

FEDERAL RESERVE BANK OF ST. LOUIS

AUGUST 1973



REVIEW



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Vol. 55, No. 8

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Business Developments and Stabilization Policies

ECONOMIC activity in the first half of 1973 expanded at a very brisk pace in response to stimulative policy actions taken earlier. However, some economic measures, such as production and employment, rose at a less rapid pace in the second quarter of 1973 than in the first, partially reflecting capacity constraints. Prices increased sharply throughout the first six months of the year.

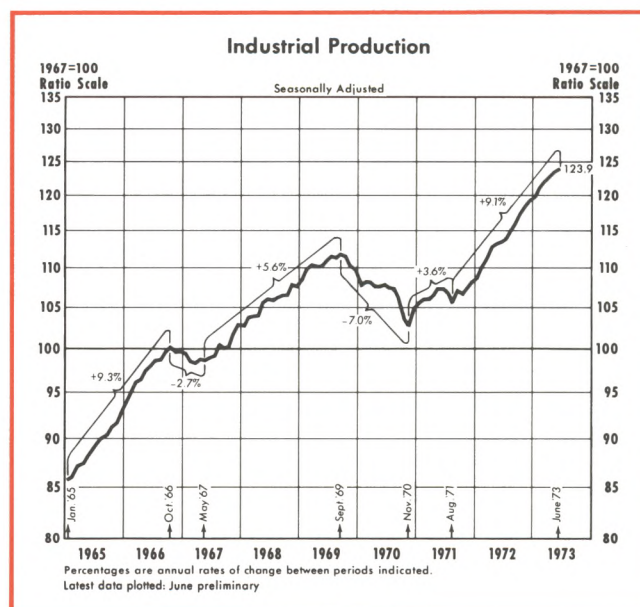
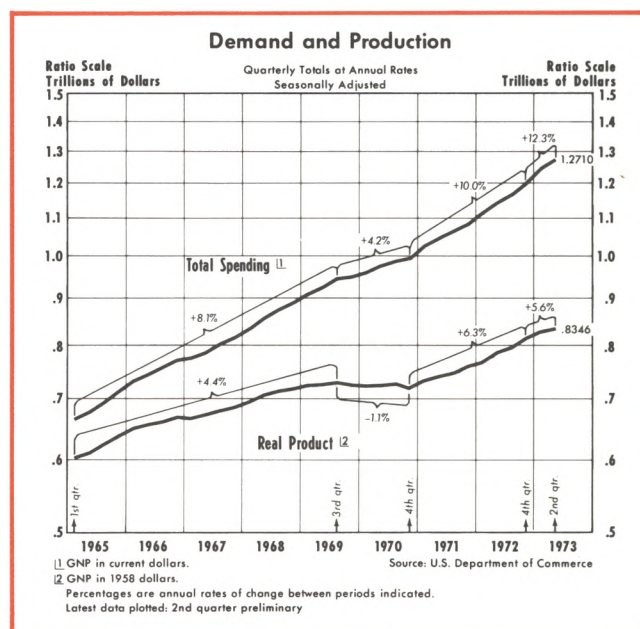
Rapid monetary growth in the first half of 1973 was accompanied by strong demands for credit and rising interest rates. The Federal budget was in deficit by about \$9 billion in the fiscal year just ended. Experience suggests that less expansionary stabilization actions will be required to achieve lasting success in curbing inflationary pressures, regardless of the workings of Phase IV controls.

Business Developments

Spending, production, employment, and income growth began to accelerate in mid-1971, after having risen at a moderate pace in the preceding several quarters. This expansion continued at rapid rates over the subsequent two-year period.

Spending—Total spending, the course of which is strongly affected by monetary and fiscal actions, increased at a 12.3 percent compounded annual rate of change in the first half of 1973. For comparison, total spending increased 10.6 percent in 1972 and 9.3 percent in 1971. Final sales (that is, total spending other than for changes in inventories) rose at a 13 percent rate in the first two quarters of 1973.

Production—Preliminary data indicate that real output growth slowed in the second quarter of 1973 to a 2.6 percent annual rate, after rising at an 8.6 percent rate in the first quarter and by 7 percent in 1972. For the first half of 1973, real product increased at a 5.6 percent rate, considerably above its long-term average of 3.8 percent in the past fifteen years.



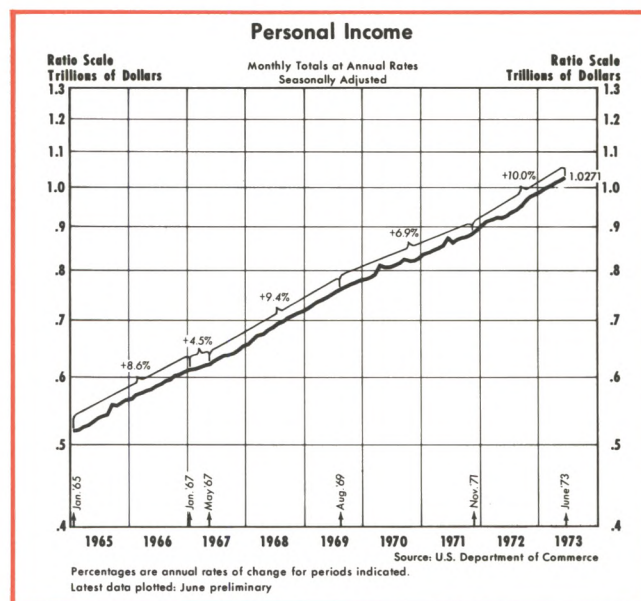
Industrial production, which increased at a 9.5 percent rate from August 1971 to the end of 1972, rose at a 9.7 percent rate in the first three months of 1973 and at a 6.4 percent rate in the second three months. Real output and industrial production growth for the first half of 1973 suggest that real economic activity has been slowing toward a more sustainable, long-term trend.

Employment — Total civilian employment has expanded at a relatively rapid 3.8 percent annual rate in the past seven months, compared with a trend rate of 1.6 percent from 1957 to 1972. The unemployment rate of all civilian workers fell to 4.7 percent in July after holding steady at about 5 percent from January to May. From May 1971 to December 1972, total civilian employment rose at a 3.1 percent annual rate, and the unemployment rate fell from 6 percent to 5.1 percent.



Given recent employment gains, the failure of the unemployment rate to drop much lower is explained by the rapid growth of the labor force. In the first seven months of 1973, the civilian labor force expanded at a 3.1 percent annual rate, compared with a 1957-72 trend rate of 1.7 percent. Total civilian employment as a percentage of the civilian non-institutional population of working force age was at an historically high 64.8 percent in second quarter 1973, a figure equalled in only one quarter in the past twenty-five years (fourth quarter 1969).

Sectoral Activity — The allocation of total spending among the various GNP sectors is governed primarily



by market forces. Nonmarket constraints, such as interest rate ceilings and price controls, also influence the allocation of such spending.

Personal consumption expenditures rose at an 8.3 percent annual rate in the second quarter of 1973, after rising at a 15 percent rate in the first quarter and by 10 percent in 1972. Purchases of durable goods expanded sharply in the first quarter, reflecting increases in expenditures for automobiles, furniture, and appliances. Expenditures for both durable and nondurable goods grew less rapidly in the second quarter.

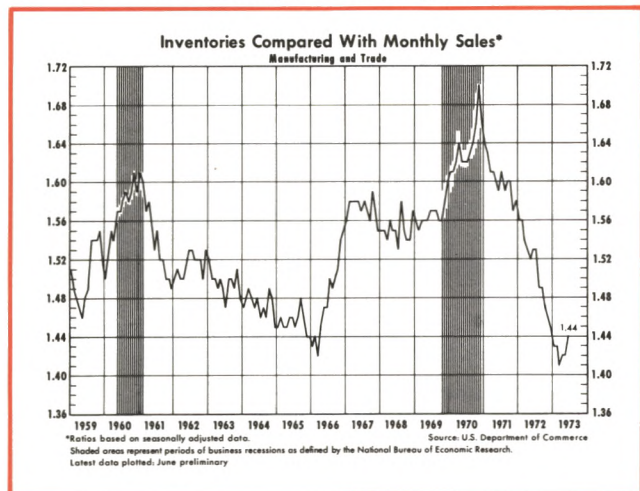
Gross private domestic investment increased at a 10.6 percent annual rate in the first half of 1973, after rising at a 15 percent rate since early 1971. Investment growth in nonresidential structures has accelerated, while investment in residential structures has decelerated from its earlier rapid growth rate. Investment in producers durable equipment has grown at about a 15 percent average annual rate since the end of the 1969-70 recession.

Investment in residential structures has increased each quarter for the past three years, but the growth in these expenditures has decelerated. Residential investment increased 41 percent from second quarter 1970 to second quarter 1971, 27 percent in the next four quarters, at a 16 percent rate in the second half of 1972, and at a 9.3 percent rate in the first half of 1973.

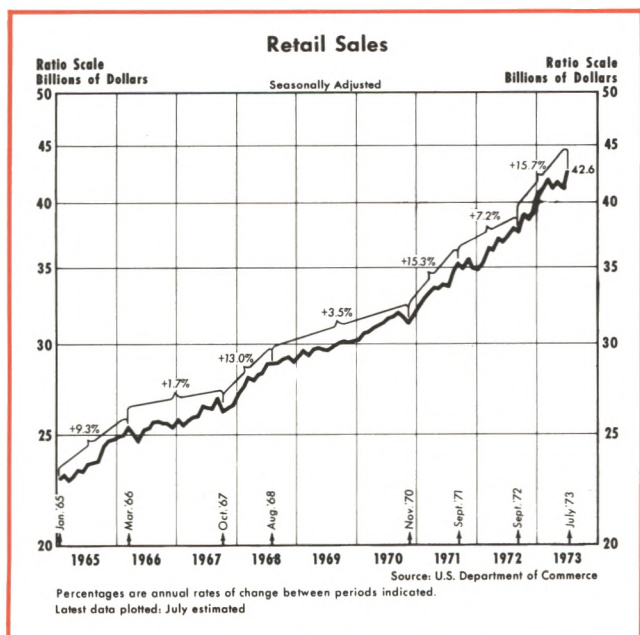
Investment in nonresidential structures has followed a pattern opposite to that of residential structures and has accelerated since the 1969-70 recession. Invest-

ment in nonresidential structures rose at an 8.8 percent rate from first quarter 1971 to fourth quarter 1971, advanced 15 percent in 1972, and increased at a 17 percent rate in the first half of 1973.

Book value of business inventories of firms engaged in manufacturing and trade has increased at a \$21 billion annual rate in the first five months of 1973, after rising \$10.5 billion in the year ended December 1972 and \$8.7 billion in 1971. The inventory-to-sales ratio remained nearly unchanged from March to May 1973, after falling sharply from its peak level in 1970.

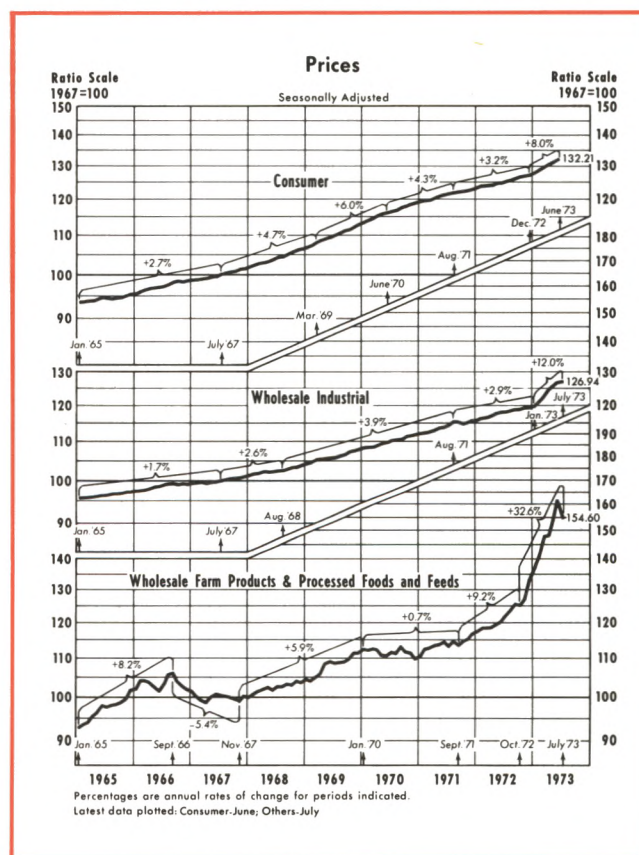


Retail sales growth, which was exceptionally strong in the first quarter of 1973, moderated in the second quarter. Estimated sales in June, however, were still 12 percent above the year-earlier level. From 1957 to 1972, retail sales grew at an annual rate of 5.5 percent.



Inflation — Prices, as measured by all major price indexes, rose rapidly in the first half of 1973. In response to the rapid price rise, the Administration initiated a 60-day price freeze on June 13.¹ Because of developing shortages and distortions in the market, prices of most agricultural products and health services were exempted from the freeze in mid-July.² For other industries the freeze ended on August 12 and was replaced by Phase IV controls, which bear some similarities with Phase II. Phase IV is intended to restrain price advances primarily by allowing firms to raise prices only by the same dollar amount that costs have increased.

Both the GNP price deflator and the consumer price index indicate an accelerating rate of inflation in the first six months of the year. The GNP price deflator rose at a 6.8 percent annual rate in the second quarter of the year, after rising at a 6 percent rate in the first quarter and by 3.3 percent in 1972. Consumer



¹Unprocessed agricultural products at the point of first sale were excluded from the price freeze, while agricultural products at later stages of distribution were included in the freeze.

²The exemption permits prices of agricultural products, except beef, to rise by the same dollar amount that raw material costs have risen since early June. Beef prices at the retail level are to remain under the freeze until September 12, 1973.

prices increased at a rapid 8 percent annual rate in the six months ending in June. For comparison, consumer prices rose 3.4 percent in 1972 and at a 4.9 percent rate from 1967 to 1971.

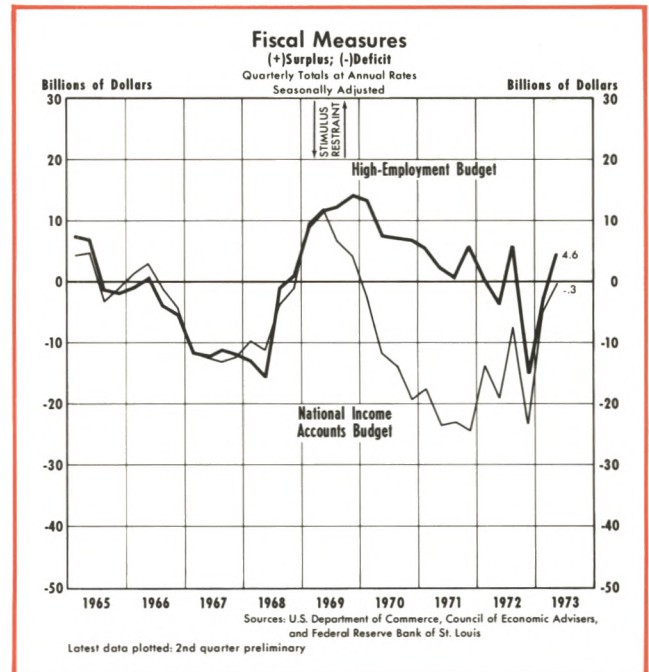
The rise in wholesale prices of all commodities is up significantly from last October. Wholesale prices increased at a rapid 20 percent annual rate from October 1972 to June 1973 and declined at a 15.5 percent rate in the freeze-dominated period from June to July. For comparison, wholesale prices rose 4.9 percent in the previous year and at a 3.3 percent rate from 1967 to 1971.

The wholesale price index consists of wholesale prices of farm products and processed foods and feeds and wholesale prices of industrial commodities. The rapid rise in average wholesale prices reflects the large and accelerating increases in the price of wholesale farm products which began in late 1971 and an acceleration in the rate of increase of wholesale industrial commodity prices since January 1973. Wholesale prices of farm products and processed foods and feeds, which carry a weight of nearly 29 percent in the wholesale price index, rose at a 9.2 percent rate from September 1971 to October 1972 and accelerated to a 47.4 percent rate from October to June 1973. Wholesale prices of industrial commodities rose at a 3.5 percent annual rate during Phase II of the New Economic Program, and increased at about a 14 percent rate from January to June.

The spurt in prices in the first half of this year is attributable to a number of factors. Some prices probably rose as a "catch-up" following the termination of Phase II or in response to anticipation of an eventual re-imposition of rigid controls. Prices of many agricultural commodities were affected by bad weather conditions and the strength of international demand. Capacity constraints reached in many industries in recent months have resulted in intensified price pressures throughout the economy. But the underlying cause of the current inflationary conditions is the excessive growth in aggregate demand relative to production capabilities. The rapid rise in aggregate demand, in turn, was fostered in large measure by expansive stabilization actions since 1969.

Stabilization Actions

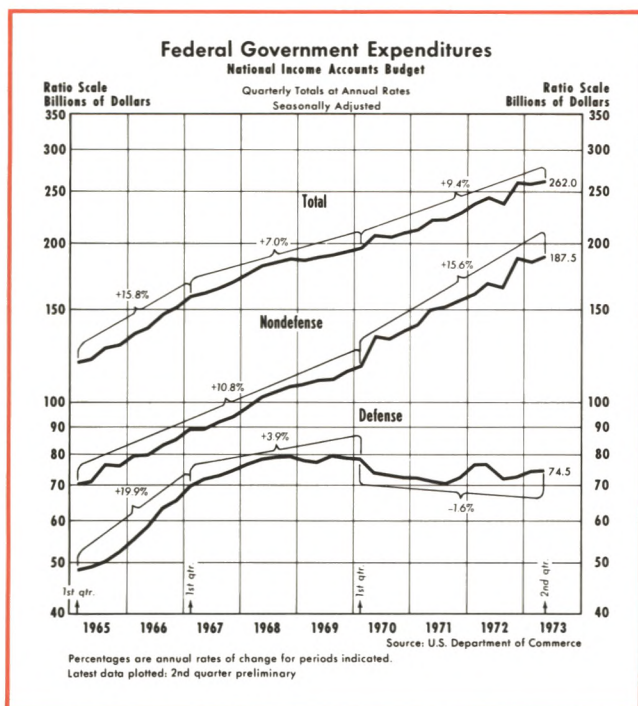
During 1970, 1971, and 1972, both monetary and fiscal actions encouraged expansion in economic activity. On balance, monetary developments were stimulative in the first half of 1973, while fiscal actions became less expansive.



Fiscal Developments—The national income accounts budget moved from an average deficit of about \$19.7 billion in fiscal years 1971 and 1972 to a \$9 billion deficit in the fiscal year ending June 1973. A near-balance budget is projected for fiscal 1974. The smaller deficit in fiscal year 1973 reflects both a rise in receipts, due mainly to increased social security taxes and large increases in corporate and personal income, and a slowing in the growth rate of expenditures in the second half of fiscal 1973.

Growth of Federal Government expenditures slowed to a 1.3 percent annual rate in the first two quarters of 1973 after rising at a 13.4 percent rate in the previous two quarters. During the fiscal year ending second quarter 1973, Federal Government expenditures, which include purchases of goods and services, transfer payments, and grants-in-aid to state and local governments, rose 7.2 percent, compared to a 10.5 percent increase in fiscal 1972. National defense expenditures, which comprised 31 percent of Federal Government expenditures in fiscal 1973, fell 2.7 percent in fiscal 1973. Reflecting primarily a 17 percent increase in transfer payments and a 6.6 percent increase in grants-in-aid to state and local governments, nondefense expenditures rose 11.7 percent.

Financial Developments—The growth of the money stock (M_1), defined to include private demand deposits and currency in the hands of the non-bank public, has increased recently at a rate higher than its trend from 1967 to 1972. The money stock rose at a 7.1 percent rate from November 1972 to



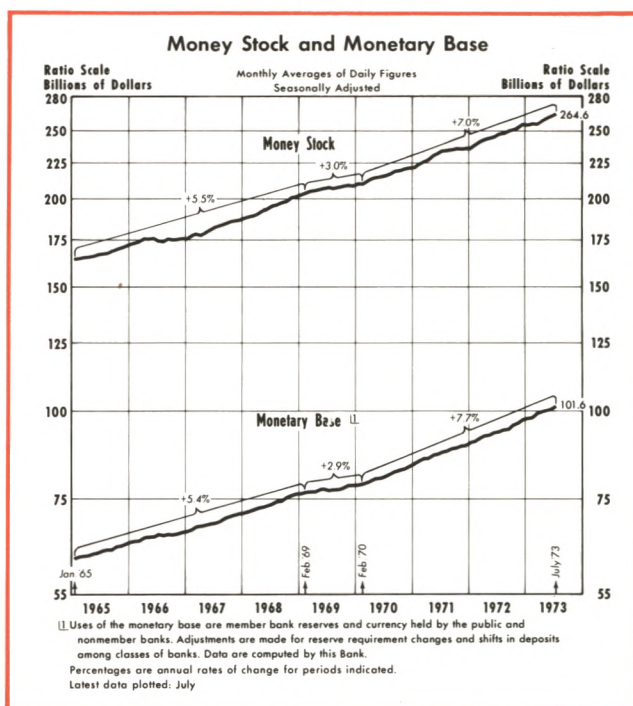
July.³ For comparison, the money stock grew at a 6.3 percent annual rate from 1967 to 1972 and at a 2.9 percent rate from 1957 to 1967.

In recent months the money stock plus net time deposits (M_2) also has grown at a rate higher than its 1967 to 1972 trend. M_2 has grown at a 9.1 percent rate in the three months ending July and has increased by 9 percent in the year ending April, compared to a 1967-72 trend rate of 8.4 percent.

The monetary base, a prime determinant of the trend growth of money, rose at a rapid 8.4 percent rate from November 1972 to July, about the same as the increase in the preceding year. Because of a temporary fall in the "money multiplier" in the first few months of 1973 and a subsequent rise in the ensuing months, money growth deviated from the trend established by the monetary base.⁴ From November 1972 to April of this year, the money supply grew at a

³The choice of the November base period attempts to avoid distortions which would be introduced into the rates of change calculations if December 1972 or January 1973 were used as the base period. The money stock rose at an abnormally high 14.1 percent annual rate from November to December 1972 and declined at a 0.5 percent rate from December to January.

⁴The money stock (M) can be expressed as a function of the monetary base (B) and a money multiplier (m) such that $M = mB$. The money multiplier summarizes the decisions of commercial banks to hold excess reserves, of the Government to hold demand deposits, and of the public to hold demand deposits, currency, and time deposits. A discussion of factors affecting the money multiplier is presented by Jerry L. Jordan, "Elements of Money Stock Determination," this *Review* (October 1969), pp. 10-19.



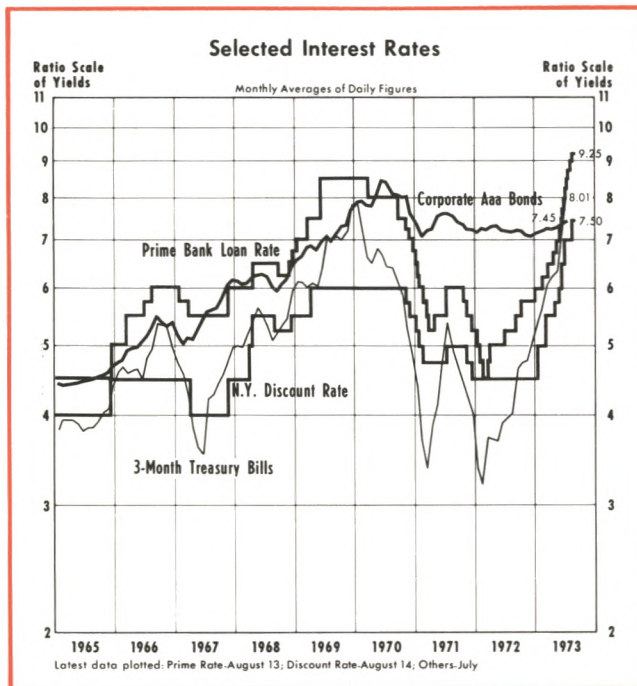
rate slower than the base, and from April to July the money supply rose at a more rapid rate. For the whole period, the growth of money was at about the same rate as that of the base.

Short-term market interest rates have risen rapidly in recent months, following the upward trend which began in early 1972, while long-term yields have increased moderately. Yields on three-month Treasury bills averaged 8.5 percent in early August, up about 1.5 percentage points from two months earlier. Reflecting the rapid increase in short-term market yields, the prime rate on bank loans was raised from 7¼ percent at the beginning of June to 9¼ percent in mid-August. The long-term Aaa corporate bond rate averaged 7.6 percent in early August, compared with a recent low of 7.08 percent last December and a 7.21 percent average for 1972.

In response to rising money market yields, the Federal Reserve Banks have raised the discount rates

The decline in the money multiplier in early 1973 resulted from a more rapid growth of currency, time deposits, and U.S. Government deposits relative to private demand deposits at commercial banks. From November 1972 to April, currency grew at an 11 percent annual rate, total time deposits rose at a 23.5 percent rate, and demand deposits rose at a 3.7 percent rate. Treasury deposits at commercial banks averaged \$6.2 billion in November and rose to an average level of \$10.1 billion in March.

From April to July, the multiplier rose towards its previous level. In this time period, demand deposits rose at an 11.7 percent rate, currency increased at a 4.9 percent rate and total time deposits grew at a 13.9 percent rate. Treasury deposits at commercial banks averaged \$6.4 billion in July.



several times since December. At the start of the year, the discount rate was $4\frac{1}{2}$ percent. It was raised by $\frac{1}{2}$ and $\frac{3}{4}$ percentage point increments to a $7\frac{1}{2}$ percent level in mid-August.

In addition to discount rate increases, the Federal Reserve has made several changes in Regulation Q interest rate ceilings and Regulation D reserve requirements on member bank deposits. Regulation Q interest rate ceilings on time deposits were changed in May, and interest rate ceilings on savings deposits were changed in July.⁵ Regulation D reserve requirement increases were announced in May, June, and

⁵In mid-May 1973, the Federal Reserve suspended interest rate ceilings on certificates of deposit (CDs) of \$100,000 or more that mature in 90 days or more. Interest rate ceilings on CDs of \$100,000 or more with maturities of 30-89 days have been suspended since June 1970. In early July, the Federal Reserve increased the maximum interest rate payable on passbook savings deposits at member banks by $\frac{1}{2}$ of a percentage point. At the same time, maximum interest rates payable on consumer-type time deposits were increased by $\frac{1}{4}$ to $\frac{3}{4}$ of a percentage point. Interest rate ceilings were suspended on CDs of \$1,000 or more with maturities of four years or more. In late July, the Federal Reserve limited

July.⁶ However, the continued rapid expansion of the monetary base this year has fostered continued rapid money supply growth despite the restraining effects of other System actions.

SUMMARY

Total spending increased at a rapid pace in the first two quarters of 1973. The growth of expenditures for consumer goods and residential construction slowed in the first half of the year from the unusually rapid pace of 1972, whereas the growth of non-residential investment accelerated. Overall, growth of production and employment have recently decelerated toward longer-term trend rates as the economy has approached a high rate of resource utilization. Due to the constraint of available capacity, it is to be expected that the growth of real output would slow significantly from the rates prevailing in the period of recovery since the 1970 recession. As the growth of production slows further toward long-term potential rates, avoidance of further inflationary pressures requires moderation of the growth in aggregate demand.

the amount of "no ceiling" consumer-type CDs that a bank may issue to 5 percent of its total time and savings deposits. Those CDs that a bank sells beyond this amount will be subject to the existing interest rate ceiling of 6.5 percent that applies to time deposits maturing in $2\frac{1}{2}$ years or more. The FDIC made similar changes affecting interest rate regulations on savings deposits at other commercial banks and mutual savings banks, and the Federal Home Loan Bank Board initiated changes affecting savings and loan associations.

⁶In mid-May, the Federal Reserve increased reserve requirements from 5 to 8 percent on increases in the total volume of large time deposits and bank related commercial paper above the level existing during the week ending May 16, or \$10 million, whichever is larger. At the same time, the Federal Reserve reduced from 20 percent to 8 percent, the reserve requirements on certain foreign borrowings of U.S. banks, primarily Euro-dollars. The Board also acted to eliminate gradually the reserve-free bases still held by some banks subject to this measure. In late June, the Federal Reserve announced that funds raised by member banks through the sale of finance bills would be included in the total volume of large time deposits and bank-related commercial paper. Previously, there were no reserve requirements on finance bills. In early July, the Federal Reserve raised reserve requirements on demand deposits at member banks. Reserve requirements were increased by $\frac{1}{2}$ percentage point on net demand deposits which exceed \$2 million.



Employment Growth in St. Louis

by R. ALTON GILBERT

IN RECENT years the St. Louis economy has not expanded as rapidly as that of the nation.¹ The trend rate of employment growth during the last seventeen years has been slower in St. Louis, and this slower rate of growth has been especially pronounced since 1966.² Payroll employment in St. Louis declined throughout the period from 1969 to 1972 and has begun to increase only in recent months.

The purposes of this article are to measure the extent to which employment growth in St. Louis has differed from the national rate, to determine the influence of individual industrial sectors on the deviation of St. Louis employment from the national trend, and to compare the employment growth in St. Louis with that of some other metropolitan areas of similar size. No attempts are made to either explain the performance of the St. Louis economy, or test hypotheses about urban economic growth.

THE ST. LOUIS SITUATION

As shown in Table I, the period since 1966 is the longest in the last seventeen years during which the growth rate of payroll employment was higher each year in the nation than in St. Louis. The annual rates of growth in payroll employment for St. Louis and the nation were 1.6 and 2.1 percent, respectively, from 1955 to 1966, and 0.4 and 2.2 percent, respectively, from 1966 to 1972. These divergent growth rates suggest that the period between 1966 and 1972 is of special interest in an analysis of trends in the St. Louis economy.

¹The term "St. Louis" is used to indicate the St. Louis SMSA as defined through 1972, which includes: St. Louis City and St. Louis, St. Charles, Jefferson, and Franklin Counties in Missouri, and Madison and St. Clair Counties in Illinois.

²Data on total nonagricultural payroll employment in St. Louis are available only as far back as the mid-1950s.

Table I

RATES OF CHANGE IN PAYROLL EMPLOYMENT (Percentage Changes in Annual Averages)

Year	St. Louis SMSA	U.S.	St. Louis SMSA minus U.S.
1955	2.4%	3.4%	-1.0%
1956	1.5	3.4	-1.9
1957	0.5	0.9	-0.4
1958	-1.3	-2.9	1.6
1959	2.0	3.8	-1.8
1960	0.9	1.7	-0.8
1961	-2.3	-0.4	-1.9
1962	0.9	2.9	-2.0
1963	4.4	2.0	2.4
1964	3.2	2.9	0.3
1965	4.0	4.3	-0.3
1966	5.5	5.2	0.3
1967	2.2	3.0	-0.8
1968	1.7	3.1	-1.4
1969	2.2	3.5	-1.3
1970	-1.6	0.4	-2.0
1971	-1.2	0.1	-1.3
1972	-0.8	3.0	-3.8

SOURCE: U.S. Department of Labor.

Measuring the Deviation from the National Trend

The industrial composition of employment in any region is generally different from that in the nation as a whole because of the advantages of specialization. In one geographic region employment may be concentrated in sectors that experience slow growth nationally, and in another it may be concentrated in fast growing sectors. The difference between the rate of employment growth in a region and the nation may thus reflect two influences:

- (1) differences in the industrial composition of employment and
- (2) differences in the rates of employment growth in the region and the nation for individual industrial sectors.

Table II

PAYROLL EMPLOYMENT IN THE ST. LOUIS SMSA BY INDUSTRIAL SECTOR

(Nonseasonally Adjusted Annual Averages, in Thousands)

Industrial Sector	(1) 1966	(2) 1972	(3) Projected 1972*	(4) Difference (2) - (3)	(5) Actual/ Projected (2) / (3)	(6) Difference by Sector, (4), Divided by Sum of Differences, All Sectors	(7) Percentage Allocation of Payroll Employment, 1966
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	859.1	881.1	961.6	-80.5	91.6%		
TOTAL MANUFACTURING	291.4	256.7	282.7	-26.0	90.8		33.9%
Durable Goods:	180.2	162.7	170.9	- 8.2	95.2		21.0
Stone, clay and glass	10.2	7.7	10.5	- 2.8	73.3	3.48%	1.2
Primary metal industry	27.1	21.4	24.8	- 3.4	86.3	4.22	3.2
Fabricated metal products	20.5	19.9	20.8	- 0.9	95.7	1.12	2.4
Machinery, excluding electrical	20.6	20.5	20.1	+ 0.4	102.0	- .50	2.4
Electrical equipment and supplies	17.6	17.2	16.9	+ 0.3	101.8	- .37	2.0
Transportation equipment	66.2	58.6	60.3	- 1.7	97.2	2.11	7.7
Lumber and furniture	5.1	5.1	5.2	- 0.1	98.1	.12	0.6
Ordinance, instruments and miscellaneous manufacturing	12.9	12.3	12.3	- 0 -	100.0	- 0 -	1.5
Nondurable Goods:	111.2	94.0	111.8	-17.8	84.1		12.9
Food and kindred products	28.8	23.9	28.4	- 4.5	84.2	5.59	3.4
Textiles and apparel	14.7	11.5	14.5	- 3.0	79.3	3.73	1.7
Paper and allied products	8.6	7.4	9.0	- 1.6	82.2	1.99	1.0
Printing and publishing	15.3	15.2	16.2	- 1.0	93.8	1.24	1.8
Chemicals and allied products	24.1	20.5	25.1	- 4.6	81.7	5.71	2.8
Petroleum and coal products	4.3	3.5	4.4	- 0.9	79.5	1.12	0.5
Leather and leather products	11.4	7.8	9.5	- 1.7	82.1	2.11	1.3
Other nondurable goods	4.0	4.2	4.7	- 0.5	89.4	.62	0.5
TOTAL NONMANUFACTURING	567.7	624.4	678.9	-54.5	92.0		66.1
Mining	2.7	2.7	2.6	+ 0.1	103.8	- .12	0.3
Contract Construction	44.0	32.0	47.3	-15.3	67.7	19.01	5.1
Transportation and Public Utilities	66.3	63.8	71.8	- 8.0	88.9	9.94	7.7
Wholesale and Retail Trade	176.0	192.4	208.0	-15.6	92.5		20.5
Wholesale Trade	53.6	56.0	61.1	- 5.1	91.7	6.34	6.2
Retail Trade	122.4	136.4	146.9	-10.5	92.9	13.04	14.2
Finance, Insurance and Real Estate	42.8	46.7	54.2	- 7.5	86.2	9.32	5.0
Services	130.5	156.4	168.2	-11.8	93.0	14.66	15.2
Government	105.4	130.4	126.8	+ 3.6	102.8		12.3
Federal	36.4	35.3	37.6	- 2.3	93.9	2.86	4.2
State and Local	69.0	95.1	89.2	+ 5.9	106.6	- 7.33	8.0

*Projected payroll employment in each industrial sector for 1972 is the level that would have prevailed if that sector had grown at the national rate between 1966 and 1972. Projected employment for aggregate sectors is the sum of that for their component sectors.

SOURCE: U.S. Department of Labor

The difference between employment growth in St. Louis and the nation is measured by holding the influence of industrial composition constant. This procedure involves (1) calculating for each industrial sector the difference between actual employment in St. Louis for 1972 and projected employment, assuming the national rate of employment growth for that sector between 1966 and 1972, and (2) summing the difference between actual and projected employment over all industrial sectors. The deviation of actual from projected employment shows the extent to which

the slower rate of employment growth in St. Louis was the result of a slower than national growth rate in the individual sectors.³

The difference between actual and projected payroll employment in St. Louis is calculated in Table II. Column (3) gives the level that payroll employment

³For a discussion of the use of this technique in measuring regional economic growth, see Harvey S. Perloff *et al.*, *Regions, Resources, and Economic Growth* (Baltimore: The Johns Hopkins Press, 1960), and Hugh O. Nourse, *Regional Economics* (New York: McGraw Hill Co., 1968), pp. 192-97.

would have been in each industrial sector in 1972 if the sector had grown at the national rate.⁴ The difference between actual and projected employment is presented in column (4).

Actual minus projected payroll employment for all industrial sectors in 1972 is a negative 80,500. In other words, 80,500 more people would have been reported on payroll employment in St. Louis if employment in each industrial sector had grown at the national rate during the previous six years. This difference represents about 9 percent of current payroll employment in St. Louis.

The industrial composition of employment in St. Louis was also a factor in the area's slower rate of employment growth. Total payroll employment in the nation increased 16.1 percent between 1966 and 1972. In contrast, projected payroll employment in St. Louis for 1972, based on national growth rates in individual sectors, was only 11.9 percent higher than actual in 1966. An implication of this comparison is that employment in St. Louis during 1966 was concentrated in industrial sectors that have had relatively slow growth throughout the nation in recent years.

Performance in Individual Industrial Sectors

In column (5) of Table II, actual payroll employment in St. Louis in 1972 is calculated as a percent of projected employment for each sector. The lowest ratio in column (5) is for contract construction, in which actual payroll employment for 1972 was only about 68 percent of what it would have been had it grown at the national rate. Other industrial sectors in which actual employment was especially low relative to projected employment are: (a) stone, clay, and glass, (b) textiles and apparel, and (c) petroleum and coal products. Sectors in which St. Louis payroll employment grew faster than the national rate are: (a) machinery, excluding electrical, (b) electrical

⁴Note that projected 1972 payroll employment for aggregate industrial sectors, such as durable goods, equals the sum of the projections for each industrial sector in those categories. Projected payroll employment for such aggregate sectors, and for total payroll employment, would possibly be different if based upon the national rate of growth in those aggregate sectors because of the differences between St. Louis and the nation in industrial composition. To illustrate, projected 1972 employment in the durable goods sector would be 173,900 if that projection were calculated by multiplying St. Louis employment in durable goods production in 1966 by the ratio of durable goods manufacturing in the nation in 1972 to that in 1966. The level of durable goods employment obtained by aggregating the projections for the individual sectors is 170,900. This indicates that in 1966 the durable goods payroll employment in St. Louis was concentrated in sectors that have had relatively slow growth at the national level.

equipment and supplies, (c) mining, and (d) government.

The ratios of actual to projected employment in column (5) do not give a complete picture of the influence on the St. Louis economy of employment growth in individual sectors. They do not reflect the shares of St. Louis employment involved in each sector which is also important. To illustrate, employment in a particular sector could have grown very slowly in St. Louis relative to the national rate and still have had little influence on the local economy if only a small share of local employment had been involved in that sector. The total influence of individual sectors on the performance of the St. Louis economy can be measured by dividing the difference between actual and projected employment in each sector by the difference between actual and projected employment for all sectors combined. These percentages shown in column (6) give the share of the difference between local and national employment growth of 80,500 accounted for by each sector.

About 72 percent of the difference between actual and projected employment is accounted for by non-manufacturing activities. These activities comprised about 66 percent of total payroll employment in 1966 [see column (7)]. Contract construction accounted for 19 percent of the total difference, but that sector accounted for only about 5 percent of payroll employment in 1966. The services sector accounted for 15 percent of the overall difference, retail trade 13 percent, and the nondurable goods manufacturing sector about 22 percent. The only sector in which payroll employment in St. Louis grew at a significantly faster rate than in the nation was state and local government. State and local government employment was 5,900 higher in 1972 than it would have been if that sector had grown only at the national rate [see column (4)].

COMPARISONS WITH OTHER CITIES

Without specifying what influences have caused the slow employment growth in St. Louis, it may be possible to identify some employment growth patterns which are common to large metropolitan areas. For example, if employment also has grown slowly in the same individual sectors of other metropolitan areas of comparable size, we could conclude that growth in those sectors tends to be inhibited in large metropolitan areas. Employment growth in St. Louis is compared to that in the following large metropolitan areas: Baltimore, Boston, Cleveland, Detroit, Pittsburgh, and San Francisco. On the basis of total pay-

roll employment in 1972, three of these areas rank just above St. Louis and three just below.⁵

Detailed analysis of payroll employment in these areas is presented in the Appendix. The years chosen for comparison are 1964 and 1972, covering a period during which the geographic bounds of these metropolitan areas have remained unchanged.⁶ The accompanying chart of employment in the seven SMSAs indicates that there were no unusual deviations from their trends in 1964 or 1972. Thus, employment growth rates within this period should be representative of growth rates in recent years. The degree to which payroll employment data are disaggregated by industrial sectors varies from one area to another and, therefore, the disaggregation in the Appendix that is common to all seven areas is less detailed than that in Table II. Both Table II and the Appendix are constructed such that columns with the same heading number involve the same calculation.

Overall Deviations from the National Trend

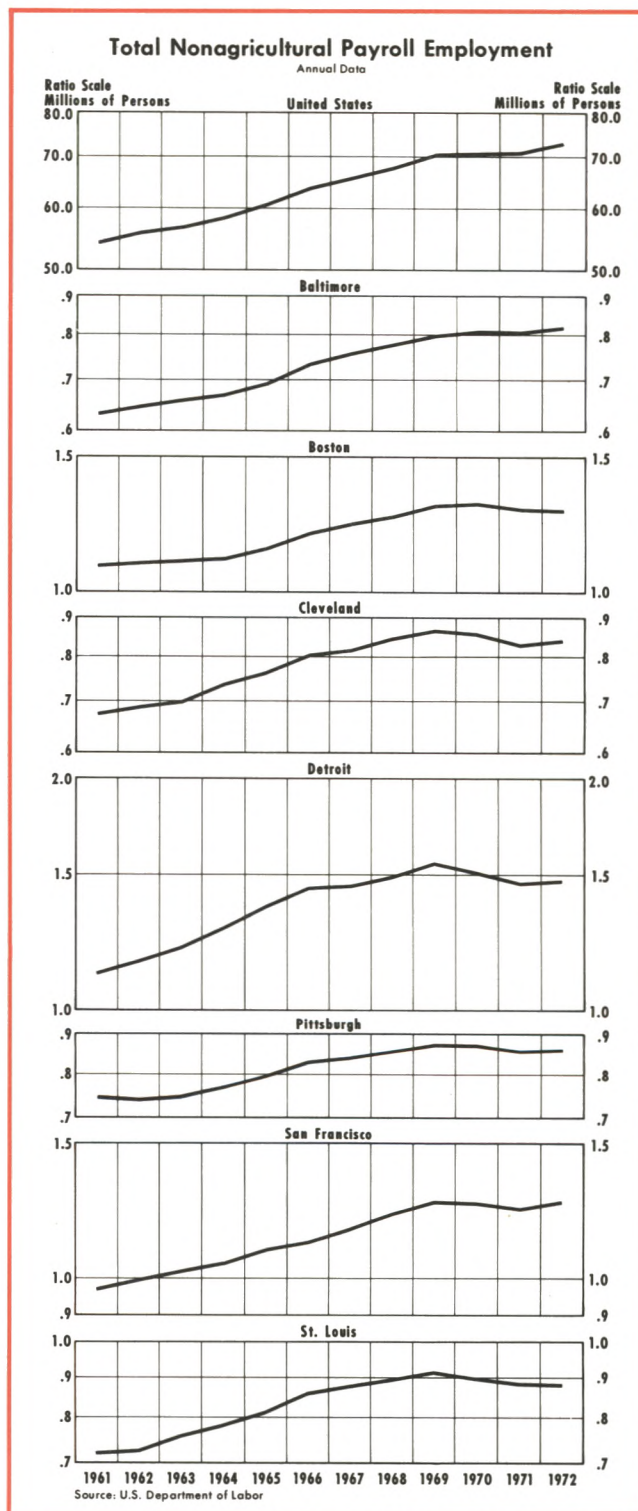
The differences between actual and projected employment in column (4) of the Appendix are added for each SMSA to give a measure of the extent to which employment growth in each of the seven areas deviated from the national trend between 1964 and 1972.⁷ These results, which assume uniform industrial composition among the SMSAs and the nation, are summarized in Table III on the following page. Column (1) of Table III presents the overall deviation from the national trend for the seven metropolitan areas as calculated in column (4) of the Appendix.

Payroll employment in each of the seven metropolitan areas would have been higher in 1972 if employment in each industrial sector listed in the Appendix had grown at the national rates for those sectors during the previous eight years. The deviation from the national trend was lowest in Baltimore where projected employment exceeded the actual count by 18,200 people and highest in Boston where the projected exceeded the actual by 114,300 people.

⁵Washington, D. C. is of comparable size to St. Louis but is not included in the analysis because of its large percentage of employment in the government sector, which does not reflect market forces.

⁶The Cleveland SMSA was increased in 1964 by adding Geauga and Medina Counties.

⁷This measure of deviation from the national trend is different for St. Louis in Tables II and III because different years and different degrees of disaggregation are used in these two tables.



To rank these areas on the basis of how well their employment has kept pace with the nation, the overall deviation of employment growth from the national trend [column (1) of Table III] is calculated as a percentage of actual payroll employment, as shown in column (3). Baltimore had the best rela-

Table III

**DEVIATIONS IN EMPLOYMENT GROWTH
FROM THE NATIONAL TREND
BETWEEN 1964 AND 1972 IN SEVEN SMSAs**
(Employment in Thousands of Persons)

SMSA	(1) Actual minus Projected Employment Summed Across Industrial Sectors*	(2) Actual Payroll Employment, 1972	(3) Percent Actual minus Projected Employment (1) is of Actual Payroll Employment (2)
Baltimore	- 18.2	817.8	-2.2
Boston	-114.3	1281.0	-8.9
Cleveland	- 64.7	839.5	-7.7
Detroit	- 86.2	1477.0	-5.8
Pittsburgh	- 84.9	860.7	-9.8
St. Louis	- 85.5	881.1	-9.7
San Francisco	- 75.4	1258.5	-6.0

*Projected payroll employment in each industrial sector for 1972 equals what payroll employment would have been if it had grown at the national rate for that sector between 1964 and 1972.

tive performance. Payroll employment there would have been only 2.2 percent higher in 1972 if each sector had grown at the national rate. Pittsburgh's 9.8 percent represented the highest percentage deviation, followed closely by St. Louis with a deviation of 9.7 percent. Only in Boston and Pittsburgh were the percentage deviations comparable to that of St. Louis.

Changes in the Industrial Composition of Payroll Employment in Large SMSAs

The industrial composition of employment in the seven metropolitan areas changed systematically between 1964 and 1972. All had large reductions in the percentage of payroll employment engaged in manufacturing, and such reductions were more pronounced than in the nation. The shares of total payroll employment involved in contract construction declined in all seven areas except Pittsburgh. All had increases in the shares of employment in wholesale and retail trade, finance, insurance and real estate, and services. Employment in the services sector in Baltimore, Boston, and San Francisco increased faster than the national rate for that sector. The percentage of employment in the government sector increased in all seven SMSAs except Boston, where it remained essentially unchanged. Government employment in Baltimore,

Detroit, and St. Louis increased faster than the national rate for that sector. In summary, during recent years employment in these large metropolitan areas of comparable size to St. Louis has been shifting out of manufacturing and contract construction and into wholesale and retail trade, finance, insurance and real estate, services, and government employment.

CONCLUSIONS

On average, employment in St. Louis has grown at a slower rate than that in the nation since at least the mid-1950s, and the difference between local and national growth has increased since 1966. If employment in each industrial sector in St. Louis had grown at the national rate for that sector between 1966 and 1972, payroll employment would have been 80,500 higher, or about 9 percent greater, than it actually was in 1972.

The growth of local employment relative to the nation varied widely among individual industrial sectors. A sharp decline in contract construction activity accounted for 19 percent of the deviation of employment growth in St. Louis from the national trend. Other industrial sectors that accounted for large shares of this difference are services and retail trade. Sectors in which employment rose faster in St. Louis than in the nation are machinery, electrical equipment and supplies, mining, and government.

Rates of employment growth in St. Louis and six other large metropolitan areas are compared to the national rate of employment growth between 1964 and 1972 to determine whether slow employment growth has been typical of large metropolitan areas. In all seven areas, payroll employment grew less rapidly than in the nation as a whole, holding constant the influence of industrial composition. The deviation of employment growth from the national trend in St. Louis was similar to that in Boston and Pittsburgh, but larger than the deviations in the other four large metropolitan areas.

Changes in the industrial composition of St. Louis employment during recent years were similar to those in the six other areas. Employment in manufacturing decreased more rapidly in these large metropolitan areas than in the nation, and their shares of employment in wholesale and retail trade, finance, services, and government generally increased.

Appendix follows on pages 14-15.

APPENDIX

PAYROLL EMPLOYMENT IN SEVEN SMSAs BY INDUSTRIAL SECTOR

(Nonseasonally Adjusted Annual Averages, in Thousands)

Industrial Sector	(1) 1964	(2) 1972	(3) Projected 1972*	(4) Difference (2) — (3)	(5) Actual/Projected (2) / (3)	(6) Difference by Sector, (4), Divided by Sum of Differences, All Sectors	(7) Percentage Allocation of Payroll Employment, 1964	(8) Percentage Allocation of Payroll Employment, 1972
BALTIMORE								
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	668.9	817.8	836.0	— 18.2	97.8			
TOTAL MANUFACTURING PAYROLL EMPLOYMENT	192.1	178.0	210.5	— 32.5	84.6	— 178.57%	28.7	21.8
TOTAL NONMANUFACTURING PAYROLL EMPLOYMENT	476.8	639.8	625.5	+ 14.3	102.3		71.3	78.2
Mining	.3	.3	.3	—	100.0		—	—
Contract Construction	40.1	44.7	46.3	— 1.6	96.5	— 8.79	6.0	5.5
Transportation and Public Utilities	53.0	54.0	60.3	— 6.3	89.6	— 34.62	7.9	6.6
Wholesale and Retail Trade	138.9	183.9	179.2	+ 4.7	102.6	+ 25.82	20.8	22.5
Finance, Insurance and Real Estate	35.1	45.1	46.6	— 1.5	96.8	— 8.24	5.2	5.5
Services	98.1	145.4	138.6	+ 6.8	104.9	+ 37.36	14.7	17.8
Government	111.3	166.4	154.2	+ 12.2	107.9	+ 67.03	16.6	20.3
BOSTON								
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	1106.0	1281.0	1395.3	— 114.3	91.8			
TOTAL MANUFACTURING PAYROLL EMPLOYMENT	275.5	254.8	301.9	— 47.1	84.4	— 41.21%	24.9	19.9
TOTAL NONMANUFACTURING PAYROLL EMPLOYMENT	830.4	1026.2	1093.4	— 67.2	93.9		75.1	80.1
Contract Construction	50.2	53.8	57.9	— 4.1	92.9	— 3.59	4.5	4.2
Transportation and Public Utilities	65.9	74.9	75.0	— 0.1	99.9	— .09	6.0	5.8
Wholesale and Retail Trade	249.1	301.1	321.3	— 20.2	93.7	— 17.67	22.5	23.5
Finance, Insurance and Real Estate	77.6	93.9	103.1	— 9.2	91.1	— 8.05	7.0	7.3
Services and Mining**	233.8	325.3	323.1	+ 2.2	100.7	+ 1.92	21.1	25.4
Government	153.8	177.2	213.0	— 35.8	83.2	— 31.32	13.9	13.8
CLEVELAND								
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	735.4	839.5	904.1	— 64.6	92.9			
TOTAL MANUFACTURING PAYROLL EMPLOYMENT	283.9	272.3	311.2	— 38.9	87.5	— 60.12%	38.6	32.4
TOTAL NONMANUFACTURING PAYROLL EMPLOYMENT	451.6	567.1	592.9	— 25.8	95.6		61.4	67.6
Mining	1.3	1.5	1.2	+ 0.3	125.0	+ .46	0.2	0.2
Contract Construction	31.1	29.1	35.9	— 6.8	81.1	— 10.51	4.2	3.5
Transportation and Public Utilities	46.0	49.2	52.3	— 3.1	94.1	— 4.79	6.3	5.9
Wholesale and Retail Trade	148.7	185.8	191.8	— 6.0	96.9	— 9.27	20.2	22.1
Finance, Insurance and Real Estate	35.2	42.5	46.7	— 4.2	91.0	— 6.49	4.8	5.1
Services	102.0	143.2	144.1	— 0.9	99.4	— 1.39	13.9	17.1
Government	87.3	115.8	120.9	— 5.1	95.8	— 7.88	11.9	13.8

DETROIT									
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	1277.0	1477.0	1563.3	— 86.3	94.5				
TOTAL MANUFACTURING PAYROLL EMPLOYMENT	535.8	535.2	587.2	— 52.0	91.1	— 60.32%	42.0	36.2	
TOTAL NONMANUFACTURING PAYROLL EMPLOYMENT	741.3	941.9	976.1	— 34.2	96.5		58.1	63.8	
Mining	0.9	0.7	0.9	— 0.2	77.8	— .23	0.1	—	
Contract Construction	51.3	56.2	59.2	— 3.0	94.9	— 3.48	4.0	3.8	
Transportation and Public Utilities	67.1	77.9	76.4	+ 1.5	102.0	+ 1.74	5.3	5.3	
Wholesale and Retail Trade	247.0	296.1	318.6	— 22.5	92.9	— 26.10	19.3	20.0	
Finance, Insurance and Real Estate	54.7	70.1	72.6	— 2.5	96.6	— 2.90	4.3	4.7	
Services	170.0	227.7	240.2	— 12.5	94.8	— 14.50	13.3	15.4	
Government	150.3	213.2	208.2	+ 5.0	102.4	+ 5.80	11.8	14.4	
PITTSBURGH									
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	768.5	860.7	945.6	— 84.9	91.0				
TOTAL MANUFACTURING PAYROLL EMPLOYMENT	278.1	256.6	304.8	— 48.2	84.2	— 56.91%	36.2	29.8	
TOTAL NONMANUFACTURING PAYROLL EMPLOYMENT	490.4	604.3	640.8	— 36.5	94.3		63.8	70.2	
Mining	9.5	10.5	9.1	+ 1.4	115.4	+ 1.65	1.2	1.2	
Contract Construction	34.7	40.9	40.0	+ 0.9	102.3	+ 1.06	4.5	4.8	
Transportation and Public Utilities	54.9	58.0	62.5	— 4.5	92.8	— 5.31	7.1	6.7	
Wholesale and Retail Trade	151.0	179.8	194.8	— 15.0	92.3	— 17.71	19.6	20.9	
Finance, Insurance and Real Estate	32.4	38.3	43.0	— 4.7	89.1	— 5.55	4.2	4.4	
Services	124.2	162.6	175.5	— 12.9	92.6	— 15.23	16.2	18.9	
Government	83.7	114.2	115.9	— 1.7	98.5	— 2.01	10.9	13.3	
ST. LOUIS									
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	783.0	881.1	966.6	— 85.5	91.2				
TOTAL MANUFACTURING PAYROLL EMPLOYMENT	268.6	256.7	294.4	— 37.7	87.2	— 44.09%	34.3	29.1	
TOTAL NONMANUFACTURING PAYROLL EMPLOYMENT	514.4	624.4	672.2	— 47.8	92.9		65.7	70.9	
Mining	2.8	2.7	2.7	—	100.0	—	0.4	0.3	
Contract Construction	40.1	32.0	46.3	— 14.3	69.1	— 16.73	5.1	3.6	
Transportation and Public Utilities	63.3	63.8	72.0	— 8.2	88.6	— 9.59	8.1	7.2	
Wholesale and Retail Trade	160.0	192.4	206.4	— 14.0	93.2	— 16.37	20.4	21.8	
Finance, Insurance and Real Estate	40.5	46.7	53.8	— 7.1	86.8	— 8.30	5.2	5.3	
Services	116.9	156.4	165.2	— 8.8	94.7	— 10.29	14.9	17.8	
Government	90.8	130.4	125.8	+ 4.6	103.7	+ 5.38	11.6	14.8	
SAN FRANCISCO									
TOTAL NONAGRICULTURAL PAYROLL EMPLOYMENT	1049.4	1258.5	1333.9	— 75.4	94.3				
TOTAL MANUFACTURING PAYROLL EMPLOYMENT	195.3	186.8	214.0	— 27.2	87.3	— 36.07%	18.6	14.8	
TOTAL NONMANUFACTURING PAYROLL EMPLOYMENT	854.1	1071.7	1119.9	— 48.2	95.7		81.4	85.2	
Mining	1.9	1.8	1.8	—	100.0	—	0.2	0.1	
Contract Construction	64.1	59.2	74.0	— 14.8	80.0	— 19.63	6.1	4.7	
Transportation and Public Utilities	103.2	126.5	117.4	+ 9.1	107.8	+ 12.07	9.8	10.1	
Wholesale and Retail Trade	231.1	273.4	298.1	— 24.7	91.7	— 32.76	22.0	21.7	
Finance, Insurance and Real Estate	79.6	104.2	105.7	— 1.5	98.6	— 1.99	7.6	8.3	
Services	164.6	233.1	232.6	+ 0.5	100.2	+ .66	15.7	18.5	
Government	209.6	273.5	290.3	— 16.8	94.2	— 22.28	20.0	21.7	

*Projected payroll employment in each industrial sector for 1972 equals what payroll employment would have been if it had grown at the national rate for that sector between 1964 and 1972. Projected employment for aggregate sectors is the sum of that for their component sectors.

**Services and Mining are combined, whereas they are shown separately for other areas.

SOURCE: U.S. Department of Labor.

Income and Expenses of Eighth District Member Banks

by R. ALTON GILBERT

NET INCOME of member banks in the Eighth Federal Reserve District increased 3.5 percent in 1972 to \$153 million, compared to a 7.1 percent increase in 1971. The rate of return on equity capital was 11.2 percent, down slightly from 11.4 percent in the previous year. Operating expenses increased at a faster rate than operating income in 1972, but a decline in income taxes resulted in the small rise in net income.

The profitability of banks depends upon a number of factors including existing business conditions, bank size, efficiency of operations, leverage (volume of deposits to equity capital), and the extent of competition among banks. Overall bank profitability and some determinants of profitability can be measured by using a number of operating ratios as rate of return on capital, rate of return on assets, ratio of capital to assets, rate of return on loans, and labor costs to operating income.

These ratios vary among banks of different size groups and among banks in different types of market areas. This article discusses these variations among member banks in the Eighth Federal Reserve District and points out some possible causal factors for the differences.

INCOME AND EXPENSES

Total operating income of member banks in the Eighth Federal Reserve District increased 10 percent in 1972, compared to a 7.6 percent increase in the previous year (Table I). Operating income of banks consists primarily of earnings on loans and investments, income from trust departments, and service charges on deposit accounts. Income from loans rose 10.6 percent, significantly higher than the 2.2 percent increase in the previous year. This change reflects primarily the growth in the volume of loans since the average rate of return on loans was 8.1 percent in both years.

Meanwhile, total operating expenses increased 12.9 percent in 1972, as compared to an 11.3 percent increase in the previous year. Interest paid on deposits, which accounted for 42 percent of operating expense in 1972, increased 14.2 percent. The rise in interest on deposits reflects primarily a larger volume of time and savings deposits, as the average rate paid remained unchanged at 4.8 percent.

Income before income taxes and security gains or losses declined 1.2 percent. However, income taxes declined by more than operating income, producing a 3.5 percent rise in net income. The decline in income taxes reflected in part a larger portion of operating income derived from nontaxable securities, and in part a change in tax accounting procedures. Income from nontaxable state and local government securities was 9 percent of operating income in 1972, compared to 8.5 percent in the previous year. Net income adjusted for inflation (real net income) rose by only 0.5 percent, compared to a 2.4 percent increase in 1971.¹

OPERATING RATIOS

Many of the bank operating ratios supply interesting information about bank profitability. Some of these ratios for member banks in the Eighth Federal Reserve District vary according to bank size and location. These variations are shown in Table II which gives selected operating ratios by size groups and by location inside or outside metropolitan areas for the years 1970-72.

Rate of Return on Equity Capital

The rate of return on equity capital tended to be higher for banks located outside metropolitan areas than for banks of the same size inside metropolitan

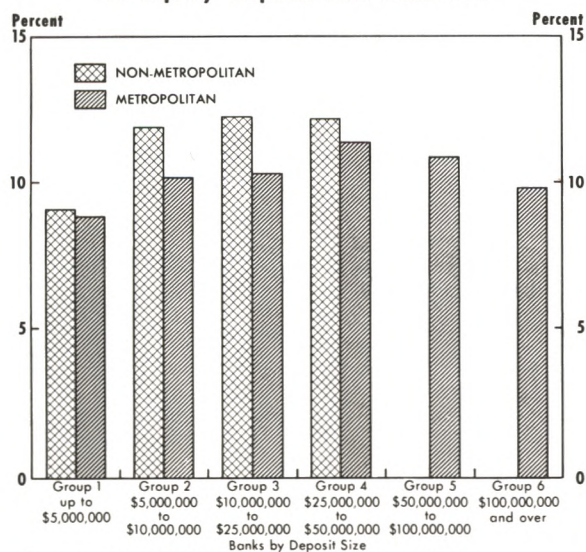
¹Calculated by deflating net income by the implicit price deflator for gross national product.

Table I

INCOME AND EXPENSES OF MEMBER BANKS IN THE
EIGHTH FEDERAL RESERVE DISTRICT

	Thousands of Dollars			Percent Change	
	1972	1971	1970	1971-72	1970-71
Total Operating Income	\$1,020,897.2	\$ 928,050.1	\$ 862,202.7	10.0%	7.6%
Income from Loans	657,650.1	594,495.7	581,680.2	10.6	2.2
Income from Securities	246,253.8	224,527.9	187,437.3	9.7	19.8
U.S. Treasury Securities	107,765.5	110,719.7	101,197.9	- 2.7	9.4
Other	138,488.3	113,808.2	86,239.4	21.7	32.0
Trust Department Income	26,567.9	23,650.5	20,658.2	12.3	14.5
Service Charges on Deposit Accts.	27,946.5	27,050.5	25,494.2	3.3	6.1
Other Operating Income	62,478.9	58,325.5	46,932.8	7.1	24.3
Total Operating Expenses	830,448.7	735,364.6	660,810.2	12.9	11.3
Salaries, Wages, and Benefits	214,331.5	197,840.3	181,592.4	8.3	8.9
Interest on Deposits	351,679.4	307,833.3	256,870.6	14.2	19.8
Other Interest Expenses	46,593.4	37,469.3	49,880.0	24.4	-24.9
Other Operating Expenses	217,844.4	192,221.7	172,467.2	13.3	11.5
Income Before Income Taxes and Securities Gains (or Losses)	190,448.3	192,685.5	201,392.5	- 1.2	- 4.3
Less Applicable Income Taxes	43,359.7	51,275.7	64,746.5	-15.4	-20.8
Income Before Securities Gains (or Losses)	147,088.6	141,409.8	136,646.0	4.0	3.5
Net Securities Gains (or Losses) After Taxes	5,370.6	5,875.8	258.9	- 8.6	2169.5
Extra Charges or Credits After Taxes	605.3	498.2	1,030.6	21.5	-51.7
Less Minority Interest in Consolidated Subsidiaries	85.4	25.8	14.9	231.0	73.2
Net Income	152,979.1	147,758.0	137,920.6	3.5	7.1
Cash Dividends Paid	56,762.2	61,265.6	47,431.8	- 7.4	29.2
Number of Banks	430	432	433	- 0.5	- 0.2

NOTE: The boundaries of the Tenth Federal Reserve District were expanded on January 24, 1972 to include several counties in western Missouri which had been in the Eighth Federal Reserve District. The operating ratios for 1970 and 1971 have been adjusted to conform to the January 24, 1972 revision in district boundaries.

Operating Ratios — Net Income
to Equity Capital and Reserves*

areas (see Ratio 1 in Table II). This pattern held for each of the four size groups compared in Table II; banks in these groups had deposits up to \$50 million.

The rate of return on bank capital is influenced by many factors, including the ratio of capital to total assets, efficiency of operations, and intensity of competition. Capital to total assets is not greatly different between the metropolitan and nonmetropolitan area banks. Nonmetropolitan area banks may achieve some efficiencies through lower labor costs, but these efficiencies may be partly offset by less automation. If these efficiencies are largely offset, the lower rate of return on bank capital in metropolitan areas may reflect greater competition among these banks. Bank customers in metropolitan areas generally have more banking alternatives than those in nonmetropolitan areas. They generally live and work within a short distance of a number of competing banks, thus a larger number of banks are likely to be competing for each customer's account.

Banks in the smallest size group (deposits up to \$5 million) had the lowest average rate of return on capital, and those with deposits between \$10 million and \$50 million had the highest rates of return, averaging around 11 to 12 percent. The average rate of return to banks with deposits greater than \$100 mil-

Table II

SELECTED OPERATING RATIOS OF MEMBER BANKS FOR THE YEARS 1970, 1971, AND 1972
EIGHTH FEDERAL RESERVE DISTRICT*
 (Operating ratios in percentages)

Operating Ratio	Banks by Deposit Size											
	Group 1 up to \$5,000,000		Group 2 \$5,000,000 to \$10,000,000		Group 3 \$10,000,000 to \$25,000,000		Group 4 \$25,000,000 to \$50,000,000		Group 5 \$50,000,000 to \$100,000,000		Group 6 \$100,000,000 and over	
	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan
(1) Net Income to Equity Capital Including all Reserves												
1970	9.70	8.40	12.34	10.81	12.11	9.14	12.14	11.08		11.41		9.46
1971	9.25	9.80	12.00	10.46	12.31	10.68	12.10	11.59		10.50		10.13
1972	8.25	8.34	11.36	9.18	12.33	11.06	12.26	11.45		10.61		9.66
Average	9.07	8.85	11.90	10.15	12.25	10.29	12.17	11.37		10.84		9.75
(2) Net Income to Total Assets												
1970	1.03	0.79	1.06	0.88	1.00	0.80	1.03	1.06		0.89		0.84
1971	0.95	0.91	1.05	0.82	0.97	0.90	0.99	1.03		0.84		0.83
1972	0.79	0.70	0.96	0.79	0.94	0.91	1.03	0.87		0.84		0.75
Average	0.92	0.80	1.02	0.83	0.97	0.87	1.02	0.99		0.86		0.81
(3) Interest and Fees on Loans to Loans												
1970	7.92	8.24	7.99	8.46	8.14	7.70	8.25	8.08		8.04		8.34
1971	8.09	8.26	8.14	8.17	8.18	8.01	8.13	7.85		7.74		7.67
1972	8.18	8.25	8.20	8.48	8.13	8.25	8.04	7.88		7.59		7.62
Average	8.06	8.25	8.11	8.37	8.15	7.99	8.14	7.94		7.79		7.88
(4) Net Loss (—) or Recoveries on Loans to Total Loans												
1970	—0.34	—0.62	—0.29	—0.29	—0.25	—0.28	—0.29	—0.15		—0.30		—0.54
1971	—0.18	—0.21	—0.17	—0.11	—0.20	—0.19	—0.28	—0.26		—0.14		—0.22
1972	—0.17	—0.17	—0.13	—0.06	—0.13	—0.17	—0.15	—0.11		—0.16		—0.12
Average	—0.23	—0.33	—0.20	—0.15	—0.19	—0.21	—0.24	—0.17		—0.20		—0.29
(5) Interest and Fees on Loans to Total Operating Income												
1970	56.77	55.37	59.47	60.27	62.66	62.79	65.51	62.37		68.19		71.12
1971	56.47	55.77	58.18	57.90	60.84	62.72	65.04	59.73		63.61		66.86
1972	55.94	55.48	59.19	63.44	61.26	60.09	62.67	63.84		62.11		67.31
Average	56.39	55.54	58.95	60.54	61.59	61.87	64.41	61.98		64.64		68.43
(6) Income from Sources other than Loans and Investments to Total Operating Income												
1970	6.85	8.52	6.74	10.84	8.52	10.39	10.61	13.28		10.52		14.53
1971	6.69	8.50	6.44	9.14	7.98	11.37	9.89	14.65		12.15		16.51
1972	6.50	7.35	6.02	10.02	7.86	11.37	11.92	9.27		10.28		15.36
Average	6.68	8.12	6.40	10.00	8.12	11.04	10.81	12.40		10.98		15.47

Operating Ratio		Banks by Deposit Size											
		Group 1 up to \$5,000,000		Group 2 \$5,000,000 to \$10,000,000		Group 3 \$10,000,000 to \$25,000,000		Group 4 \$25,000,000 to \$50,000,000		Group 5 \$50,000,000 to \$100,000,000		Group 6 \$100,000,000 and over	
		Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan	Non Metro- politan	Metro- politan
(7) Trust Department Income to Total Operating Income													
1970		0.03	0.00	0.18	0.06	0.41	0.81	1.17	4.09		1.14		3.50
1971		0.13	0.41	0.18	0.05	0.41	0.53	0.95	4.56		1.49		3.56
1972		0.11	0.71	0.13	0.53	0.29	0.45	2.38	0.72		1.37		3.32
Average		0.09	0.37	0.16	0.21	0.37	0.60	1.50	3.12		1.35		3.46
(8) Salaries, Wages, and Officer and Employee Benefits to Total Operating Income													
1970		23.56	23.77	21.86	21.46	20.21	22.93	21.66	23.62		20.24		22.00
1971		23.31	23.68	21.28	22.44	19.68	22.79	20.37	22.97		21.35		22.25
1972		23.59	26.75	20.95	21.00	19.11	21.96	19.62	21.01		20.13		22.34
Average		23.49	24.73	21.36	21.63	19.67	22.56	20.55	22.53		20.57		22.20
(9) Total Capital Accounts and Reserves to Total Assets													
1970		10.61	9.26	8.87	9.30	8.47	8.50	8.59	9.87		8.44		9.42
1971		10.30	10.72	9.04	8.44	8.08	8.92	8.46	9.33		8.53		8.84
1972		10.22	8.00	8.78	8.92	7.86	8.81	8.68	8.11		8.41		8.44
Average		10.38	9.33	8.90	8.89	8.14	8.74	8.58	9.10		8.46		8.90
(10) Capital Notes and Debentures to Total Capital													
1970		0.15	0.00	0.34	1.14	0.76	0.29	0.00	2.23		5.18		4.44
1971		0.00	0.00	0.37	1.36	0.55	0.20	1.50	2.21		4.95		4.60
1972		0.00	0.00	0.13	0.00	0.97	1.75	1.44	2.46		4.94		4.66
Average		0.05	0.00	0.28	0.83	0.76	0.75	0.98	2.30		5.02		4.57
(11) Interest on Capital Notes and Debentures to Total Operating Income													
1970		0.01	0.00	0.02	0.10	0.06	0.02	0.00	0.17		0.39		0.36
1971		0.00	0.00	0.02	0.13	0.03	0.01	0.19	0.15		0.47		0.40
1972		0.00	0.00	0.01	0.00	0.06	0.12	0.12	0.15		0.44		0.42
Average		0.00	0.00	0.02	0.08	0.05	0.05	0.10	0.16		0.43		0.39
Number of Banks													
1970		83	8	114	14	129	27	30	17		16		18
1971		58	8	98	11	138	30	30	14		20		20
1972		48	4	82	15	148	28	38	15		17		24

*The selected operating ratios are presented for each group in which there was an average of five or more banks during the years 1970-72.

NOTE: The boundaries of the Tenth Federal Reserve District were expanded on January 24, 1972 to include several counties in Western Missouri which had been in the Eighth Federal Reserve District. The operating ratios for 1970 and 1971 have been adjusted to conform to the January 24, 1972 revision in district boundaries.

lion was 9.75 percent. The higher rate of return on capital among banks with \$10 million to \$50 million in deposits may reflect the higher efficiencies of banks in this category; the lower rate of return to banks with over \$50 million in deposits may reflect the influence of greater competition offsetting to some extent the economies of scale. The very large banks compete throughout the nation for the larger corporate accounts.

Net Income as a Percentage of Total Assets

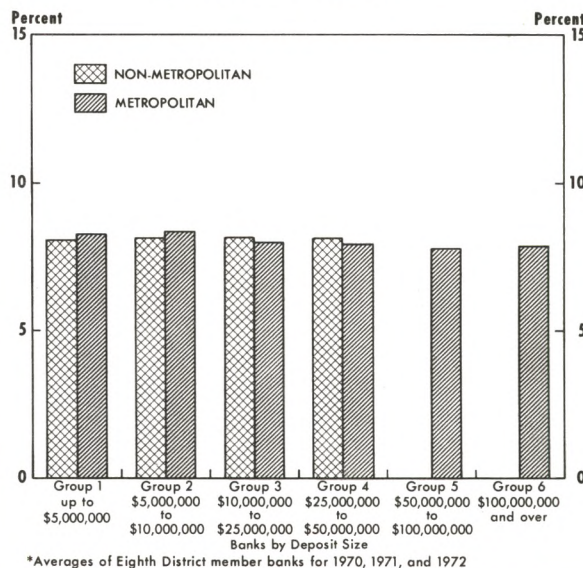
Bank size and location also had an impact on net income as a percentage of total assets (see Ratio 2). Banks in nonmetropolitan areas had higher returns on total assets than similar sized banks in metropolitan areas. Moderately sized banks (deposits of \$5 million to \$50 million) had the highest returns on total assets for both metropolitan area and nonmetropolitan area banks. These returns are probably influenced by both efficiencies of scale and competition, and indicate that the pattern of rates of return on capital to banks of different sizes and location is not completely determined by variations in leverage. The higher returns on assets at medium-size banks may reflect rising returns to scale. The degree of competition in their respective markets, however, may be the chief causal factor in the higher returns to banks in nonmetropolitan areas and the lower returns at large banks which operate in the more competitive metropolitan area markets.

Rate of Interest on Loans

One of the determinants of the profitability of banks is their rate of interest of loans. According to Ratio 3, the average interest rate was about 8 percent during the period 1970-72. Interest rates at banks with deposits up to \$10 million were above average and rates at banks in metropolitan areas with deposits greater than \$10 million were below average. Interest rates were lowest for banks with deposits over \$50 million. There were no systematic differences between rates on loans for banks of the same size in metropolitan and nonmetropolitan areas.

These differences in interest rates on loans do not necessarily indicate that customers were charged higher interest rates for the same types of loans at small banks. Since the rate of interest on loans for each bank equals its total interest and fees as a percentage of total loans shown on the *Reports of Condition*, the type or size of loans made is not held constant in calculating the average rates.

Operating Ratios — Interest and Fees on Loans to Total Loans*

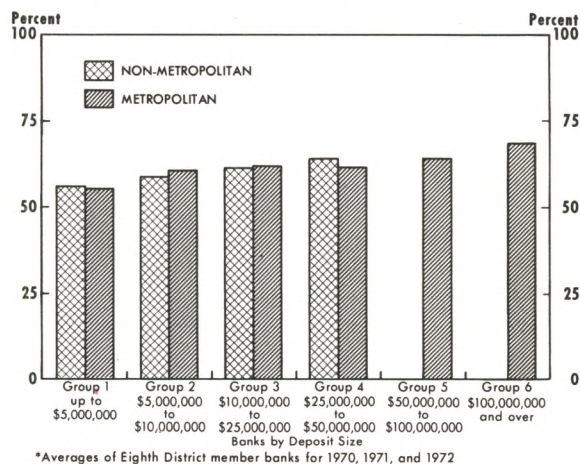


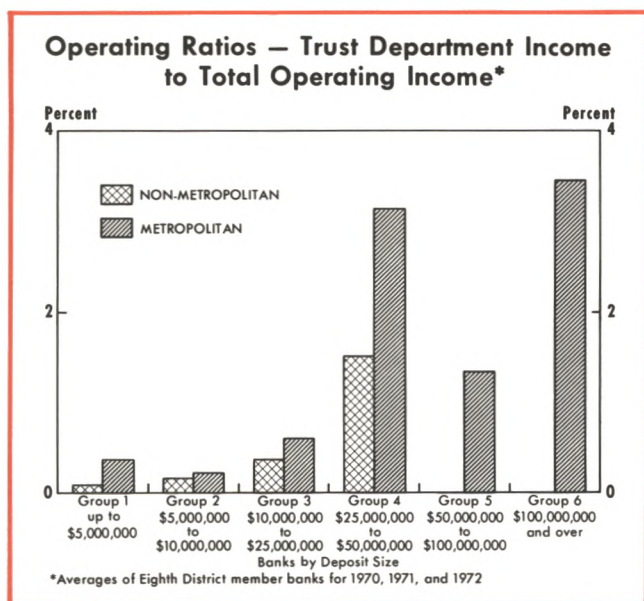
The average net loss or recovery on loans as a percentage of total loans shows no obvious pattern according to bank size or location (see Ratio 4). Therefore, the average rate of interest on loans has the same pattern with average loan losses subtracted. One consistent pattern is that loan losses tended to be greatest during 1970, a year of recession, and lowest during 1972, the second year of the recent recovery.

Interest and Fees on Loans to Total Operating Income

Another determinant of the profitability of banks is the proportion of operating income derived from loans

Operating Ratios — Interest and Fees on Loans to Total Operating Income*





(interest rates are generally higher on loans than on securities). Ratio 5 suggests that the percentage of operating income from loans was positively related to bank size. The smallest banks (deposits up to \$5 million) received about 55-56 percent of their operating income from loans, and the largest banks (deposits of \$100 million and over) received an average of 68 percent of their operating income from loans.

Percentage of Income from Sources other than Loans and Investments

One measure of the extent to which banks offer varied services is the percentage of operating income derived from sources other than loans and investments (Ratio 6). This measure appears to be related to both bank size and location. In general, the larger banks and banks in metropolitan areas received a greater percentage of income from sources other than loans and investments.

One of the more important sources of such income is that derived from trust departments. The percentage of operating income from trust departments is positively related to bank size and is larger for banks in metropolitan areas than for nonmetropolitan area banks in the same size group (see Ratio 7). These results are consistent with the propositions that the demand for trust services at banks of equal size tends to be greater in metropolitan areas and that larger banks benefit from offering specialized trust services.

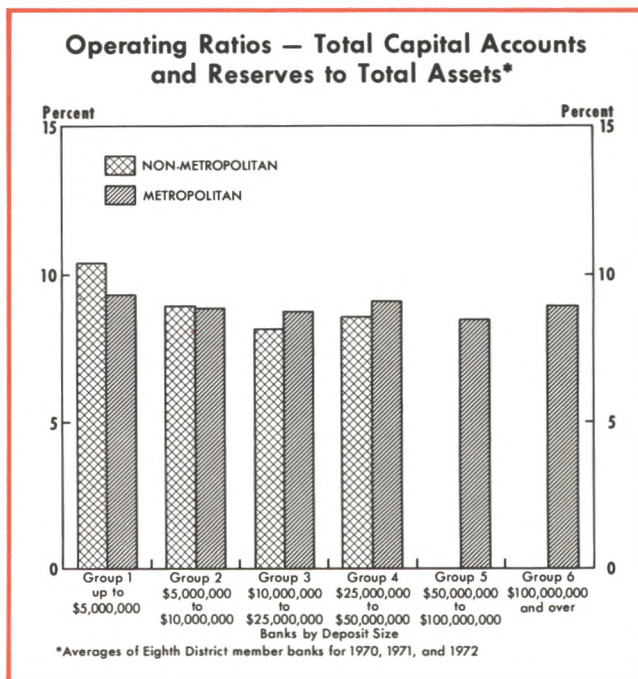
Labor Costs

Variations in the ratio of labor costs to operating income were not greatly different among banks of

different sizes and locations (see Ratio 8). This ratio tended to be slightly higher for banks in metropolitan areas, possibly reflecting the influence of higher wage rates. The ratio was also higher for banks in the smallest size category (deposits up to \$5 million), possibly reflecting the lack of automation.

Total Capital to Total Assets

The profitability of banks is partially determined by their leverage, measured in Ratio 9 as the ratio of total capital to assets. The lower this ratio, other things held constant, the higher the rate of return on capital. Banks in the smallest size group had the highest and banks with deposits between \$10 million and \$25 million had the lowest average ratio of capital to assets. Since the relation between capital and assets is to some extent dictated by bank regulatory agencies, it is difficult to determine what economic forces these ratios reflect.



Capital Notes and Debentures

In recent years banks have been adding to their capital accounts by issuing capital notes that are subordinated to deposit liabilities. Such notes give depositors more protection and the banks more leverage for equity capital. Ratio 10 shows capital notes as a percentage of total capital accounts. There is some indication that banks in metropolitan areas have issued more capital notes than nonmetropolitan area banks. Also, larger banks have tended to issue more capital notes than smaller banks. Ratio 11 shows interest on capital notes as a percentage of total operating

income. This ratio has much the same pattern among the banks by size groups and location as the ratio of such notes to total capital.

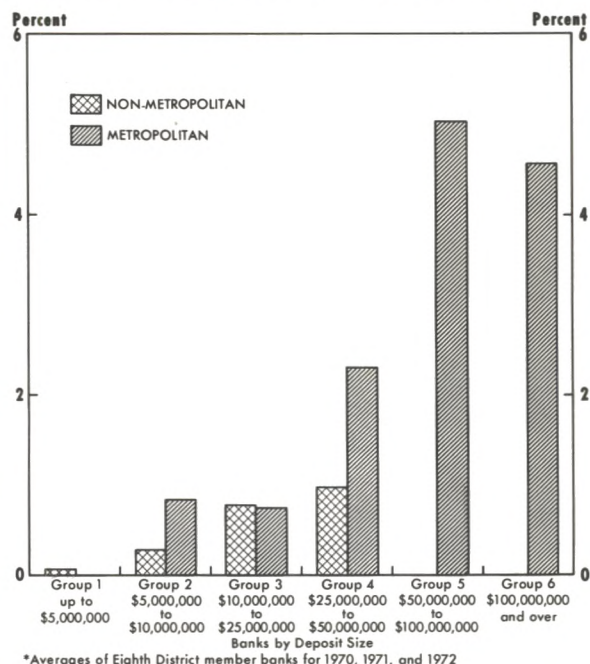
SUMMARY

Income before income taxes and securities gains or losses for member banks in the Eighth Federal Reserve District declined in 1972. Total operating income increased 10 percent, but total operating expenses increased faster. Interest on deposits increased at even more rapid rates, reflecting the growth of time and savings deposits. A reduction in income taxes due to a shift of bank assets into nontaxable securities and changes in tax accounting procedures accounted primarily for a 3.5 percent rise in net income.

A number of operating ratios of Eighth District member banks for 1970-72 are shown to vary according to bank size and location. Average rates of return on equity capital were higher for banks of the same size in nonmetropolitan areas than for those in metropolitan areas. Banks with deposits between \$10 million and \$50 million had higher rates of return than banks in other size categories. Banks with deposits over \$50 million had a lower average rate of return on loans than those in smaller size categories. The percentage of total operating income from loans was positively related to bank size.

The rate of return on capital is influenced by the amount of capital banks have in relation to their assets. The higher the ratio of capital to assets, other

Operating Ratios — Capital Notes and Debentures to Total Capital Accounts*



things equal, the lower the rate of return on capital. Banks of moderate size, with deposits between \$10 million and \$25 million, had the lowest average ratio of capital to total assets, which partially explains why moderately sized banks had the highest average rate of return on capital.



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