bank discounted only $4,762,082 of agricultural or live stock paper, the amount of such paper discounted in 1920 increased to $24,591,095, and in 1921 the amount was $52,191,415.[58] These figures do not show the full extent of the assistance rendered to agricultural communities. Much of the borrowing of country banks was done by means of discounting their own promissory notes, the proceeds of which were used to

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56 Annual Report of the Federal Reserve Bank of St. Louis, 1920, p. 6.

57 Ibid., 1920, p. 6.

58 Annual Reports of the Federal Reserve Bank of St. Louis, 1920, p. 10, 1921, p. 11.

extend credit to agricultural interests. An analysis made by the Bank in December, 1920, indicated that about 29 per cent of the total amount borrowed from the Reserve Bank in that year was used for the benefit of agriculture.[59] In an analysis of the liquidation of 1920-21 the Bank stated:

> "The marked liquidation which began the latter part of October, 1920, took place mainly in the parent bank and was due largely to liquidating sales, etc., on the part of commercial interests in St. Louis. The decrease in paper discounted by the Louisville, Memphis, and Little Rock branches, which serve largely the tobacco, cotton and rice interests, was comparatively small, showing that there was very little liquidation on the part of agricultural interests and certainly none of a forced nature."[60]

The amount of Reserve bank credit extended by the St. Louis Bank during 1920 was very large. The total amount of paper discounted for member banks was $2,438,040,713, and in addition the Bank purchased $35,769,617 of bankers' acceptances from banks and dealers in the Eighth District.[61] The volume of borrowing by member banks reached a peak in May and June, and again in October, equalling approximately $160,000,000 in both of these peak periods. It was necessary for the St. Louis Bank to rediscount large amounts of paper with other Federal Reserve banks in order to provide this assistance. In 1919 the St. Louis Bank had been rediscounting for other Reserve banks in following the policy of the Board of equalizing the reserve position of the several Reserve

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[59] _Ibid._, 1920, p. 10.

[60] See the chart on the page following.

[61] _Annual Report of the Federal Reserve Bank of St. Louis_, 1920, pp. 10-11.

Char 2. Federal Reserve Bank of St. Louis,
Discounted Bills, Federal Reserve Notes
in Circulation, and Deposit Liability,
1919-1921.

FEDERAL RESERVE BANK OF ST. LOUIS.
(Including LITTLE ROCK LOUISVILLE and MEMPHIS BRANCHES)

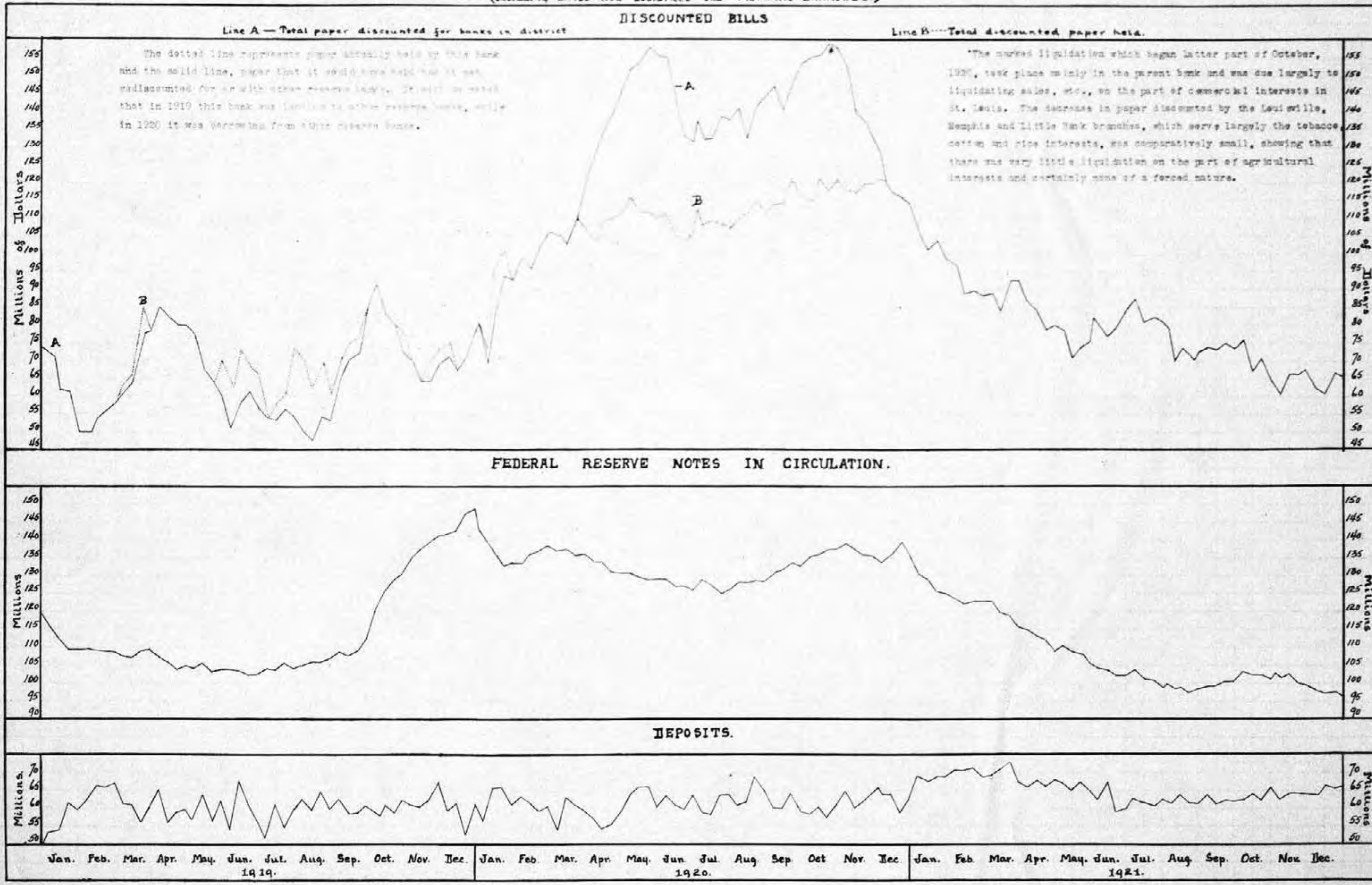

Chart 2

banks. During 1919 it had taken $53,500,000 of paper from the Federal Reserve Bank of Philadelphia, and $86,709,000 of paper from the Federal Reserve Bank of Richmond.[62] Even as late as January, 1920, it had discounted $13,000,000 of paper for the New York and Philadelphia Banks.[63] During the remainder of 1920, however, it was necessary to rediscount a total of $315,498,735 of paper with other Reserve banks, most of the paper being taken by the Boston, New York, Cleveland, and Philadelphia Banks.[64]

The reserve position of the St. Louis Bank declined rapidly during the first part of 1920. On January 2, 1920, the actual reserve was 46.8 per cent and the adjusted reserve[65] was 58.5 per cent, the Bank holding at that time $23,789,634 of paper acquired from other Reserve banks.[66] On March 23 it became necessary to rediscount $2,529,000 of paper with other Reserve banks, and the adjusted reserve fell to 38.5 per cent. By May 28 the adjusted reserve position had fallen to 13.9 per cent, and approximately $50,000,000 of

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62 Ibid., 1919, p. 6.

63 Ibid., 1920, p. 36.

64 Ibid., 1920, p. 36.

65 The actual reserve consists of the gold, gold certificates, and lawful money actually held exclusive of the gold reserve required against Federal Reserve notes. The actual reserve ratio consists of the relation of this reserve held to the reserve deposits of member banks. The adjusted reserve ratio is determined by adding to the actual reserves held the proceeds of bills discounted for other Reserve banks, or subtracting from the reserves the proceeds of bills discounted with other Reserve banks. The adjusted reserve ratio shows the real position of the individual Reserve bank with regard to the volume of borrowing by member banks in its district.

66 Annual Report of the Federal Reserve Bank of St. Louis, 1920, p. 9.

paper was under rediscount with other Reserve banks.[67]

It was at this time that the St. Louis Bank inaugurated the progressive discount rate system by which increased rates of discount applied on borrowing by member banks in excess of their basic line.[68] The reserve ratio improved almost immediately after the progressive rate was introduced, although it declined again in October. By December 31, 1920, the St. Louis Bank was out of debt to other Reserve banks, and both the actual and adjusted reserve ratios stood at 44.3 per cent on that date.[69] The amount of borrowing by member banks continued to be large in 1921, but it declined almost constantly during the year, and the reserve position improved. On December 31, 1921, the reserve ratio stood at 64.8 per cent.[70]

Once the inflationary boom had developed in 1919, it was necessary for the St. Louis Bank to use its credit to assist and support the process of readjustment. It would be difficult to imagine the chaos and forced liquidation that would have resulted if the Federal Reserve Bank had not existed with its facilities to enable member banks to borrow. The drastic readjustment of prices and production was necessary and essential, and was due to basic economic forces. This the Reserve Bank could not have prevented, nor would it

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67 Ibid., 1920, p. 9.

68 Ibid., 1920, p. 9. This progressive rate is discussed in the next section following.

69 Ibid., 1920, p. 9.

70 Ibid., 1921, p. 10.

have been desirable to do so. It was the function of the Reserve Bank to see that the liquidation was carried out as orderly as possible, and that the amount of bank credit was reduced gradually, not curtailed suddenly. The figures on loans and investments of the reporting member banks in the five large centers in the District during 1919, 1920, and 1921 indicate that the amount of bank credit was reduced more gradually in the latter part of 1920 and in 1921 than it was increased in 1919 and the early part of 1920.

Market rates of interest in 1920 and 1921 were considerably above the rates of discount of the Bank. The rediscount rate on commercial paper was 6 per cent during 1920 and 1921, and the rate on paper secured by government obligations was 5 to 5½ per cent in 1920 and 6 per cent in 1921. The progressive rate increased the effective rate for some banks above these figures. The difference in the effective[71] rate of discount between 1919 and the two years following is shown in the increase in the average annual rate of earnings on discounted bills from 4.25 in 1919 to 5.83 in 1920, and to 5.97 in 1921.[72] This indicates an increase of over 1½ per cent in the effective rate of discount between 1919 and 1920. While the discount rates were materially below market rates until the last part of 1921

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[71] The term "effective rate" is used here to mean the actual rate paid for additional borrowed funds by most banks, or the actual rate paid by a particular bank for additional funds.

[72] Discount Rates of the Federal Reserve Bank of St. Louis, 1914-1921, pp. 28-29.

TABLE 46

Loans and Investments of Reporting Member Banks
in the Eighth District, 1921*

Date 1921	Loans secured by war paper	Loans secured by other stocks and bonds	All other loans	Total loans and Investments
	(thousands of dollars)			
Jan. 7	27,623	121,947	357,525	605,134
Feb. 11	25,460	112,672	360,921	597,267
Mar. 11	22,416	121,119	339,220	582,165
April 8	23,480	120,513	328,774	569,523
May 11	20,570	118,708	320,095	565,529
June 8	20,780	117,847	312,872	548,564
July 6	30,343	119,710	312,002	550,190
Aug. 10	19,103	118,512	304,596	540,678
Sept. 14	18,637	118,622	304,157	539,085
Oct. 12	19,220	118,549	300,952	541,208
Nov. 9	18,840	122,220	297,871	543,260
Dec. 14	19,642	123,783	297,096	541,720

*Federal Reserve Bank of St. Louis, Monthly Review of Business Conditions in the Eighth District, 1921.

there is much evidence in the material discussed above to indicate that the increased discount rates were largely responsible for the increased market rates.

The Progressive Rate of Discount

An amendment to the Federal Reserve Act approved April 13, 1920, permitted the Federal Reserve banks, subject to the approval of the Board, to establish graduated rates of discount. Four of the Reserve banks, namely, Atlanta, Dallas, Kansas City, and St. Louis, established a system of graduated rates. All of these plans went into effect in April and May of 1920, at a time when the reserves of these banks were being seriously depleted. Four other Reserve banks, New York, Boston, Chicago, and Minneapolis, increased rates on the rediscount of commercial paper to 7 per cent in June, 1920, but did not establish a system of graduated rates.[73]

The adjusted reserve ratio of the St. Louis Bank had fallen to about 14 per cent in May, 1920. Faced with this situation the Bank elected to establish a plan of graduated, or progressive, rates instead of raising the rate to a flat 7 per cent. It was thought that this plan would be more equitable in that some banks had borrowed much more than others. The progressive rates were established on May 26, 1920, by the St. Louis Bank.[74]

The plan inaugurated by the St. Louis Bank provided that a member bank would be charged the normal discount rate on its borrowings up to the amount of its basic line. This basic line was determined by the theoretical amount that the Reserve Bank could lend any one bank provided all banks called for accommodation at the same time. It was calculated by taking an amount equal to 65 per cent of the required reserve of a bank, adding the amount paid on its stock subscription to the Reserve Bank, then multiplying this total by 2½.[75] The reserve balances and the reserve requirements in the Eighth District were computed as an average of a 7-day

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[73] Annual Report of the Federal Reserve Board, 1920, p. 60.

[74] Annual Report of the Federal Reserve Bank of St. Louis, 1920, p. 12.

[75] Ibid., p. 12.

period for banks in St. Louis, Louisville, Memphis, and Little Rock, and as an average of a 15-day period for all other banks. Consequently, the charges under the progressive rates were figured on the average borrowings of member banks for the same periods.[76] For each additional 25 per cent of its basic line borrowed by a member bank ½ per cent was added to the rate. Thus, if the average borrowing of a member bank for a 7-day period was twice its basic line it would pay a rate of 6 per cent for the amount of borrowing equal to its basic line, 6½ for the first 25 per cent in excess of its basic line, 7 per cent for the second 25 per cent in excess, 7½ per cent for the third 25 per cent in excess, and 8 per cent for the final 25 per cent in excess.

A weakness of the progressive rate as it was applied is found in the exemption of member bank notes with government securities as collateral. Liberty bonds or Victory notes owned by the borrowing bank on April 1, 1920, and Treasury certificates owned by the bank on the date of hypothecation were exempted from the application of the progressive rates. This, of course, was in line with the Board's policy of protecting the market for government securities. The St. Louis Bank stated in its report, "The number of banks which borrowed in excess of their basic lines was always larger than the number subject to the progressive rates of discount because of the exemption of collateral notes secured by Government war obligations."[77]

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[76] Ibid., p. 12.
[77] Ibid., p. 13.

The effect of this exemption was to discriminate in favor of those banks who were holding these war obligations, and against those banks that had attempted to secure the absorption of these war obligations by the public. This was, of course, directly contrary to the objective of the Board's policy.

The average rate of earnings on all bills discounted for the last six months of 1920 exclusive of the interest earned by progressive rates was 5.64. If the earnings due to progressive rates are included the average rate of earnings amounted to 6.13 for the last six months.[78] The graduated rate structure thus increased the average cost of borrowing during the last half of the year by .49 per cent. The average rate of earnings for the entire year 1920 was 5.83, thus indicating that the average rate for the first six months was 5.53 compared to 6.13 for the last six months. However, the effective rate of discount for those banks subject to the progressive rates is not to be found in the average rate on all borrowings, but in the rate applicable to marginal increments in the amount borrowed. If a bank has to pay 7½ per cent on the additional amount borrowed that becomes the effective rate of discount for it at that time. While the average rate on all bills discounted was not as high as 7 per cent in any month in 1920, the effective rate of discount for many banks subject to the progressive rates was much higher than 7 per cent.

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[78] *Ibid.*, p. 13.

TABLE 47

Average Rates of Discount under the Progressive Rate Structure, St. Louis Bank, 1920*

Month	No. of banks borrowing in excess of basic line on the 1st of each month	No. of banks subject to progressive rates	Average rate of earnings on discounted bills exclusive of progressive rates	Average rate of earnings including progressive rates
			%	%
May	132	28	--	--
June	149	79	--	--
July	154	77	5.68	6.07
August	159	89	5.70	6.03
September	166	106	5.41	5.74
October	172	109	5.47	5.86
November	179	111	5.79	6.80
December	182	111	5.82	6.47
	Average per cent July-Dec.		5.64	6.13

*Annual Report of the Federal Reserve Bank of St. Louis, 1920, p. 13.

On May 21, 1921, the progressive rate plan was modified to provide that a rate of 7 per cent would apply on average borrowing in excess of the basic line.[79] The progressive rate was abolished entirely on June 28, 1921.[80]

The use of progressive rates aroused considerable antagonism in some districts where they were applied. The Kansas City Bank particularly pointed out that in its district the psychological effect of the progressive rate was bad, that it caused ill-feeling between member banks, and that

[79] Ibid., 1921, p. 12.
[80] Ibid., 1921, p. 12.

it penalized small banks for the most part.[81] In the questionnaire submitted to the Federal Reserve banks in 1931 by the Senate Committee on Banking and Currency the answers indicated that of the four Reserve banks using the progressive rate in 1920-1921 only the St. Louis Bank favored the further use of it.[82] The New York Bank, although it had not used the progressive rate, stated that its experience indicated that small country banks generally borrowed proportionately more than large city banks, and that the city banks would seldom be subject to any progressive rate plan which did not impose a hardship on the small banks.[83]

While the progressive rate would be useful in discouraging that borrowing which is done for purposes of profit, not all borrowing, or even a large portion of it, usually, is done for profit. It would not be wise to penalize the borrowing done by banks for the purpose of rendering assistance to an area in financial difficulties. Under ordinary circumstances the basic discount rate should be made high enough in relation to market rates to discourage borrowing for profit. Certainly, it was inequitable to exempt from the application of progressive rates borrowing by member banks on notes with government securities as collateral, as the progressive plan provided in 1920-21.

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81 Hearings pursuant to S. Res. 71, 71st Congress, 3rd Sess., Operation of the National and Federal Reserve Banking Systems, pp. 788-89.

82 Ibid., pp. 787-89.

83 Ibid., p. 789.

It might be suggested that if the progressive rate is ever used in the future the basic line of credit ought to be determined for the member banks, classified in groups, on the basis of their borrowing experience. It would thus not discriminate against the country banks.

Bankers' Acceptances

Prior to the passage of the Federal Reserve Act American banks had acquired practically no experience with acceptances. Under the banking laws in existence before 1913 most banks were prohibited from accepting drafts drawn on themselves. The Federal Reserve Act, however, authorized member banks to make acceptances for the financing of foreign trade up to 100 per cent of their capital and surplus under regulations provided by the Federal Reserve Board. At first these acceptances were limited to transactions involving the actual importation or exportation of goods, but amendments were soon enacted to permit the making of acceptances to provide what was called "dollar exchange", and also to permit the accepting of bills arising out of the domestic shipment or storage of goods.[84]

The St. Louis Bank undertook to develop an acceptance market in the Eighth District, but met with little response at first. The banks in this District knew but little of the technique of the acceptance, and during 1915 no acceptances were created. The Bank purchased $1,800,565

84Acts of March 3, 1915, September 7, 1916, and June 21, 1917.

of acceptances in 1915, but this was done through the Federal Reserve Banks of New York, Boston, and Atlanta.[85] During 1916 no acceptances were created in the District based on the import or export of goods, but toward the close of the year some banks began to make domestic acceptances. Domestic acceptances amounting to $1,231,600 were made in 1916, most of them by the banks in Memphis to finance the storage and movement of cotton.[86] The St. Louis Bank purchased a total of $20,681,822 of acceptances in 1916, but of this amount only $242,500 was purchased from banks in the District. In 1917 the practice of making acceptances had developed somehwat, and the Bank purchased $7,590,201 of acceptances originating in the Eighth District at rates ranging from 2½ to 4 per cent.[87]

Something of a local market for bankers' acceptances had developed by 1918. The St. Louis Bank attempted in various ways to secure support for the open market in acceptances. Financial institutions in the District were encouraged to purchase bankers' acceptances for investment. In order to discourage banks from investing in their own bills, which was, of course, an absurd and roundabout process of lending their own funds, the Bank avoided the direct purchase of bills from accepting institutions as much

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[85]<u>Annual Report of the Federal Reserve Bank of St. Louis</u>, 1915, p. 15.
[86]<u>Annual Report of the Federal Reserve Bank of St. Louis</u>, 1916, p. 12.
[87]<u>Ibid</u>., 1917, p. 9.

as possible.[88] Bills were purchased from accepting banks only when they found it impossible to sell them in the open market, and when this was done the rate on commercial paper was charged instead of the rate on acceptances. In 1918 the Bank adopted the policy of assisting local dealers to carry bills in their portfolio by making a 15-day purchase and re-sale agreement with them.[89] Thus the dealers could carry the acceptances until they could be disposed of in the open market.

The largest use of the acceptance ever made by banks in this District occurred in 1919. It was estimated by the St. Louis Bank that approximately $80,000,000 of acceptances were created by banks in this District in that year.[90] The Bank bought from banks and dealers in this District a slightly larger amount than was created here, $81,783,086, which indicates the large amount of support which was rendered the market in this area.[91] It does not indicate, of course, that the St. Louis Bank absorbed all the bills created in this area, as many bills were sold by dealers to banks in other districts just as many bills created elsewhere were purchased by dealers or banks in this District. The St. Louis Bank encouraged the intra-district distribution of bills by giving preference in the purchase of bills to those bearing the name of one bank in the Eighth District and of

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[88] Ibid., 1918, p. 9.
[89] Ibid., 1918, p. 9.
[90] Ibid., 1919, p. 7.
[91] Ibid., 1919, p. 7.

TABLE 48

Purchases of Bankers' Acceptances by the St. Louis Reserve Bank, 1915-22*

Year	Total Purchased	Purchased from banks and dealers in 8th District	Rates
1915	$1,800,565	none	
1916	20,681,822	$242,500	1 7/8 - 3¼
1917	29,732,272	7,590,201	2½ - 4
1918	30,647,633	26,096,120	3 3/8 - 4 3/4
1919	127,822,917	81,783,086	4 - 5
1920	36,019,617	35,769,617	4 5/16- 6 3/4
1921	21,187,538	20,187,470	4 1/8 - 6½
1922	32,441,031	less than half of the total purchased	

*Compiled from Annual Reports of the Federal Reserve Bank of St. Louis, 1915-22.

one name in another Federal Reserve District.[92]

The rate on open market purchases by the Bank was made by contract at the time of offering. The Bank indicated that this gave it some measure of control over the improper use of bills.[93] Usually the buying rate on acceptances followed the open market rate, and was approximately equal to the rate on endorsed, or three name, acceptances in the market. In the case of the 15-day repurchase agreements with dealers the purchases were made by agreement on the basis of a rate equivalent to that at which the dealer bought the bills.[94] The only exception to this rate policy, as was mentioned above, was that in order to discourage the investment by a bank in its own bills, the rate of discount on

92 Ibid., 1919, p. 7
93 Ibid., 1919, p. 8.
94 Hearings pursuant to S. Res. 71, op. cit., p. 942.

commercial paper was charged when such bills were offered for purchase. Later, following a ruling by the Board that a Reserve bank might refuse a bill bearing only the endorsement of the accepting bank, the St. Louis Bank adopted a policy of neither buying bills directly from an accepting bank, nor discounting such bills for the accepting bank.[95]

In 1920 conditions became less favorable for the development of the acceptance in the Eighth District. Member banks did not have the surplus funds to invest in such bills, and the Bank did not encourage the endorsement of bills for profit by the buying rates it established.[96] A preferential rate for the discount of bankers' acceptances maturing within 3 months was established on January 24, 1920, which provided a rate of 5 per cent as compared to 6 per cent on commercial paper.[97] This rate was increased to 5½ per cent in May, 1920, and abolished altogether when all rates were made 5 per cent in November, 1921.[98] The purpose of this preferential discount rate was to sustain the acceptance market, and to encourage the investment of funds in liquid assets.

When the progressive rate plan was introduced in 1920 many banks which had borrowed in excess of their basic

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[95] Ibid., p. 899.

[96] Annual Report of the Federal Reserve Bank of St. Louis, 1920, p. 11.

[97] Ibid., 1920, p. 11.

[98] Discount Rates of the Federal Reserve Bank of St. Louis, 1914-21, pp. 18-19.

line sold acceptances to the Reserve Bank at their buying rate because such sales were not discounts, and, therefore, were not subject to the progressive rates of discount.[99] Additional reserves could thus be secured at a cheaper rate by these banks even though a preferential rate of discount existed for acceptances. The total purchases of acceptances by the Bank from dealers and member banks in 1920 declined to less than half the amount purchased in 1919.

The acceptance market continued to decline in the Eighth District during 1921 and 1922. During these years the St. Louis Bank continued to support the acceptance with considerable purchases from local dealers and banks. Almost all its purchases of acceptances during 1921 were from dealers and banks in the District. However, it became clear that fewer acceptances were being created in this area, and that the market was becoming very "thin". The Bank remarked in its report for 1922 that the demand for bankers' acceptances usually exceeded the supply during the year.[100] Comments in the Monthly Review of Business Conditions in the Eighth District during 1922 indicated that there was little activity in the acceptance market, and that the number of acceptances created in this District was declining.

In the early months of 1923 the St. Louis Bank purchased some acceptances from local sources, but after that time offerings of acceptances by member banks and dealers

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[99] Annual Report of the Federal Reserve Bank of St. Louis, 1920, pp. 11, 12.

[100] Ibid., 1922, p. 11.

in this District were made on rare occasions and in negligible amounts.[101]

In the early years, as was mentioned above, the rate at which acceptances were purchased by the St. Louis Bank was determined by contract at the time of offering, thus providing some discrimination with reference to the character of the bills offered. It is not clear just how long this practice continued, but by the latter part of 1921 a schedule of buying rates had been established which varied with the maturity of the bills. These rates were changed frequently, 29 changes being made in the schedule in 1922.[102] The buying rates in 1922 equalled the open market rates on endorsed bankers' acceptances in St. Louis, Changes in buying rates were numerous but less frequent thereafter.[103] Ordinarily a spread of ¼ to ½ per cent existed in the buying rates between bills of very short maturity and bills having a maturity of 121 to 180 days.

Since 1923, no open market for acceptances has existed in the Eighth District. The St. Louis Bank stated in 1931,

> "In the early days we encouraged several dealers who tried to build up an acceptance business, but they soon gave it up as the banks in the eighth district displayed very little interest in the acceptance business. In the infrequent instances where banks or others were inquiring about the market they

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[101] Hearings pursuant to S. Res. 71, op. cit., pp. 918-19.
[102] Ibid., p. 918.
[103] Ibid., pp. 918-19.

seemed to prefer to go to New York."[104]

The Bank has had no resale agreements with dealers since January, 1924,[105] and except for approximately $700,000 in January, 1924, no acceptances have been held under resale agreement since 1922.[106] The Bank stated in 1931 that in attempting to fill orders of member banks for the purchase of bills they had not found in recent years any bills being held in St. Louis.[107] Between the beginning of 1924 and the end of 1930 the total acceptance liabilities of member banks in the Eighth District as shown in the call reports never amounted to more than 3 or 4 million dollars.[108]

The reasons for the failure to develop the use of the acceptance in this District are several. Normally the acceptance has its most important use in the financing of foreign trade. The business of financing foreign trade tends to flow to the large banks located in the principal ports of the country. The financing of foreign trade has never been an important part of the business of banks located in St. Louis, or in the District. Had Louisiana and Texas been included in the Eighth District as was originally proposed, which would have resulted in the inclusion of New Orleans and the Texas ports, the development of an important foreign bill market in this area would have been much more

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104 Ibid., p. 852.
105 Ibid., p. 943.
106 Ibid., p. 938.
107 Ibid., p. 929.
108 Ibid., p. 875.

probable. The development of such a bill market was envisioned by the St. Louis bankers at the time the problem of districting was under consideration.[109] The character of the Eighth District as it was finally determined had much to do with the failure to develop a foreign bill market.

Most acceptances created in this District have been domestic acceptances. Domestic acceptances tend to be created by banks when their reserves become depleted, and they can not lend their funds but can lend their credit. In this sense the acceptance becomes a method of monetizing additional credit by utilizing funds outside the banks. The risk in the investment of such funds is largely undertaken by the bank by its guarantee of the payment of the bill. The banks in this area have generally regarded it as more profitable to lend their funds than their credit when that was possible. The large volume of acceptances created in this District during the period 1918-1921 is largely to be explained as a monetization of additional credit when the banks were not able to supply the funds themselves. To a large extent these funds were supplied by the Reserve Bank itself, and the acceptance became another means of access to Reserve bank credit. The development of the acceptance in this period is, perhaps, also to be explained by the efforts of the St. Louis Bank to construct a market, and by the experimentation of the member banks with the use of the acceptance. The

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[109]See the earlier chapter which deals with the construction of the Eighth District and the establishment of the St. Louis Bank.

Bank stated in 1931 that in the majority of instances bills accepted by banks in this area represented substitutions for other forms of credit instruments.[110]

To most banks located in the interior of the country the acceptance has not been an attractive investment under ordinary circumstances because of the opportunities for the more profitable employment of funds elsewhere. In order for an acceptance market to exist there must not only be a steady source of supply of these bills, but there must also be a strong investment demand for them. This has not been true in the Eighth District.

The acceptances created in this District have been self-liquidating bills.[111] The only abuse of this instrument occurred in the early years in connection with the practice of some banks in purchasing or discounting their own acceptances. This practice was sometimes a subterfuge for evading the statutory restriction on loans to any one person or corporation of 10 per cent of the capital and surplus of the bank. The acceptance, if based on actually existing values in goods, was not subject to this restriction. When a bank purchased its own acceptances it was, of course, only making an ordinary loan in a roundabout fashion.

The Period 1922-1929

A business revival developed in 1922 throughout the country, and in no part of the country was it more in evidence

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110 Hearings pursuant to S. Res. 71, op. cit., p. 862.

111 Ibid., p. 864.

than in the Eighth District. It was accompanied by increased production and consumption of commodities, increased employment of labor, restored confidence in values, and liquidation of extended credits.[112] The drastic decline in prices which began in October, 1920, and continued through 1921, came to an end in the summer of 1922, and prices then began to turn upward. Credit liquidation continued through the first half of 1922, loans and discounts of member banks declining until the latter part of June. With the usual demands for currency and credit in financing the movement of crops, loans increased in the last half of the year, but the increase was more than seasonal, the volume of loans and discounts being considerably higher in December than at the beginning of the year.[113]

Interest rates which had begun to decline in the last half of 1921 continued to decline throughout 1922. Customer rates of interest on commercial loans in St. Louis had remained remarkably steady at a high level during the last half of 1920 and the first half of 1921. Commercial paper rates, which had reached 8 per cent during the critical period in the last half of 1920, declined earlier than customer rates, but this is not surprising in view of the fact that these rates were 1 to 1½ per cent higher than customer rates. Such abnormal rates on commercial paper could not be expected to continue beyond the period of crisis.

The progressive rates of discount had been eliminated

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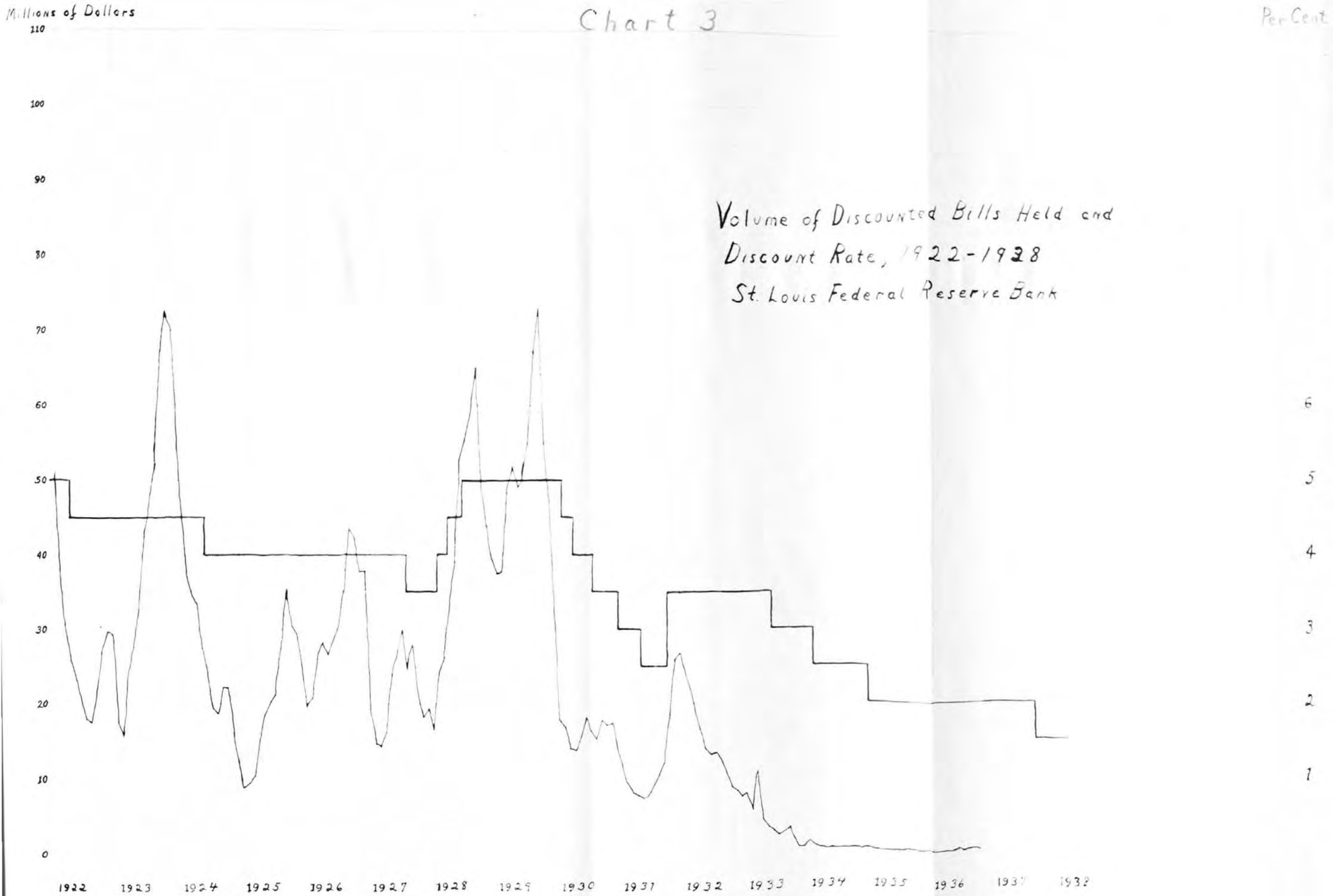
[112] Annual Report of the Federal Reserve Bank of St. Louis, 1922, p. 5.

[113] Ibid., pp. 7, 8.

Chart 3.

Volume of Discounted Bills Held and Discount Rate, 1922-1938, St. Louis Federal Reserve Bank.

Chart 3



Sources: Turner, Member Bank Borrowing, Appendix, Table II A; Annual Reports of St. Louis Federal Reserve Bank

Chart 4.

Customers' Rates for Prime Commercial Loans in St. Louis and Sicount Rate of St. Louis Federal Reserve Bank.

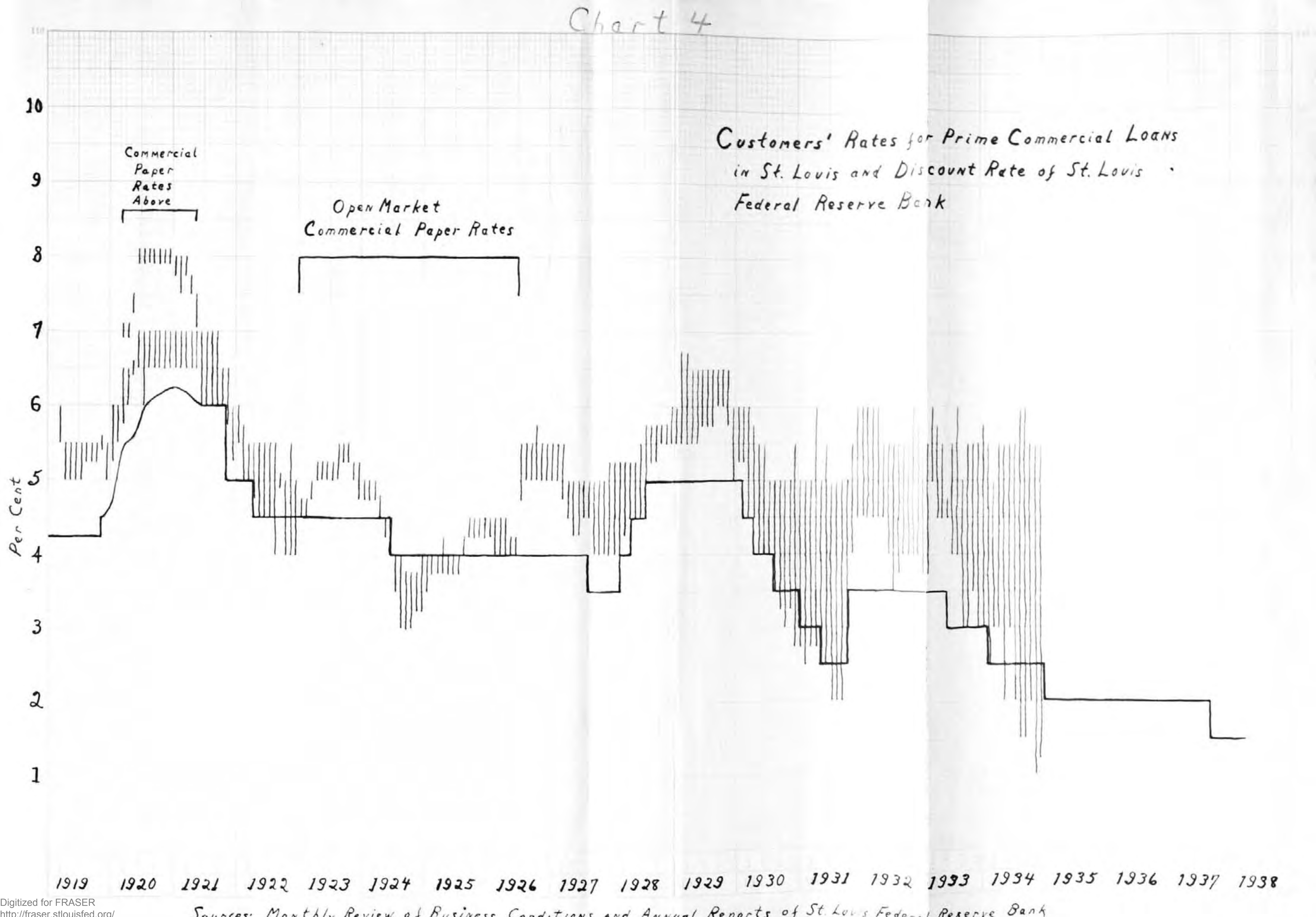


Chart 4
Customers' Rates for Prime Commercial Loans in St. Louis and Discount Rate of St. Louis Federal Reserve Bank
Commercial Paper Rates Above
Open Market Commercial Paper Rates
Per Cent
10
9
8
7
6
5
4
3
2
1
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
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1931
1932
1933
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1935
1936
1937
1938
Sources: Monthly Review of Business Conditions and Annual Reports of St. Louis Federal Reserve Bank

TABLE 49

Interest Rates in St. Louis, Mo., 1923-1934*

1923	Customer Rate	Commercial Paper Rate	Endorsed Bankers' Acceptances	Commodity Paper
Jan.	$4\frac{1}{2} - 4\frac{3}{4}$			
Feb.	$4\frac{1}{2} - 4\frac{3}{4}$			
Mar.	$4\frac{3}{4} - 5$			
April	$5 - 5\frac{1}{4}$			
May	$5 - 5\frac{1}{4}$			
June	$5 - 5\frac{1}{4}$			
July	$5 - 5\frac{1}{4}$			
Aug.	$5 - 5\frac{1}{2}$			
Sept.	$5\frac{1}{4} - 5\frac{1}{2}$			
Oct.	$5\frac{1}{4} - 5\frac{1}{2}$			
Nov.	$5 - 5\frac{1}{4}$			
Dec.	$4\frac{3}{4} - 5\frac{1}{4}$			
1924				
Jan.	$4\frac{3}{4} - 5$			
Feb.	$4\frac{3}{4} - 5$			
March	$4\frac{3}{4} - 5$			
April	$4\frac{1}{2} - 4\frac{3}{4}$			
May	$4\frac{1}{4} - 4\frac{1}{2}$			
June	$4 - 4\frac{1}{2}$			
July	$3\frac{1}{2} - 4$			
Aug.	$3 - 4$			
Sept.	$3 - 3\frac{3}{4}$			
Oct.	$3 - 3\frac{3}{4}$			
Nov.	$3\frac{1}{4} - 3\frac{3}{4}$			
Dec.	$3\frac{1}{2} - 4$			

*Federal Reserve Bank of St. Louis, Monthly Review of Business Conditions in the Eighth District, 1923-1934.

TABLE 49 (Cont.)

1925	Customer Rate (Prime com'l loans)	Commercial Paper Rate	Collateral Loans	Live Stock Loans
Jan.		3½ - 4		
Feb.		3¾ - 4		
March		3¾ - 4		
April		3¾ - 4¼		
May		3¾ - 4		
June		3¾ - 4		
July		3¾ - 4		
Aug.		4 - 4¼		
Sept.		4¼ - 4½		
Oct.		4¼ - 4½		
Nov.		4¼ - 4½		
Dec.		4¼ - 4½		
1926				
Jan.		4¼ - 4½		
Feb.		4 - 4½		
March		4 - 4½		
April		4 - 4½		
May June	4¼ - 5½	4 - 4¼	4½ - 5½	5 - 6
June	-	4 - 4¼	-	-
July	4¾ - 5½	4 - 4½	5 - 5½	-
Aug.	5 - 5½	4¼ - 4½	5 - 5½	
Sept.	5 - 5½	4½ - 4¾	5 - 5½	
Oct.	5 - 5¾	4¾ - 5	5 - 5¾	
Nov.	5 - 5½	4½ - 5	5 - 5¾	
Dec.	5 - 5½	4½ - 5	5 - 5¾	

TABLE 49 (Cont.)

1927	Customer Rate (Prime com'l loans)	Collateral Loans	Loans secured by Warehouse receipts	Live Stock Loans
Jan.	5 - 5½	5 - 5¾		
Feb.	5 - 5½	5 - 5¾		
March	4¾ - 5½	5 - 5½		
April	4½ - 5	5 - 5½	4½ - 5½	6
May	4¼ - 5	5 - 5½	4½ - 5½	6
June	4¼ - 5	5 - 5½	4½ - 5½	6
July	4½ - 5	5 - 5½	5	6
Aug.	4½ - 5	4¾ - 5¼	4¾ - 5	5½ - 6
Sept.	4 - 5	4½ - 5	4½ - 5	5½ - 6
Oct.	4 - 5	4½ - 5	4½ - 5	5½ - 6
Nov.	4 - 5	4½ - 5	4¼ - 5	5½ - 6
Dec.	4 - 5¼	4¼ - 5¼	4¼ - 5½	5¾ - 6
1928				
Jan.	4 - 5¼	4½ - 5¼	4½ - 5½	5½ - 6
Feb.	4 - 5¼	4½ - 5½	4½ - 5½	5½ - 6
March	4¼ - 5¼	4½ - 5½	4½ - 5½	5½ - 6
April	4½ - 5¼	4½ - 5½	4½ - 5½	5½ - 6
May	4½ - 5¼	5 - 5½	5 - 5½	5½ - 6
June	4½ - 5½	5 - 5¾	5 - 5¾	5¾ - 6
July	5 - 5¾	5¼ -6	5 - 6	5¾ - 6
Aug.	5¼ - 5¾	5¼ - 6	5¼ - 6	5½ - 6
Sept.	5¼ - 5¾	5¼ - 6	5½ - 6	5½ - 6
Oct.	5½ - 5¾	5½ - 6	5½ - 6	5¾ -6
Nov.	5½ - 5¾	5½ - 6	5½ - 6	5¾ - 6
Dec.	5½ - 6	5½ - 6½	5½ - 6	5¾ - 6½

TABLE 49 (Cont.)

1929	Customer Rate (Prime com'l loans)	Collateral Loans	Loans secured by Warehouse receipts	Live Stock Loans
Jan.	5½ - 6	5½ - 6½	5½ - 6¼	5¾ - 6½
Feb.	5½ - 6¾	5¾ - 7	5½ - 6¾	5¾ - 6¾
March	5½ - 6¾	5¾ - 7	5½ - 6¾	5¾ - 6¾
April	5½ - 6½	5¾ - 7	5½ - 6¼	6 - 6½
May	5½ - 6½	6 - 7	5¾ - 6	6 - 7
June	5¾ -6½	6 - 7	5¾ - 6	6 - 7
July	5¾ - 6½	6 - 7	5¾ - 6¼	6 - 7
Aug.	5¾ - 6½	6 - 7	6 - 7	6 - 7
Sept.	6 - 6½	6 - 7½	6 - 7	6 - 7
Oct.	6 - 6½	6 - 8	6 - 7	6 - 7
Nov.	5¾ - 6½	6 - 7½	5¾ - 7	6 - 7
Dec.	5 - 6	5¾ - 6½	6	6 - 6½
1930				
Jan.	5¼ - 6	5½ - 7	5½ - 6	6 - 6½
Feb.	5¼ - 6	5½ - 7	5¼ - 6½	6 - 6½
Mar.	4½ - 6	5½ - 6½	5 - 6	6 - 6½
April	4½ - 5¾	5 - 6	4½ - 5¾	5¾ - 6½
May	4 - 5½	5 - 6	4¼ - 5½	5½ - 6¼
June	4 - 5½	4¾ - 6	4¼ - 5½	5¼ - 6
July	4 - 5	4½ - 5¾	4 - 5½	5 - 6
Aug.	3½ - 5	4½ - 5¾	4 - 5½	5¼ - 6
Sept.	3¼ - 5	4½ - 5¾	4 - 5½	5½ - 6
Oct.	3 - 5	4¼ - 5¾	3¾ - 5½	5 - 6
Nov.	3¼ - 5	4¼ - 5¾	3¾ - 4½	5 - 6
Dec.	2¾ - 5½	4½ - 6	3¾ - 5¾	5 - 6

TABLE 49 (Cont.)

1931	Customer Rate (Prime com'l loans)	Collateral Loans	Loans secured by Warehouse receipts	Live Stock Loans
Jan.	2¾ - 5	4 - 6	3½ - 4½	5 - 6
Feb.	2½ - 5	4 - 5½	3 - 5	5 - 6
March	2¾ - 5	4 - 5½	3 - 5½	6
April	2¾ - 6	4 - 5½	3 - 5	5½ - 6
May	2½ - 5	4½ - 5½	3 - 5	5½ - 6
June	2½ - 5½	4½ - 5½	3 - 5	5½ - 6
July	2 - 5	4 - 5½	3 - 5	5 - 6
Aug.	2 - 5	3½ - 5½	3½ - 5½	5 - 6
Sept.	2 - 5	3 - 5½	3½ - 5½	5 - 6
Oct.	3 - 5	3½ - 5½	4 - 5½	5 - 6
Nov.	4 - 5½	4½ - 6	4½ - 6	6
Dec.	4½ - 6	4½ - 6	4½ - 6	5½ - 6
1932				
Jan.	4½ - 6	4¾ - 6	4¾ - 6	5½ - 6
Feb.	4½ - 6	4½ - 6	4½ - 6	5 - 6
March	4½ - 6	5 - 6	5 - 6	5 - 6
April	4½ - 6	4¾ - 6	4½ - 6	5 - 6
May	4½ -5½	4½ - 6	4½ - 5¾	5 - 7
June	4 - 5½	4½ - 5½	4¼ - 5¾	5 - 6
July	3½ - 5½	4¼ - 6	4¼ - 5¾	5 - 6
August	3¾ - 5½	4½ - 6	4¼ - 5¾	5 - 6
Sept.	4 - 5½	4¾ - 6	4½ - 5½	5 - 6
Oct.	4 - 5½	4½ -,5¾	4½ - 5½	5 - 6
Nov.	4 - 6	4 - 6	4 - 5½	5½ - 6
Dec.	4 - 5¾	4 - 6	4 - 5½	5 - 6

TABLE 49 (Cont.)

1933	Customer Rate (Prime com'l loans)	Collateral Loans	Loans secured by Warehouse receipts	Live Stock Loans
Jan.	3¾ - 5½	4 - 6	3¾ - 5¾	5 - 6
Feb.	3¾ - 5½	4 - 6	3¾ - 5¾	5 - 6
March	5 - 6	4½ - 6	5 - 6	6
April	4½ - 5¾	4½ - 6	4½ - 5¾	5 - 6
May	4½ - 5½	4 - 6	4¼ - 5¾	5 - 6
June	4½ - 5¾	4 - 6	4 - 6	5 - 6
July	4 - 5½	4 - 6	4½ - 6	5 - 6
Aug.	4 - 6	3½ - 6	4 - 6	5 - 6
Sept.	3 - 5	4 - 5½	2 - 5½	5 - 6
Oct.	3 - 5½	4 - 6	1¾ - 5½	5 - 6
Nov.	3½ - 5½	4 - 6	1⅞ - 5½	5 - 6
Dec.	3 - 5½	4½ -6	2¼ - 5½	5 - 6
1934				
Jan.	3 - 5¾	4½ - 6	2¼ - 6	5 - 6
Feb.	2½ - 5½	4 - 5½	2 - 6	5 - 6
March	3 - 5	4 - 6	2 - 6	5 - 6
April	3 - 5½	4 - 6	2 - 6	5 - 6
May	2 - 5½	4 - 6	2 - 5½	5 - 6
June	3 - 5½	4 - 6	2½ - 6	5 - 6
July	2 - 5½	3 - 6	2 - 6	5 - 6
Aug.	1½ - 6	3½ - 6	2 - 6	5 - 6
Sept.	1½ - 6	3½ - 6	2 - 6	4 - 6
Oct.	2 - 5½	4 - 6	2 - 6	5 - 6
Nov.	1 - 5½	4 - 6	1¾ - 6	5 - 6
Dec.	1¼ - 5½	3 - 6	1¼ - 6	5 - 6

in June, 1921, and, in November, 1921, the differential rate structure was entirely eliminated and all rates reduced to 5 per cent. In April, 1922, the rate was again reduced to $4\frac{1}{2}$ per cent because of the reduced volume of borrowing and lower interest rates.[114] Except for the decline in commercial paper rates from abnormal levels in the first part of 1921, there was a marked tendency for reductions in the discount rate to lead those in interest rates. Customer rates on commercial loans tended to follow the reductions in the rate of discount. The volume of borrowing at the Reserve Bank fell sharply from the beginning of 1922 until the end of August, then increased during the remaining months, but the volume of borrowing was substantially less at the end of the year than at the beginning.

Conditions in agriculture presented the most important problems in the Eighth District in 1922. The severe reductions in the prices of all agricultural products had resulted in a considerable disparity in the prices of agricultural commodities and manufactured goods.[115] Prices of goods sold by the farming population fell much more than the prices of goods bought by this group, and purchasing power in the agricultural portions of the District was therefore much reduced. This situation, together with unsatisfactory transportation conditions and high freight rates, served to produce considerable discontent in the rural areas. A marked

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[114] _Ibid._, p. 11.
[115] _Ibid._, pp. 5-7.

increase in the price of cotton in the fall of 1922 and the winter of 1923, and some advances in the prices of other crops improved conditions in the farming areas, and aided business revival. Agricultural income is an important element in the prosperity of the Eighth District. While the District has important industrial areas and is considerably more diversified than some other districts, changing conditions in agriculture exert a pronounced effect on business trends in the area.

Conditions of marked prosperity developed in 1923. An important factor in bringing increased business activity was the remarkable increase in building and construction of all kinds. In the five largest cities of the Eighth District there was a gain of 26.3 per cent over 1922 in the number of building permits issued, and an increase of 21.6 per cent in the cost of these projects.[116] An increase in the average prices of agricultural products improved agricultural income and tended to reduce the disparity in agricultural and industrial prices. Speculation did not develop to any appreciable extent, although commodity prices were increasing, and stocks of goods were not excessive at the end of the year.[117]

There was a marked use of Federal Reserve credit in the Eighth District in 1923. In the last several months of 1923 the volume of discounted bills held by the St. Louis

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[116] Ibid., 1923, p. 4.
[117] Ibid., 1923, p. 4.

Bank was equal to the highest levels reached in the last months of 1929. In fact, the average volume of borrowing during the last half of 1923 was considerably greater than the average borrowing in the last half of 1929. The relative increase in borrowing was greater in this District than in any other district in the System. The average volume of borrowing for all districts increased from $547 millions in January to $873 millions in October, an increase of 60 per cent. The average volume of borrowing in the Eighth District increased from $17.6 millions in January to $72.7 millions in October, an increase of over 300 per cent.[118]

This tremendous volume of borrowing is to be explained by a number of factors. During the period June, 1922, to July, 1923, the Sustem as a whole sold $525,000,000 in government securities.[119] The St. Louis Bank had a portfolio of $26,755,600 in government securities at the end of January, 1923, but by October, 1923, it had liquidated its entire portfolio of these securities. This undoubtedly reduced member bank deposits and reserves, and forced them to borrow. Loans and discounts of reporting member banks in the District increased from $457,782,000 on January 10, 1923, to $473,216,000 on December 26, 1923, the high point for theyear.[120]

118Figures on the holdings of each Federal Reserve bank of bills discounted for member banks by months from January, 1922 through October, 1936, are taken from Turner, Robert C., Member Bank Borrowing, Appendix, Table 11A, pp. 208-15. These figures are monthly averages of daily figures.

119Hearings pursuant to S. Res. 71, op. cit., p. 795.

120Annual Report of the Federal Reserve Bank of St. Louis, 1923, p. 6.

This expansion in credit would not in itself explain the large volume of borrowing. Deposits of reporting member banks, however, dropped sharply during the year. On January 17 deposits amounted to $578,800,000, but on December 26 stood at only $538,217,000, and reached a low point for the year of $522,295,000.[121] This decline in deposits reflected the sale of securities by the Reserve banks, an increase in money in circulation, and some flow of funds out of the District as well as to the country banks in the District.

Interest rates increased in 1923, commercial paper rates rising to a range of 5 to 5½ per cent in St. Louis, customer rates in St. Louis rising to as high as 6 per cent. Outside St. Louis, rates for customers were 1 to 2 per cent higher in such centers as Memphis, Little Rock and elsewhere in the District. Louisville generally had lower rates because of a legal limit of 6 per cent on the rate of interest in Kentucky.[122] The rate of discount remained at 4½ per cent during 1923, which definitely put it below both customer rates and commercial paper rates by a minimum of ½ per cent. The unusual amount of borrowing probably can be accounted for in part as borrowing for profit by some member banks, and by some non-member banks having access to Reserve credit through correspondents.

In the spring of 1924 a recession developed in business, and commodity prices turned downward. The con-

[121] _Ibid._, 1923, p. 6.
[122] _Ibid._, 1922, p. 8.

sumption of goods did not decline, however, and most of the decline in business was due to a lack of forward buying in view of uncertain prices. The prices of the principal agricultural products of the District increased in the fall of 1924, and conditions in the agricultural portions of the District were more prosperous than at any time since 1920.[123]

Certain noteworthy developments were taking place during this period with regard to agriculture. The introduction of improved methods of cultivation and the development of diversified farming became significant as early as 1922. A program of scientific farming, including proper rotation of crops and more intensive use of the land, was introduced in many parts of the District. As a result crops were planted and harvested at lower cost. A considerable growth in specialized farming operations occurred, such as dairying, livestock raising, poultry raising, and the growing of fruits and vegetables. Many communities became less dependent on staple crops. Certain sections of the District were particularly adaptable to such specialized operations in farming, and in these sections agricultural income was increased more by this factor than by any other. The fact that this District includes more cities of considerable size than some of the other agricultural districts has enabled a greater development of such specialized farming because it is dependent to a considerable extent on local markets. Diversified farming continued to develop throughout the twenties

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[123] _Ibid._, 1924, p. 6.

and played a large part in whatever prosperity existed in the agricultural portions of the District.

One of the principal problems in agriculture at the beginning of this period was the unfavorable relationship between the prices of agricultural products and of manufactured goods. Between 1922 and 1926 price adjustments tended to reduce this disparity, and in 1926 a more favorable relationship existed. This had a considerable effect on general business conditions.

The volume of borrowing dropped sharply throughout 1924, and, by January, 1925, was at the lowest level of any month in the whole period from 1922 to 1930. However, the loans and discounts of reporting member banks increased from $473,216,000 in December, 1923, to $499,713,000 in December, 1924.[124] This is to be explained by the growth in deposits from $532,056,000 in December of 1923 to $626,328,000 in December of 1924.[125] The increased reserves thus obtained enabled the banks to reduce their indebtedness at the Reserve Bank. Interest rates fell sharply in 1924, commercial paper rates in St. Louis dropped to as low as 3 to 3 3/4 per cent in the last half of 1924. The rate of discount was reduced from 4½ to 4 per cent by the St. Louis Bank in June, 1924. The reason for this change was stated by the Bank as follows: "On June 19, 1924, we decreased our rate from 4½ to 4 per cent, since Cleveland, Atlanta, and Chicago, all of which have parts of States in this district, had decreased their rates.

[124] Ibid., 1924, p. 6.
[125] Ibid., 1924, p. 6.

We hoped to give agriculture and business the benefit of a lower rate in crop-moving time."[126] Even with the reduction to 4 per cent it was unprofitable to borrow from the Reserve Bank as funds could be obtained more cheaply by the sale of assets.

Higher levels of business activity and generally prosperous conditions characterized 1925 and 1926. The volume of building and construction reached new high levels in the Eighth District in 1925, and was substantial in amount in 1926 although less than in 1925. This was an important factor in the prosperity of the period. Commodity prices were stable on the average, although the trend was slightly downward in 1926. Prices of corn, cotton, and tobacco were much lower in 1926 than in the several preceding years, and in some sections agricultural income was reduced, but in other sections heavy production made up for lower prices.[127]

Loans and discounts of reporting member banks increased in 1925 to $524,412,000 in December. A further increase in loans developed in 1926, although in December of 1926 the total amount of loans was somewhat less than at the end of 1925.[128] Deposits increased slightly during both 1925 and 1926, although they were somewhat less at the end of 1926 than at the end of 1925. Interest rates increased rather sharply in 1925 and 1926. During the last half of 1925 and

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[126] Hearings pursuant to S. Res. 71, op. cit., p. 764.
[127] Annual Report of the Federal Reserve Bank of St. Louis, 1926, p. 6.
[128] Ibid., 1926, p. 6.

all of 1926 both commercial paper rates and customer rates in St. Louis were above the discount rate of 4 per cent. In the last half of 1926 commercial paper rates were 4½ to 5 per cent and customer rates were 5 to 5½ per cent. It was thus profitable to borrow at the Reserve Bank, and this was probably one factor of importance in the increased volume of borrowing by member banks during these two years.

A business recession occurred in 1927, but the evidences of it were not marked in the Eighth District. The volume of commercial and industrial activity was below that of 1926, but it compared favorably with the average of the period 1922-1926.[129] A strike occurred in the bituminous coal fields in Illinois and Indiana, and there were floods of the Mississippi River and its tributaries. Agricultural yields were reduced due to unfavorable weather and floods, but prices were higher offsetting in large measure the effect of smaller yields on agricultural income.[130]

The loans of reporting member banks averaged 3 per cent less in 1927 than in 1926.[131] Demand deposits showed no change, but time deposits averaged 8.2 per cent higher in 1927. Savings deposits were the highest on record at the end of 1927.[132] The increase in time deposits increased the reserves of member banks, and money became definitely easy. The volume of borrowing from the Reserve Bank was considerably

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[129] Ibid., 1927, p. 5.
[130] Ibid., 1927, p. 6.
[131] Ibid., 1927, p. 6.
[132] Ibid., 1927, p. 5.

less than in 1926, reaching a peak of about $30 millions in July.

Interest rates fell during 1927, and the spread between the discount rate and customer rates in St. Louis was reduced. On August 4, 1927, the St. Louis Bank reduced its rate of discount from 4 to 3½ per cent. Rates were reduced at the other Reserve banks to 3½ per cent at approximately the same time. This rate change was made, "hoping it would give cheap money for crop purposes and business, as there was plenty of money."[133]

The increased business activity of 1928 was characterized by the St. Louis Bank as a "moderate business expansion".[134] Building and construction in 1928 exceeded that of 1927 and was at least equal to that of 1926. The bituminous coal areas were depressed because of over-production and labor troubles. Excessive production in the zinc mining areas caused the price to fall, thereby reducing the returns in this industry. Agricultural income in 1928 was somewhat greater than in the two preceding years. The total crop production and the income received for it exceeded both that of 1927 and the average of the preceding five years.[135]

Prosperous conditions in industry and trade continued until the last quarter of 1929. In some industries

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133 Hearings pursuant to S. Res. 71, op. cit., p. 764.
134 Annual Report of the Federal Reserve Bank of St. Louis, 1928, p. 7.
135 Ibid., 1928, p. 8.

the volume of production in 1929 exceeded that of any preceding year, such as boots and shoes, electrical supplies, drugs and chemicals, and the metal working industries.[136] The volume of building and construction fell sharply, particularly in the last half of 1929, and in consequence the production of building materials, such as cement, lumber, and fire clay products, was considerably reduced. Farm income in the District, exclusive of live stock, dairy, and poultry products, was estimated to be 4.5 per cent higher than in 1928.[137]

A credit inflation did not develop in the Eighth District during 1928 and 1929. The total loans of reporting member banks averaged only 1 per cent higher in 1928 than in 1927, and 1.4 per cent higher in 1929 than in 1928.[138] The highest mid-month figure for total loans was that for October 16, 1929, $546,082,000, which compares with $532,838,000 for January 18, 1928. However, loans on securities were considerably larger in 1929 than in 1928, and commercial loans were considerably less in 1929. Loans on securities remained relatively constant all during 1928, but increased abruptly in January, 1929. Security loans on December 19, 1928, amounted to $216,247,000, but increased by January 16, 1929, to $245,591,000. All other loans amounted to $312,736,000 on December 1t, 1928, but dropped to $287,564,000

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[136] *Ibid.*, 1929, p. 7.
[137] *Ibid.*, 1929, p. 8.
[138] *Ibid.*, 1928, p. 8 and 1929, p. 8.

TABLE 50

Loans and Deposits of Reporting Member Banks
8th District, 1928 and 1929*
(thousands of dollars)

1928	(inclusive of rediscounts) Total loans and discounts	Security Loans	All Other Loans	Net Demand Deposits
Jan. 18	532,838	216,413	316,425	430,509
Feb. 15	528,290	213,826	314,464	429,215
Mar. 14	520,471	203,429	317,042	414,501
Apr. 18	523,245	210,235	313,010	404,332
May 16	512,817	208,572	304,245	405,548
June 13	514,644	216,794	297,850	392,864
July 18	525,645	223,385	302,260	375,476
Aug. 15	521,697	222,841	298,856	377,972
Sept.19	532,071	216,931	315,140	379,910
Oct. 17	532,023	214,486	317,537	392,322
Nov. 14	526,161	217,335	308,826	392,598
Dec. 19	528,983	216,247	312,736	409,233
1929				
Jan. 16	533,155	245,591	287,564	416,557
Feb. 20	531,810	255,887	275,923	402,334
Mar. 20	527,923	242,563	285,360	384,768
Apr. 17	529,160	237,118	292,118	379,652
May 15	523,925	241,303	282,621	377,357
June 12	512,741	227,295	285,446	373,697
July 17	515,597	233,538	282,059	362,315
Aug. 14	528,171	240,591	287,580	368,238
Sept.18	539,453	238,244	301,209	360,643
Oct. 16	546,082	243,096	303,000	380,000
Nov. 13	544,266	249,092	295,174	382,346
Dec. 18	539,002	253,546	285,456	392,053

*Federal Reserve Bank of St. Louis, Monthly Review of Business Conditions, 1928, 1929. The figures for loans and discounts were revised in January, 1929, to exclude acceptances of other banks and bills of exchange sold with endorsement, and to include mortgage loans that had previously been reported as investments. The figures for the Eighth District were most affected by the inclusion of mortgage loans as loans instead of as investments. The figures in this table are the revised figures, and are therefore comparable.

on January 16, 1929. Security loans represented 40.6 per cent of total loans on January 18, 1928, and 40.9 per cent of total loans on December 19, 1928. Security loans increased to 46.1 per cent of total loans on January 16, 1929, and to 47.0 per cent on December 18, 1929.

Demand deposits of reporting member banks declined from $430,509,000 on January 18, 1928, to $375,476,000 on July 18, 1928, then increased until they reached $416,557,000 on January 16, 1929. During 1929 demand deposits declined still further, reaching a low point of $360,643,000 for mid-month figures on October 16, 1929. This considerable reduction of deposits reflected the flow of funds to New York and to Chicago. There was, of course, a marked flow of funds to New York for purposes of speculation in the securities market. It also reflected the open market operations of the System during this period. Between January, 1928, and April, 1929, the System sold $405,000,000 of government securities.[139]

The St. Louis Bank advanced its discount rate three times in 1928. On February 21 the rate was increased to 4 per cent after the rate had been raised at all Reserve banks except Cleveland, and there was danger that the Eighth District would be burdened with borrowing that belonged to other districts.[140] On April 23 the rate was increased to 4½ per cent "because there was an unseasonable amount of borrow-

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139 Hearings pursuant to S. Res. 71, op cit., p. 796.
140 Ibid., p. 764.

ing which we hoped to check; also, because there was some flow of funds between St. Louis and Chicago. Chicago with a $4\frac{1}{2}$ per cent rate might have diverted some borrowing to St. Louis if we continued a 4 per cent rate."[141] On July 19 the rate was raised to 5 per cent for reasons essentially similar to those that prompted the increase in April. The Bank stated, "Discounts were increasing, the reserve ratio was low, and funds were going from this district to the New York market, where the rate was higher."[142]

Market rates of interest, which had declined during 1927, began to increase at the beginning of 1928, and continued to rise sharply until the latter part of 1929. Customer rates in St. Louis tended to follow the rate of discount as it was increased during 1928. After the middle of 1928 customer rates for prime commercial loans were $\frac{1}{2}$ to 1 per cent above the discount rate at the minimum of the range. Rates in St. Louis for security loans were higher than for commercial loans all during 1928 and 1929, varying from $\frac{1}{2}$ to $1\frac{1}{2}$ per cent higher during 1929.

The volume of borrowing increased sharply from January, 1928, and reached a peak in September, 1928, of about $65 millions. Borrowing then declined sharply until January, 1929, after which it increased to a peak in September, 1929, of about $73 millions. After September, 1929, the volume of borrowing declined abruptly to levels

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141 Ibid., p. 764.
142 Ibid., p. 764.

in 1930 which were below any year except before 1917. The amount of borrowing in September, 1929, was no greater than that in October, 1923. In fact, the average volume of borrowing in the last half of 1929 was considerably less than in the last half of 1923. For the System as a whole borrowing was considerably greater in both 1928 and 1929 than in 1923. The eastern districts were the ones using large quantities of reserve credit in 1928 and 1929. During these years the volume of borrowing was materially greater than in 1923 in the New York, Boston, Philadelphia, Cleveland, Chicago, and San Francisco districts. The increased borrowing in the St. Louis District was occasioned, not by the creation of additional bank credit, but by the loss of reserves due to a flow of funds to eastern centers and the sale of government securities by the Reserve System.

The wisdom of Federal reserve policy during 1928 and 1929 has been much discussed. There are many who have criticized the System for not adopting a more aggressive policy in making advances in the discount rate. It has been suggested that the discount rate was not advanced as much as it should have been in order to check speculation, and that the advances were not made quickly enough. However, it must be remembered that the Federal Reserve System was not in a position to cope with all the problems presented in this period, particularly the flow of funds into the security markets.

A firm-money policy was applied in the first half of

1928. Discount rates were increased by successive steps from 3½ to 5 per cent. Sales of government securities amounting to $405,000,000 were made by the System until by the end of the first half of 1928 the System portfolio was practically exhausted.[143] At the end of August, 1928, the St. Louis Bank had liquidated all its portfolio of government securities. The result of this policy was to increase interest rates until at the beginning of 1929 they were at higher levels than at any time since 1921. However, there was still need to check the flow of funds into the market for securities. There remained but two methods by which the Federal Reserve banks might attempt to control the situation, an increase in the discount rate, or the use of direct pressure on member banks to curtail credit for speculative purposes. As the Board stated in its report for 1929, "There was nothing in the position of commercial credit or of business to occasion concern. The dangerous element in the credit situation was the continued and rapid growth of the volume of speculative security credit."[144]

The Federal Reserve Board did not favor further advances in discount rates because it did not wish to increase further the cost of credit to commercial and industrial enterprises. It therefore refused to approve the rate advances voted by some of the reserve banks, such as Boston and New York. It finally approved an increase in August, 1929,

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[143]Annual Report of the Federal Reserve Board, 1929, p. 2.
[144]Ibid., p. 2.

at the New York Bank from 5 to 6 per cent, at a time when open market rates had advanced to this point.[145] The great difficulty the Reserve System faced was the existence of large funds available for investment in the call-loan market over which the System had no control. Many corporations had possession of considerable cash balances which had been derived from large issues of securities in a favorable market, and from earnings.[146] The volume of brokers' loans could therefore increase even if bank credit was not increased. The largest proportion of funds invested in security loans in 1929 came from non-banking lenders.

Rates might have been raised to 6 per cent early in 1929 at the New York and Boston Banks, but it is quite clear that this would not have solved the problem of the use of credit for speculative purposes. The Federal Reserve banks did not have the controls available to them by which the speculative boom in the market for securities could have been prevented.

Any analysis of the banking conditions prevailing in the Eighth District at the beginning of 1929 would indicate that no advance in the rate of discount was desirable. The volume of commercial loans declined in January, 1929, and continued at a much lower level than 1928 throughout 1929. Customer rates of interest for commercial loans had advanced to a high level, and were considerably above the rate of dis-

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[145] Ibid., p. 8.
[146] Ibid., pp. 6-7.

count. Rates on security loans were above those for commercial credit, and they continued to rise during the year. Member bank borrowing was not excessive. Any increase in the discount rate would only have tended to force interest rates still higher, and this would have created additional difficulties for the business community.

No discount rate policy could have prevented, in itself, the excessive use of credit for speculative purposes. The System did not possess the controls in 1929 which would have enabled it to prevent the stock market boom and collapse. Even had this been possible the serious depression which followed 1929 could not have been avoided. This depression was the result of deep-seated and far-reaching maladjustments that were not peculiar to the United States, but were characteristic of the international economic structure of the twenties. In large part these economic maladjustments were products of the war of 1914-18. Central bank policy cannot be expected, no matter how effective and far-sighted the policy may be, to provide alone the remedies needed to bring about such readjustments as to prevent a serious disturbance of the general economic equilibrium.

Open Market Operations 1922-1930

Purchases and sales of government securities by the St. Louis Bank in 1922 and 1923 were made independently of the other Federal Reserve banks. Between January and August of 1922 holdings of such securities were increased from $8,247,000 to $29,225,000 for the purpose of acquiring earning assets as borrowing declined. From January to May the System purchased $400,000,000. This was followed by an abrupt decline in borrowing from January, 1922, until August, 1922. Holdings were then reduced to $19,551,000 at the end of December, which was followed by an increase in borrowing until the end of the year. The System as a whole was liquidating its portfolio during the last half of 1922.

During January and February of 1923, the St. Louis Bank increased its holdings to $28,889,700, which was accompanied by a decline in borrowing during these months. Between February and October of 1923, the Bank liquidated its entire portfolio of government securities. This was accompanied by a sharp increase in borrowing reaching its peak in October, 1923. From June, 1922, until July, 1923, the System sold $525,000,000 of securities.

In 1924 the St. Louis Bank did not purchase any securities independently, but, beginning in January, 1924, participated in purchases through the Open Market Investment Committee. By September, 1924, it had acquired through the Committee a portfolio of $16,769,000 of securities which was held for the most part until the end of the year. Borrowing declined throughout 1924 except for a slight interruption in September and October.

In the first three months of 1925, holdings of the St. Louis Bank were reduced to $8,889,000, during which time the System was selling over $200,000,000. Borrowing remained fairly constant in amount. There were no further major operations in the open market by the System as a whole

TABLE 51

St. Louis Reserve Bank

Holdings of United States Securities at the end of each Month Purchased Locally or Independently, and Purchased Through Open Market Investment Committee, 1922-1930*

At end of Month	Purchased through Open Market Committee	Purchased Independently	Total Portfolio
1922			
January		8,247,000	
February		14,719,000	
March		20,579,000	
April		24,963,500	
May		29,144,800	
June		25,507,500	
July		26,457,050	
August		29,225,500	
September		26,563,500	
October		23,684,550	
November		21,710,000	
December		19,551,500	
1923			
January		26,755,600	
February		28,889,700	
March		25,522,700	
April		18,203,900	
May		14,933,400	
June		7,250,600	
July		7,250,600	
August		3,668,300	
September		3,668,300	
October			
November			
December			
1924			
January	1,794,800		
February	3,230,100		
March	6,747,800		
April	6,965,800		
May	6,965,800		
June	8,089,100		
July	13,694,300		

*Hearings pursuant to S. Res. 71, op. cit., pp. 838-9.

TABLE 51(Cont.)

At end of Month	Purchased through Open Market Committee	Purchased Independently	Total Portfolio
1924			
August	14,873,800		
September	16,769,000		
October	16,769,000		
November	16,439,000		
December	15,087,500		
1925			
January	10,169,500		
February	9,152,500	297,900	9,450,500
March	8,312,000	577,900	8,889,900
April	8,626,500	670,400	9,296,900
May	34,378,000	721,400	35,099,400
June	29,753,000	721,400	30,478,400
July	29,753,000	1,200,500	30,953,500
August	29,577,000	1,290,500	30,867,500
September	18,872,500	1,290,500	19,163,000
October	18,872,500	1,515,000	20,387,500
November	18,872,500	1,615,000	20,487,500
December	21,872,500	2,474,500	24,347,000
1926			
January	20,783,500	3,991,500	24,775,000
February	18,872,500	5,035,000	23,907,500
March	18,872,500	6,670,500	25,543,000
April	18,872,500	6,869,500	25,742,000
May	18,872,500	9,869,500	28,742,000
June	18,872,000	7,579,100	26,451,100
July	18,872,000	5,456,600	24,328,600
August	15,299,500	5,883,250	21,182,750
September	13,450,500	5,793,250	19,243,750
October	13,725,000	5,884,750	19,609,750
November	13,792,000	6,073,250	19,865,250
December	14,569,500	6,502,850	21,072,350
1927			
January	13,793,500	7,039,650	20,833,150
February	13,725,000	8,790,300	22,515,300
March	14,158,500	13,841,700	28,000,200
April	13,817,500	13,841,700	27,659,200
May	13,590,000	13,841,700	24,473,700
June	10,371,500	14,461,700	24,833,200
July	16,118,000	11,063,950	27,181,950
August	19,547,500	13,569,000	33,116,500
September	19,778,500	16,619,500	36,398,000

TABLE 51 (Cont.)

At end of Month	Purchased through Open Market Committee	Purchased Independently	Total Portfolio
1927			
October	20,669,500	16,619,500	37,289,000
November	21,280,000	16,619,500	37,899,500
December	21,543,500	16,619,500	38,163,000
1928			
January	15,294,000	18,009,500	33,303,500
February	13,909,000	18,009,500	31,918,500
March	13,517,000	16,625,000	30,142,000
April	8,142,000	16,625,000	24,767,000
May		10,625,000	
June		7,125,000	
July		7,125,000	
August			
September		11,625,000	
October	4,151,000	16,625,000	20,776,000
November	4,591,000	16,625,000	21,216,000
December	4,417,500	16,625,000	21,042,500
1929			
January	4,417,500	16,625,000	21,042,500
February	2,542,500	16,625,000	19,167,500
March		16,862,500	
April		11,337,500	
May		13,625,000	
June		13,625,000	
July		13,625,000	
August			
September			
October	3,942,000	8,625,000	12,567,000
November	8,446,000	8,625,000	17,071,000
December	20,641,000	8,625,000	29,266,000
1930			
January	10,641,000	8,625,000	19,266,000
February	10,641,000	8,625,000	19,266,000
March	10,642,500	8,625,000	19,267,500
April	10,642,500	8,625,000	19,267,500
May	10,642,500	8,625,000	19,267,500
June	14,017,500	8,625,000	22,642,500
July	14,017,500	8,625,000	22,642,500
August	15,274,000	8,625,000	23,899,500
September	15,274,000	8,625,000	23,899,000
October	15,274,000	8,625,000	23,899,000
November		8,625,000	
December	17,757,500	8,625,000	26,482,500

after March, 1925, until May, 1927. However, the St. Louis Bank made a large purchase through the open market committee in May, 1925, increasing its portfolio to $35,099,400 at the end of May. There were some sales during the remainder of the year, approximately $10,000,000 in September, but holdings were $24,347,000 at the end of the year. However, borrowing increased rapidly from March to September, 1925. It will be remembered from the previous discussion that there was a marked expansion in production in the Eighth District during this year, the loans of reporting member banks increasing approximately $25,000,000 between December, 1924, and December, 1925. Funds were plentiful, but interest rates were increasing, and the purchase in May was probably made to relieve this tendency toward higher rates.

Holdings of government securities were gradually reduced after reaching a peak of $28,742,000 at the end of May, 1926. The System was reducing its portfolio during 1926, but independent purchases of the St. Louis Bank during the first five months of the year increased its portfolio. Borrowing increased sharply from January to September, 1926. As borrowing fell off in the last three months of 1926, holdings of securities were slightly increased to $21,072,000 at the end of the year.

In March, 1927, the St. Louis Bank purchased independently about $5,000,000 of government securities. Borrowing had declined abruptly since January and reached a low point in March, 1927. Beginning in May the System inaugurated a major purchase operation which resulted in the acquisition of $230,000,000 of securities by November. The St. Louis Bank continued to make independent purchases up to the end of September, so that by the end of the year it had the largest portfolio of government securities that it possessed at any time during the period 1922-1930, $38,163,000. Borrowing increased from March to July, and then declined to a fairly low point in January, 1928.

In January, 1928, the Open Market Committee determined to sell securities extensively in order to make rate advances effective, and sold $405,000,000 by April, 1929, most of which was sold during the first half of 1928. By the end of May, 1928, all the securities which the St. Louis Bank had purchased through the Open Market Committee had been sold. Sales of securities which it had purchased independently were not commenced until March, but by the end of August, 1928, the Bank had liquidated its entire portfolio. Borrowing had increased sharply during these months, of course, and reached a peak in September, after which there was an abrupt decline until January, 1929. In September and October, after the peak in borrowing was reached, the Bank made independent purchases of $16,625,000 in securities. This was probably done to check rapidly rising interest rates, in order to aid crop-moving. Interest rates, however, did not respond, but continued to increase, although borrowing declined.

From January to August, 1929, the St. Louis Bank liquidated the considerable portfolio which it had acquired in the fall of 1928, $13,625,000 being sold in the month of August, 1929. This undoubtedly increased the volume of borrowing which rose rapidly until September. Beginning in October the System made extensive purchases of securities to prevent a money panic and a complete collapse of the securities markets. The St. Louis Bank made an independent purchase of $8,625,000 in October, and by the end of December, 1929, had a portfolio of $29,266,000. Borrowing declined rapidly from September, 1929, to January, 1930.

The Bank sold through the Open Market Committee $10,000,000 of securities in January, 1930, and its portfolio remained constant until June. The volume of borrowing ceased to fall in the early months of 1930, and increased slightly in May and June. After June purchases through the Open Market Committee were continued and the portfolio of the Bank amounted to $26,482,000 at the end of 1930. The volume of borrowing did not fluctuate much during the last half of 1930.

There is evidence in this record of a marked relationship between changes in the holdings of government securities by the St. Louis Bank and the volume of borrowing, except in the years 1925 and 1926. The relationship was most marked during 1922, 1923, 1928, and 1929, although some effect can be noticed following every significant change in the portfolio. It will be noted that in a few instances the independent purchases and sales differed from those under the direction of the Open Market Committee. These open market operations undoubtedly had some effect on interest rates, but it is difficult to trace any effect certainly to this source.

Borrowing for Profit

Federal Reserve policy has always been directed toward the restriction of the use of Reserve bank credit to the needs of member banks in meeting the legitimate and reasonable credit demands of business and industry. It has always discouraged member banks from borrowing for purposes of profit, that is, borrowing additional funds from the Reserve banks in order to lend or invest these funds at a higher rate of interest than that paid for the use of the funds. The possibilities of borrowing for profit depend, of course, in large measure upon the relation between the rate of discount and market rates of interest. If there is a considerable spread between discount and market rates it is difficult to prevent borrowing for profit, because of the impossibility of knowing in each individual case the purpose for which a member bank borrows.

There is a difference of opinion as to the factors that determine the amount of member bank borrowing. Those who adhere to the "need theory" of borrowing hold that banks are at all times reluctant to borrow, and do so only when necessary to accommodate customers in their legitimate demands for credit.[147] Banks are anxious to reduce their borrowing,

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[147]Turner, Robert C., Member Bank Borrowing, p. 67.

and will repay borrowed funds whenever it is possible to do so without putting pressure on customers to repay loans. Consequently, cost of borrowing is not a major factor in determining the amount of it. Those who adhere to the "profit theory" hold that member banks borrow when it is profitable to lend or invest the borrowed funds, and repay the borrowed funds when it is unprofitable. The cost of borrowing then becomes the major determinant of the volume of borrowing at any given time.[148] If this theory is accepted the relation between the discount rate and market rates is one of the major problems of central bank policy.

Robert C. Turner has made an interesting and valuable statistical analysis of the relation between member bank borrowing and the "profit spread" in each of the Federal Reserve districts.[149] On the basis of the theory that member banks adjust their reserves normally either by borrowing from the Reserve bank or by contracting and expanding open market loans, Turner has attempted to determine whether the relative profitability of these two alternatives affects in any considerable way the amount of borrowing. Turner has computed coefficients of correlation between the amount of borrowing and the "profit spread" on the basis of a direct comparison, and also coefficients of correlation between the data after introducing various leads and lags of one to several months. The "profit spread" is determined for each district by sub-

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[148]*Ibid*., p. 91.
[149]*Ibid*., pp. 109-44.

tracting the monthly average discount rate in that district from the weighted average open market rate. The average open market rate is computed by including with appropriate weights the monthly average rates on prime 4-6 months commercial paper, 60-90-day time loans on mixed collateral at the New York Stock Exchange. The figures on borrowing used are the monthly averages of daily figures on holdings of discounted bills at each of the Federal Reserve banks. All the data are made comparable for purposes of study by conversion into standard deviations from their respective arithmetic means.

The coefficients of correlation for the Eighth District were as follows for each of several periods:[150]

January 1922-October 1936	.823
January 1922-December 1929	.637
January 1923-December 1930	.688
January 1930-October 1936	.592

The coefficients of correlation were increased slightly by introducing a lead of one month for the profit spread, although the difference was not great enough to establish definitely a one-month lag in discounting. The coefficients were as follows:[151]

	Profit spread leading by: 1 month	2 months	3 months
January 1922-October 1936	.832	.824	.805
January 1923-December 1930	.695	.672	.623

[150] *Ibid.*, p. 118.
[151] *Ibid.*, p. 119.

If the entire period, January 1922 to October 1936, is considered, the coefficients of correlation with or without lead and lag were definitely higher than for any other districts except Boston and Chicago. The correlation for the period after 1930 was not very great in any of the districts, however, and if the period which showed the most consistent correlation for all the districts is used, January 1923-December 1930, the St. Louis District ranked seventh. The Boston, Cleveland, Philadelphia, Chicago, New York, and San Francisco districts evidenced higher maximum coefficients of correlation than the St. Louis District, in that order.

The difficulty in using such statistical analysis as that developed by Turner is indicated clearly by the figures for the St. Louis District. While the coefficient for the period January 1922-December 1929 was only .637, and the coefficient for the period January 1930-October 1936 was even less, .592, the coefficient for the entire period was .823. This same difference in the coefficients in greater or less degree was evident in six other districts, Chicago, Richmond, Atlanta, Kansas City, Minneapolis, and Dallas, and was particularly pronounced in the case of Richmond, Kansas City, Minneapolis, and Dallas. The coefficients were usually much improved by leaving off the year 1922 and adding the year 1930. It will be noticed that these districts are the agricultural districts. The very great influence on the coefficients of broad cyclical movements in economic conditions is clearly evident. In the Richmond, Minneapolis, and Dallas districts very little correlation is shown for the period January 1922-December 1929.

The coefficients of correlation determined by such statistical analysis are bound to be much affected by the fact that in periods of business recession interest rates are likely to fall below the rate of discount, thus eliminating or making negative the profit spread, while the volume of borrowing is greatly reduced because of excess reserves and a lack of demand for credit. Likewise, in a period of prosperity interest rates are likely to rise, increasing the profit spread, while the volume of borrowing is increased due to a number of factors, inherent in such a period, which cause reserves to fall.

While these criticisms of any results obtained by this method must be made, it is not the purpose here to indicate that no conclusions can be drawn from such a statistical analysis. It is difficult not to see in this analysis the probability of considerable borrowing for profit at certain times. It is also important to note that the profitability of borrowing played a more significant role in the volume of borrowing in the eastern districts, Boston, New York, Philadelphia, and Cleveland, than in the western and southern districts. If the cyclical movements could have been eliminated from the data significant positive correlation would probably still exist, particularly in the eastern districts.

Turner indicates that his analysis shows no correlation between the profit spread on customers' loans and the volume of borrowing. In fact, the coefficients are small and negative.[152] But this analysis is not done by districts, but for all banks in the country, the average customer rate at banks in New York City, 8 other northern and eastern cities, and 27 southern and western cities being used. It is probable that the diverse factors that influence customer rates in various parts of the country would destroy any relationship that might otherwise exist if rates for individual cities were used.

The St. Louis Bank when asked what rates of interest in its district should be taken as constituting a measure of market rates of interest, replied as follows: "The rate charged by banks to customers able to take advantage of a competitive money market. As these are mostly located in St. Louis, this market rate generally exists here. Other cities in the district usually have a higher market rate."[153] Therefore, the monthly range in rates to customers for prime commercial loans in St. Louis is compared with the discount rate of the St. Louis Bank in Chart 4. The monthly range of customer rates is shown for the period beginning with March, 1919, and ending with December, 1934. The monthly range was not available for the period January, 1923, to July, 1926, so the monthly range for commercial paper rates in St. Louis was substituted. Commercial paper rates were indicated in addition for the period March, 1920, to June, 1921, because they became considerably higher than customer rates. For the

152 _Ibid._, pp. 97-8.
153 _Hearings pursuant to S. Res. 71_, _op. cit._, p. 786.

period 1919 to the end of 1922 the minimum of the range is the low rate and the maximum of the range the customary rate. After 1922 the range is the monthly range as reported in the Monthly Review of Business Conditions. Before June, 1921, there was no single rate of discount, the rate structure being characterized by differential rates and by the progressive rate. The rate before June, 1921, is approximately the effective rate applicable to borrowing on the average during each month.

Customer rates in St. Louis were materially above the rate of discount during the following periods: all of 1919 and 1920, except for those banks subject to progressive rates in the last half of 1920; except for banks subject to progressive rates, the first five months of 1921; 1923, at which time commercial paper rates were also materially above discount rates; the last half of 1925, 1926, and the early months of 1927; the last half of 1927 and January, 1928; the last half of 1928 and all of 1929 until December; November, 1931 to September, 1933. If account is taken of seasonal influences on borrowing which are particularly marked in the Eighth District it will be seen by examining the two charts on the volume of borrowing, 1919-1921, and 1922-1936, that these were the periods of greatest borrowing.

It is probable that the profit spread between discount rates and rates on customers' commercial loans correlates much more with the volume of borrowing in the St. Louis District than in the eastern districts. This is probably also true in some of the other agricultural districts. Customer rates in cities in the District other than St. Louis are usually higher, and are more inelastic. The profit spread has been greater, and has varied somewhat from that in St. Louis. This analysis would indicate that reserves of member banks are adjusted somewhat more through customer loans in the St. Louis District than would be indicated by the study made by Turner for the whole country.

If a considerable profit spread exists between the cost of borrowed funds and customer rates, many banks are likely to extend credit to customers that would not otherwise be extended, and to secure the funds by borrowing from the Reserve Bank. It is difficult, of course, to define what is meant by lending to customers for profit, because the line between the reasonable and unreasonable demands of customers for credit is difficult to draw. That it exists, however, cannot be denied. Customer loans are much more important and predominant than open market loans in the districts of the South, Southwest, and Middle West. This is due to differences in banking and business practices.

When banks borrow for profit from the Reserve banks the result tends to be an inflation of bank credit, and this in turn has an inflationary influence on prices. Central bank policy, as regards rates and other techniques of control, should have as its objective the prevention of borrowing for profit. In general, discount rates during the period 1919-1929 were not high enough to discourage it. The St. Louis Bank has recognized this, and its policy has long been to discourage borrowing for profit by individual dealing with member banks.

Both profitability and need are factors that explain borrowing by member banks. The policy of individual member banks varies considerably in this respect. Some banks are reluctant to borrow, and never do so unless it is necessary to provide for demands upon them that cannot be refused. But the tradition against borrowing is by no means universal. Some banks borrow whenever anything can be earned by so doing.

The Period 1930-1934

Following the stock market collapse in October, 1929, security prices declined, banks suspended, hoarding set in, and business recession developed throughout the country. In 1930 a severe drought in this area which reduced the yield of the principal crops to the smallest amount in a number of years served to make economic conditions in this District somewhat worse than in the country generally. Due to the reduced yields and lower prices the farm value of the principal crops dropped 43 per cent below that of 1929.[154] Farm income was further reduced by smaller receipts from other agricultural activities, such as livestock raising, dairying, fruit growing, and poultry raising. The building industry declined at a more rapid rate than during the last months of 1929. Contracts let for construction were one-fifth as large as in 1929.

[154] Annual Report of the Federal Reserve Bank of St. Louis, 1930, p. 8.

The loans of reporting member banks averaged 4.9 per cent less than in 1929.[155] Demand deposits averaged 2.4 per cent less, while time deposits were 1 per cent higher. Money was plentiful and interest rates declined abruptly throughout 1930. The rate of discount was reduced to 4½ per cent on February 11, to 4 per cent on April 12, and to 3½ per cent on August 7.[156] At first the discount rate led interest rates in the downward movement, then interest rates fell more rapidly than the discount rate. Bank failures increased considerably, particularly in the latter part of the year. In the seven states included in the Eighth District 558 banks suspended with an aggregate of $268,507,000 in deposits involved.[157] The demand for currency increased as banks fortified their position with increased holdings of cash.

The recession continued its downward trend in 1931 without interruption. Agricultural production was the largest in many years, favorable weather and an increased acreage contributing to it; but prices were the lowest since the early years of the century. The farm value of all crops was 20 per cent less than in 1930 and 51 per cent less than in 1929.[158] Lowered costs of producing the crops and abundant feed crops somewhat relieved the situation, however. Construction contracts were 42 per cent smaller than in 1930. Production of bituminous coal, lead, and zinc declined markedly. The dollar

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157 The Federal Reserve Bulletin, September, 1937, pp. 868-77.

158 Annual Report of the Federal Reserve Bank of St. Louis, 1931, p. 8.

volume of the wholesale and jobbing trade was 16 per cent less in 1931 than in 1930, and retail trade dropped 13 per cent.[159]

Loans of reporting member banks averaged 16.4 per cent less than in 1930.[160] Investments, however, increased by 33.5 per cent, reflecting the lack of demand for credit. Demand deposits averaged 3.5 per cent less, and time deposits were .9 per cent higher. Bank suspensions increased, a total of 621 banks suspending in 1931 in the seven states of the Eighth District, involving deposits of $325,722,000.[161] Bank suspensions and business failures caused a tightening of credit policies of commercial banks in the last quarter of 1931, and customer rates at St. Louis banks increased abruptly in the last three months. Hoarding by individuals increased in the last half of 1931, and demands for currency were large. Borrowing by member banks increases sharply after June, largely because of the additional need for currency. The discount rate, which had been lowered to 3 per cent on January 8 and to 2½ per cent on May 9, was restored to 3½ per cent on October 22.[162]

A bottom in the depression was reached in July, 1932, followed by some recovery in August and September, accompanied by some increase in commodity prices, but a further decline set in during the last three months of the year. Unemployment was very large, and wage rates were considerably reduced during 1932. Retail trade suffered a 23 per cent reduction in

159<u>Ibid</u>., 1931, p. 7.
160<u>Ibid</u>., 1931, p. 8.
161<u>The Federal Reserve Bulletin</u>, September, 1937, pp. 868-77.
162<u>Annual Report of the Federal Reserve Bank of St. Louis</u>, 1931, p. 8.

volume from 1931, while wholesale trade dropped 25 per cent.[163] Building activity was at a low ebb, construction contracts dropping 50 per cent from 1931.[164] In agriculture there was a shift from the production of crops for sale to the production of feed crops. Farm income was very low, and the number of foreclosures on farms increased greatly in 1932.

Loans of reporting member banks averaged 23.4 per cent lower than in 1931.[165] Demand deposits averaged 19 per cent less, and time deposits 12.6 per cent less. Bank suspensions were smaller in number in 1932 and involved a smaller amount of deposits than in 1930 or 1931. In the seven states included in the Eighth District, 438 banks suspended with deposits of $196,165,000.[166] The demand for credit was small, and customer rates of interest in St. Louis tended to decline in the last half of 1932. The volume of borrowing from the Reserve Bank declined all through the year 1932, most of it being due to the loss of reserves as the result of hoarding.

The first two months of 1933 reflected a continued downward movement in production and employment. A second bottom was reached in the depression in February. A banking panic occurred in St. Louis in January, 1933, characterized by many runs on banks. As a result a number of the smaller outlying banks failed. An increased number of bank suspensions in all parts of the country, and a general loss of confidence

163 Ibid., 1932, p. 7.
164 Ibid., 1932, p. 7.
165 Ibid., 1932, p. 8.
166 The Federal Reserve Bulletin, September, 1937, pp. 868-77.

in the banking system precipitated the Banking Holiday in the early part of March. Banks were licensed to reopen as rapidly as they could be determined to be in a satisfactory condition. Many banks were merged with stronger institutions, and a considerable number, of course, never reopened. In all 873 banks suspended during 1933 in the seven states included in the Eighth District, involving $477,539,000 of deposits.[167] These figures for suspensions include those banks that were merged with other institutions, and all banks which were not granted licenses to reopen by June 30, 1933, even though they may have been re-organized and reopened at a later date.[168]

The banking system was very much stronger subsequent to the Banking Holiday due to the elimination of amny weak banks. Public confidence had been largely restored by the time the banks were reopened, and a rapid improvement in business ensued. Public psychology with regard to prices resulted in speculative buying and a boom in commodity prices in the early summer, but this had disappeared by fall. For the last half of 1933 production and sales were distinctly above the last half of 1932. Much of the improvement in the Eighth District was due to increased income in the agricultural areas. Crop production, except for wheat and tobacco, was less than in 1932, but higher farm prices and the aid extended through The Agricultural Adjustment Administration resulted in greater farm income. The farm value of all crops

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167 *Ibid.*, pp. 868-77.
168 *Ibid.*, p. 866.

in the states partly or wholly in the Eighth District was estimated at $767,605,000, an increase of about 44 per cent over that of 1932.[169]

Interest rates in St. Louis increased sharply in March, 1933, due to the strained financial situation, but declined throughout the remainder of 1933. The volume of member bank borrowing declined further in 1933 except for a brief upward spurt in March due to the large demands for currency. The discount rate of the St. Louis Bank was reduced from 3½ per cent to 3 per cent in June.

Recovery in 1934 was irregular but quite definite. The upward trend during the early months of 1934 was interrupted by a recession in May, June, and July, which was occasioned by a severe drought in the spring and summer.[170] The drought was confined largely to the northern part of the District, the southern part being little affected. By August and September the trend in business was again upward. Despite reduced crop production incident to the drought, the distinctly higher prices received for the crops, and the payments made to farmers in connection with the agricultural program caused farm income to be much greater. The farm value of all crops in the seven states partly or wholly within the District was estimated at $963,934,000, an increase of 27 per cent over 1933 and 82 per cent over 1932.[171] Benefit payments in these

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[169] Annual Report of the Federal Reserve Bank of St. Louis, 1933, p. 8.
[170] Ibid., 1934, p. 5.
[171] Ibid., 1934, p. 6.

states by the Agricultural Adjustment Administration amounted to \$102,686,000.[172]

Bank failures practically ceased in 1934. There were no failures of member banks in 1934, and the failures among the non-member banks in the District were negligible. Interest rates continued to decline throughout 1934, reaching the lowest levels in the history of the Eighth District at the end of the year. Borrowing by member banks in 1934 was so small as to be of no significance.

A number of factors have combined to create large excess reserves for member banks since 1933. Heavy open market purchases of government securities, particularly in 1932, designed to stimulate recovery by forcing credit expansion, and the large influx of gold which commenced in January, 1934, are the most important of these factors. Because of these large reserves borrowing by member banks has been negligible since 1933. As a result, the St. Louis Bank now has no way in which to influence effectively the general credit situation.

The only techniques of credit control available to the Reserve System in recent years have been the use of open market operations, the power to change member bank reserve requirements, and the power to fix margin requirements on loans to carry securities. As these techniques of control are exercised by the Federal Open Market Committee and by the Board of Governors, the individual Reserve banks have had

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172 *Ibid.*, 1934, p. 6.

little influence. The only credit policy has been a System policy. In fact, due to the very large excess reserves held by member banks, the Reserve System has lost much of the control over the credit and banking mechanism of the country. The important problem that the Reserve System now faces is the establishment of control over credit.

Theory of the Discount Rate

The traditional theory of the discount rate, or the "bank rate", as it is called by the British, was developed from the practice of the Bank of England. A highly organized money market exists in London. Substantial competition exists between the various demands for funds, such that an increase in the cost of borrowing on one type of paper will be transferred to other types of paper. Thus, the Bank of England may, by means of changes in the rate at which it will buy bankers' acceptances, or lend on bankers' acceptances, secure changes in the rates of interest charged for funds in the London money market. The British banks adjust their reserves by means of buying and selling bankers' acceptances, Treasury bills, and by increasing or decreasing loans to bill brokers. The bill brokers if in need of funds sell bankers' acceptances to the Bank of England, or borrow from it on such bills. The discount rate of the Bank of England is always above the open market rate on such bankers' acceptances, thus preventing the use of the funds of the central bank except in cases of need. The transfer of changes in the bank rate to market rates of interest is effective because of the unified and competitive structure of the money market.

The situation in this country is very different. Due to the diverse economic characteristics of various parts of the country, and the great number and heteregenous character of American banking institutions, a number of money markets exist, although the one in New York is by far the most important. In some financial centers there is little more than a market for customer loans. These money markets are not highly competitive with each other, and within each market a limited amount of competition exists between the various demands for credit, greater in the case of some markets than in others. As a result the practice of the Bank of England could not be transferred to this country.

No clear understanding of the exact function of the rate of discount of the several Reserve banks in controlling the money supply of this country has ever emerged. This is clearly demonstrated in the replies received to the questionnaire sent to the several Reserve banks in connection with the hearings in 1931 before the Senate Committee on Banking and Currency.[173] Some thought the English theory of the discount rate applicable to this country, others thought it was not. Some thought American discount rate policy was essentially similar in its effect to British rate policy, others did not. The several Reserve banks thought the discount rate should be above, equal to, or below various market rates of interest.

[173]Hearings pursuant to S. Res. 71, op. cit., pp. 748-93.

The St. Louis Bank indicated its belief in a penalty rate in its statement in reply to one of the questions put before the Reserve banks in the 1931 hearing, "It would be desirable always to have a discount rate about the rate that can be procured by customers who are enabled to get the benefit of a competitive money market."[174] Such a competitive money market for customer loans existed in St. Louis, the Bank thought.[175] The importance of the customer rate for prime commercial loans as a measure of market rates of interest in many districts in this country ought not to be overlooked. In this respect the situation in many parts of this country differs materially from that in England.

While the St. Louis Bank evidently believed that the discount rate should be above the customer rate for prime commercial loans, this relationship has not usually existed in the Eighth District. It will be remembered that in the several years before our entrance into the war the Bank developed a policy of setting the discount rate between the open market commercial paper rate and that for loans to customers. Between 1917 and 1920 the rate policy of all the Reserve banks was dominated by the obligations which the System believed it owed to the Treasury in assisting in the finance of the war. During the period of the twenties the discount rate of the Bank was usually below the customer rate, and often below the commercial paper rate. Since 1930 there has been a wide variation in the rates charged customers for commercial loans.

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174 Ibid., p. 780.

175 Ibid., p. 786.

Except in 1932 and 1933 the discount rate has been equal to, or above, the lowest rates charged customers.

A number of reasons may be given for the failure of the St. Louis Bank to apply a rate policy to which it appeared to subscribe in theory. It has been suggested that legal limitations on rates of interest found in state laws presented an obstacle to a higher discount rate policy. In this District only Kentucky has imposed a limit as low as 6 per cent. As maximum
the discount rate has never been as high as 6 per cent in the Eighth District since 1921, this would not appear to be a serious difficulty. It is true, of course, that any one Reserve bank cannot pursue a rate policy that differs widely from that followed by the other Reserve banks, as this would tend to shift unduly the demand for funds to the other districts. The easy money policy pursued generally by the System during the twenties offered, therefore, certain limitations on the rates that could be fixed by the St. Louis Bank. The System rate policy constitutes a framework, in a sense, to which rates in the several districts must generally conform. In several instances during the twenties the St. Louis Bank found it necessary to change its rate because of the changes made by other Reserve banks. On several occasions the Bank set a low rate for the express purpose of encouraging lower interest rates for the benefit of agriculture.

Effective administration of the discount rate requires an understanding of the direct effects of a change in the rate. There are those, of course, who believe that changes in rates have little other than a psychological effect, but a close examination of American banking practice demonstrates certain direct effects. It is not possible by means of statistical analysis to show the exact effect of a specific rate change because of the numerous factors that bear upon market rates of interest and the volume of bank credit.

The discount rate will influence member banks in their choice of methods of adjusting reserves. If a member bank finds itself in need of additional reserves, there are, in a general way, two alternatives open to it in securing these additional funds: one, adjustment of its own assets; two, borrowing funds from a Reserve bank. A member bank may secure additional funds to increase its reserves by adjusting its assets in several ways: first, loans to customers might be called; second, open market loans might be reduced, particularly by selling open market commercial paper; third, long-term or short-term government securities might be sold.[176] Each of these methods of adjusting the assets of the bank entails certain costs, which are compared with the cost of securing funds by borrowing from the Reserve bank.

The sale of open market commercial paper is generally the most satisfactory method of getting cash because of the impersonal character of the asset, and because the risk of

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[176] A member bank may also borrow funds from another commercial bank. The rates charged for such inter-bank loans are ordinarily related to market rates of interest, as the rate a bank would be likely to charge for such loans would depend upon the profitableness of alternative uses of its funds.

loss is slight in the case of such a liquid kind of paper. If the discount rate is above the rate on commercial paper such paper will be sold before the bank will borrow from the Reserve bank. If, however, the discount rate is below the rate on commercial paper, the bank is likely to borrow from the Reserve bank instead of selling the paper. In fact, if the member bank has no reluctance to borrow, it might secure funds from the Reserve bank to invest in commercial paper. The relationship between the discount rate and the open market rate thus becomes of great importance. If the member bank is encouraged to sell commercial paper by a higher discount rate the supply of money on the open market will be reduced, and interest rates are likely to be increased.

There are important regional differences in the character of the assets of member banks, and therefore, differences in the available means of securing reserves by adjusting assets. In the eastern districts a larger portion of the funds of member banks are invested in open market loans ordinarily. Particularly in the agricultural districts, however, customer loans are much more important relative to open market loans than in the eastern districts. While member banks do not attempt to secure funds by calling customer loans except in an emergency, the policy of the member bank in extending additional credit to customers may be greatly influenced by the cost of securing additional reserves. The cost of making an additional loan to a customer is largely the cost of securing the additional funds, because the costs of operation in a bank are fixed costs for the most part and do not vary directly with the volume of business.

The marginal principle is as much applicable to the sale of credit by a bank as it is to the sale of goods by a manufacturer. A manufacturer is willing to produce and sell additional units of a good only if his extra, or marginal costs are more than covered by the price received for them. In a like manner, a bank is willing to extend additional credit only if the additional costs of making the loan are more than covered by the interest on the loan. A commercial bank does not spread the costs of securing all its reserves over all its loans, rather comparing the cost of securing additional reserves with the return that may be secured in lending the additional funds.

If the rate of discount is to be effective, then, it must be fixed at any time in relation to the rates of return on those assets which member banks are actually using to adjust reserves. If reserves are being adjusted through the purchase and sale of commercial paper, then the discount rate must be set in relation to the rate on this paper. If reserves are being adjusted largely by means of the policy in extending credit to customers, then the rate must be set in relation to the rates charged customers.

The discount rate cannot determine market rates of interest, but it can affect them by increasing or decreasing the cost of securing additional reserves from the Reserve bank. An excellent example of this influence of the discount rate on market rates of interest is provided by the experience in this District in 1919. Despite an unusual demand for credit in that year, interest rates did not rise as long as additional funds could be borrowed from the St. Louis Bank at a low rate. As soon as the cost of borrowing was increased interest rates rose rapidly.

The St. Louis Bank stated in the hearings in 1931 that customer rates in St. Louis, where there is a competitive market for customer loans, tended to move in accord with the discount rate of the Bank.[177] A study of the chart which compares the monthly range of customer rates in St. Louis with the discount rate of the Bank, indicates in the case of a number of the turning points in interest rates a tendency for the discount rate to lead and the market rate to follow. This is particularly evident in 1920, 1921, 1922, 1928, and 1931.

The discount rate is but one of several techniques available to the Reserve System in its efforts to control credit. The theory of the discount rate has been obscured on the one hand by those who believe that its influence is at most psychological, and on the other hand by those who expect too much to be accomplished by rate policy. Other important techniques of control now available to the Reserve System consist of open market operations, the power to change the reserve requirements of member banks, and the power to regulate the amount of credit flowing into the security markets. The use of each one of these techniques may accomplish certain things, and a combination of certain of these techniques at a given time may enable the Reserve banks to achieve

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[177] _Ibid._, p. 771.

certain specific objectives.

It seems necessary, however, in view of much of the discussion in recent years, to call attention to the fact that economic stability, or price stability, or a number of other very desirable economic objectives, cannot be achieved by central bank policy alone. A central bank cannot stave off the economic consequences of a war, or the consequences of governmental policies designed to avoid meeting the economic costs of a war. The failure of the Reserve System to prevent the economic collapse in the United States after 1930 cannot be cited as an evidence of the failure of central bank policy, but as the failure of economic and social policies in nearly all countries in meeting the problems of readjustment after the war of 1914-1918. Central bank policy may affect prices, but it cannot stabilize the price level. A central bank lacks control over many of the elements of cost that enter into price. Prices are the result of both monetary and non-monetary factors, and the non-monetary factors are not subject to the control of the central bank.

In recent years the power of the Board of Governors to change reserve requirements for member banks has become one of the most important techniques of control, because of the large excess reserves held by member banks. It has recently been proposed to extend this power further by amending the Federal Reserve Act to enable the Board of Governors or the Federal Open Market Committee to increase the reserve requirements to twice that which might now be required. Serious consideration ought to be given to the possibilities of making the use of this power as flexible as possible. It is suggested here that greater flexibility might be obtained by permitting regional differences in reserve requirements. The several Reserve banks might be given the power to change reserve requirements for central reserve city banks, reserve city banks, or country banks, subject to the approval of the Board, or the Federal Open Market Committee. The procedure would closely resemble that now used in determining discount rates. It might be pointed out that these two techniques of control are very closely related. It may be desirable, for instance, to change reserve requirements for banks in the eastern districts, which, if applied to the banks in the agricultural districts, might work great hardship.

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