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# **ECONOMIC REVIEW**

*september 1970*



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# TRENDS IN PRODUCTIVITY, COSTS, AND PRICES

Growth in aggregate demand has slowed markedly since the end of 1968 largely in response to restrictive public policies, while gains in productivity have become more difficult to achieve, and prices have continued to increase at a rapid rate in many sectors of the economy. With demand weakening, it seems apparent that the major sustaining force in the recent inflationary episode has been the influence of cost-push factors, as distinct from the earlier problem of excess demand.<sup>1</sup> Frequently, increasing unit labor cost is cited as the primary—sometimes the exclusive—determinant of upward cost pressures. However, such generalizations neglect the influence of nonlabor costs (or payments to factors of production other than labor). In some industries, nonlabor costs play a far more important role in the formulation of price than labor costs.

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<sup>1</sup>For a discussion of the concepts of cost-push and demand-pull inflation, see "Inflation: Problems of the 1960's and Implications for the 1970's," *Economic Review*, Federal Reserve Bank of Cleveland, February 1970.

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A crucial aspect of the inflationary process that is receiving greater public attention is the behavior of productivity.<sup>2</sup> Increasing recognition is being given to improved productivity performance as the major offset to rising labor costs. In popular discussions of inflation, however, it is not generally emphasized that a high productivity growth industry with prices rising at rates slower than in low productivity growth industries may also be exerting significant inflationary pressures.

This article examines some long-run trends in output, productivity, costs, and prices in a number of major industries in the private sector of the economy. The discussion emphasizes contrasting trends during the 1964-1969 period, using as background developments during 1959-1964, a period generally characterized by relative cost-price stability.

### CONCEPTS OF OUTPUT,

#### PRODUCTIVITY, COST, AND PRICE

As used in this article, output is synonymous with the concept of gross product measured in constant dollars. The measure of output for the economy as a whole is Gross National Product, which is the market value of the goods and services produced by the nation's economy for final sales or for addition to inventories. Gross product originating in the private sector of the economy (roughly 92 percent of constant dollar GNP) consists of GNP less compensation of general government employees.<sup>3</sup> The gross product of an

<sup>2</sup>As evidenced, for example, by the President's recent creation of the National Commission on Productivity. See *Inflation Alert*, Report to The National Commission on Productivity by the Council of Economic Advisers, August 7, 1970.

<sup>3</sup>The reason for this article's exclusion of gross product originating in government is that compensation of general government employees is defined as current dollar output. There is no allowance for productivity gains by government employees, and all increases in wage and salary scales are automatically treated as equal increases in unit labor cost and price.

industry is defined as shipments (or sales) plus the change in inventories less that industry's purchases of materials, intermediate products, and services. In manufacturing, for example, the dollar value of shipments in recent years has been more than twice as large as the dollar value of gross product.

Gross private product, or the gross product of an industry, also can be defined as the summation of costs incurred in producing the goods and services: employee compensation (wages, salaries, and all supplements); net interest (interest paid less interest received); capital consumption allowances (depreciation and accidental damage to fixed business property); indirect business taxes (items such as excise taxes, property taxes, sales taxes, and business transfer payments); and profit-type income (corporate profits after inventory valuation adjustment, proprietors' income, and rental income). The term, profit-type income, is not all profit as conventionally defined. Some profit-type income, such as the income of self-employed proprietors, is conceptually the same as employee compensation.

For an individual firm, purchases of materials, supplies, and services from other firms are, of course, true costs of producing a dollar's worth of shipments or sales. Those costs essentially "wash out" for the economy as a whole. Accordingly, the distribution of total costs by industry division are value-added costs—not costs of producing a dollar's worth of sales.

There is considerable variation in the major cost components among industries. For example, shares of total costs attributable to employee compensation range from a low of 14 percent for agriculture, forestry, and fisheries (due to the large share of self-employed persons in that industry) to a high of 76 percent for contract construction, with 55 percent the average for the entire private economy (see Table I). In most industries, net

TABLE I

Distribution of Total Costs Per Unit of Output  
By Industry Division  
1969

	Employee Compensation	Net Interest	Capital Consumption Allowances	Indirect Business Taxes	Profit-Type Income
Private Economy	55.3%	3.7%	9.5%	10.7%	20.8%
Agriculture, forestry, and fisheries	14.0	9.4	21.7	8.4	46.5
Mining	38.5	1.3	21.1	8.3	30.8
Contract construction	76.2	0.4	5.3	2.5	15.6
Manufacturing	69.4	1.1	7.7	6.9	14.9
Nondurable goods	63.4	1.2	8.1	12.2	15.1
Durable goods	73.4	1.0	7.5	3.3	14.8
Transportation	69.1	4.0	14.8	7.3	4.8
Communication	45.1	5.2	14.6	13.1	22.0
Electric, gas, and sanitary services	33.2	11.8	20.9	11.8	22.3
Wholesale trade	53.9	1.5	4.3	26.2	14.1
Retail trade	59.7	1.7	5.3	16.4	16.9
Finance, insurance, and real estate	22.2	12.2	14.9	18.9	31.8
Services	63.9	2.0	6.9	2.4	24.8

Source: U. S. Department of Commerce

interest accounts for a small portion of total costs. For those industries, however, that rely heavily on borrowed funds (finance, insurance, and real estate; electric, gas, and sanitary services; and agriculture, forestry, and fisheries) net interest accounts for a relatively large share of total costs.

In every industry, the cost of capital consumption allowances is a greater share than net interest. Among industries that are capital intensive (for example, agriculture, mining, and electric, gas, and sanitary services), the shares of capital consumption allowances in total costs are more than double the average for all industries. In the electric, gas, and sanitary services industries, the combined costs of net interest and capital consumption allowances are roughly equal to outlays for employee compensation.

For the private economy as a whole, indirect business taxes account for a greater share of total costs than capital consumption allowances (see Table I). Indirect business taxes are a relatively

high cost of production in wholesale and retail trade and in finance, insurance, and real estate.

The shares of profit-type income, which vary widely among the industries, should not be considered indicators of relative profitability. For example, profit-type income ranks very high as a share of total costs in agriculture, forestry, and fisheries largely because proprietors' income is included in this component of costs. To a lesser extent, the same is true for contract construction, where the proprietors' income from many small unincorporated enterprises is a part of profit-type income. In finance, insurance, and real estate (another industry with significantly above average profit-type income), rental income is an important component of profit-type income.

Several other terms discussed in this article, specifically *productivity* and *price*, should be clarified. Productivity is much easier to define than to measure; it means output (commonly measured in physical terms) per some unit of input

(usually labor input, although other factors of production such as land and capital—or a combination of all three—also can be used). In order to compare productivity trends, given the limitations of data availability, the concept of gross product measured in constant (1958) dollars is used as output, and the number of full-time equivalent employees is used as input in this article.<sup>4</sup> On that basis, annual rates of change in productivity were computed for each major industry division and for the entire private economy.

Price trends by industry were based on implicit price deflators for gross product—that is, prices paid by an industry for purchased materials and intermediate products were netted out from the industry's selling prices. In other words, the implicit price deflators for each industry are value-added price indexes, and the weighted summation of those prices is equal to the implicit price deflator for the private economy (the weights, of course, are each industry's share of constant dollar private GNP).<sup>5</sup>

<sup>4</sup>Both constant dollar gross product and the number of full-time equivalent employees, by industry division, are estimated by the U. S. Department of Commerce. Data are published each year in the July issue of *Survey of Current Business*.

<sup>5</sup>Implicit price deflators for any particular industry should not be confused with the more commonly known Consumer Price Index or Wholesale Price Index. For example, the implicit price deflator for manufacturing is not the same as the Wholesale Price Index for manufacturing, and the implicit price deflator for retail trade is not the same as the Consumer Price Index. Components of both the Consumer Price Index and Wholesale Price Index, together with other price measures, such as transportation and construction cost indexes, are used to construct the implicit price deflators.

## AN OVERVIEW OF PRODUCTIVITY, COSTS, AND PRICES: 1959–1969

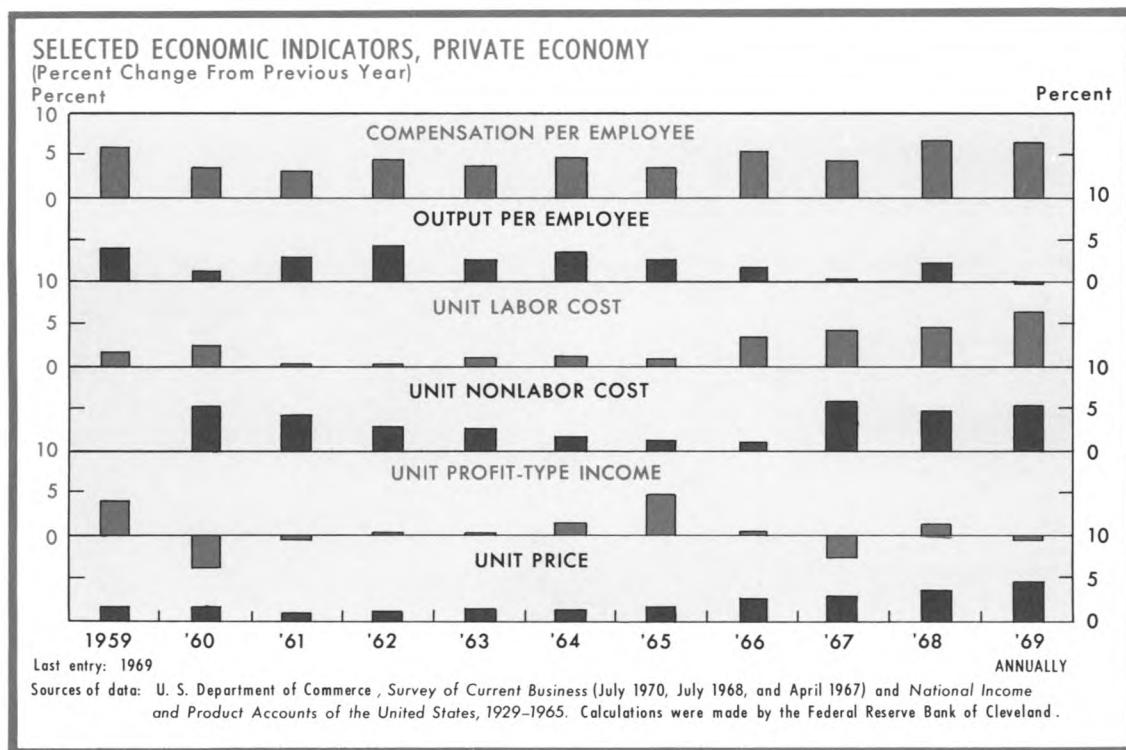
The annual behavior of the key components of price change in the private economy during 1959-1969 is shown in the chart. The fundamental relationships are as follows: the change in compensation per employee minus the change in output per employee is approximately equal to the change in unit labor cost; the weighted summation of changes in unit labor cost, unit nonlabor cost (net interest, capital consumption allowances, and indirect business taxes), and unit profit-type income equals the change in price.<sup>6</sup>

When the increase in compensation per employee exceeds the gain in productivity, unit labor cost will increase. For the economy as a whole, and for most industries, the longer the period under consideration, the more closely changes in unit labor cost are associated with changes in price. In the short run, however, a given increase in unit labor cost does not automatically cause or contribute to a corresponding increase in price. As a case in point, during the recession year of 1960, the increase in unit labor cost accelerated (from 1.8 percent in 1959 to 2.6 percent in 1960) and unit nonlabor cost rose sharply (by 5.3 percent), while the rate of increase in prices in the private economy was the same as it had been in 1959—1.4 percent. The reason why the rate of advance in prices was unchanged in 1960, despite accelerated increases in unit labor and unit nonlabor costs, is that unit profit-type income declined by 4 percent in response to weakened aggregate demand.

During 1961-1965, increases in compensation per employee were largely offset by gains in

<sup>6</sup>For both the private economy and each industry, the weights are the shares of total cost listed in Table I.





productivity. As a result, increases in unit labor cost were moderate and, in turn, contributed to the relatively small price increases during that period. Progressively smaller gains in unit nonlabor cost reflected the spreading of certain fixed portions of capital consumption allowances, interest, and indirect business taxes over larger gains in output. These small gains in unit nonlabor cost, combined with moderate changes in unit profit-type income, also helped to keep price increases relatively small until 1965. In 1965, however, a strong boost in unit profit-type income was associated with a moderate step-up in the rate of price increase (from 1.1 percent in 1964 to 1.7 percent in 1965). During 1966-1969, the rate of inflation continued to advance, partly because gains in compensation per employee were no

longer being offset by gains in productivity. The upward price pressures stemming from rising unit labor cost were reinforced by large increases in unit nonlabor cost in 1967, 1968, and 1969.

## DEVELOPMENTS IN THE MAJOR INDUSTRIES

Table II shows the behavior of the major factors influencing prices during the two periods, 1959-1964 and 1964-1969. Several qualifications of the data should be mentioned. In the contract construction industry, for example, price indexes are based on costs of labor and materials without full allowance for increased efficiency in production. As a result, increases in the implicit price deflator for gross product in the contract construction industry somewhat overstate both the true

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TABLE II

Trends in Major Factors Affecting Price  
By Industry Divisions  
1959-1964 and 1964-1969

Industry	Period	Average Annual Percent Change, Compounded						
		Output	Compensation per Employee	Output per Employee	Unit Labor Cost	Unit Nonlabor Cost	Unit Profit-Type Income	Price
Private Economy (100.0%)	1959-1964	4.2%	3.9%	2.9%	1.0%	3.4%	- 0.6%	1.1%
	1964-1969	4.6	5.4	1.3	4.0	3.6	0.5	3.0
Agriculture, forestry, and fisheries (3.7%)	1959-1964	1.1	4.1	3.3	0.7	3.5	- 1.9	0.2
	1964-1969	1.1	8.9	6.1	2.6	7.2	3.9	5.0
Mining (2.5%)	1959-1964	2.4	3.6	5.1	-1.5	-0.2	- 0.6	-0.8
	1964-1969	3.1	5.8	3.3	2.3	0.6	- 2.3	0.3
Contract construction (3.6%)	1959-1964	1.2	4.3	-0-	4.3	4.4	2.8	4.0
	1964-1969	0.4	6.3	-2.5	9.0	7.1	5.5	8.3
Manufacturing (34.1%)	1959-1964	4.6	3.9	3.8	0.1	2.2	-0-	0.4
	1964-1969	5.5	5.0	2.2	2.7	1.1	- 0.6	1.9
Nondurable goods (13.5%)	1959-1964	3.9	3.6	3.3	0.2	2.1	-0-	0.7
	1964-1969	4.7	5.1	2.5	2.5	1.4	0.3	1.9
Durable goods (20.6%)	1959-1964	5.1	4.0	4.1	-0-	2.8	-0-	0.3
	1964-1969	6.1	4.8	2.0	2.7	1.3	- 1.1	1.9
Transportation (5.2%)	1959-1964	3.4	3.8	4.2	-0.3	2.1	1.6	0.5
	1964-1969	5.7	5.6	3.9	1.6	3.2	-11.0	1.2
Communication (3.1%)	1959-1964	6.8	5.0	6.5	-1.4	2.9	0.5	0.4
	1964-1969	9.2	5.0	4.7	0.3	2.4	- 4.1	-0.1
Electric, gas, and sanitary services (3.0%)	1959-1964	5.7	4.6	5.5	-1.1	-0.2	1.7	0.4
	1964-1969	5.7	5.2	3.9	1.2	3.5	- 5.3	0.3
Wholesale trade (8.3%)	1959-1964	5.2	3.8	3.6	0.2	0.7	- 2.8	-0.1
	1964-1969	5.8	5.3	2.5	2.7	4.8	- 2.2	2.5
Retail trade (10.5%)	1959-1964	3.3	3.6	1.6	2.0	4.1	- 1.3	1.6
	1964-1969	4.0	4.4	-0.1	4.5	6.9	- 1.2	3.9
Finance, insurance, and real estate (14.5%)	1959-1964	5.0	4.1	2.6	1.5	5.3	- 2.7	1.4
	1964-1969	4.3	5.6	0.6	5.1	4.0	1.4	3.3
Services (10.3%)	1959-1964	3.9	4.4	0.9	3.5	4.9	1.9	3.2
	1964-1969	4.6	6.1	0.3	5.9	3.5	3.0	4.8

NOTE: The 1969 shares of gross private product, measured in 1958 dollars, are in parentheses. Included in the private economy, but not shown separately, are gross product originating in government enterprises and in the rest of the world; those industries account for 1.2 percent of gross private product.

Source: U. S. Department of Commerce



rate of price increase and the increase in unit labor cost, while growth in output and changes in productivity are correspondingly understated. Similarly, in the services industry, the implicit price deflator is widely thought to be biased upward because no allowance is made for improved productivity in certain activities, such as household services. As a result, growth in output and productivity is understated, and increases in unit labor cost and price are overstated.

Despite these limitations, the data in Table II contribute to an understanding of the various industries' contributions to overall growth in output and to changes in productivity, costs, and prices. The data also reveal instances where the actual behavior of key variables during the periods under review ran counter to what economic theory might have suggested. Reference points for the suggested behavior of the variables are the theoretical underpinnings of the wage-price guideposts that were promoted by the President's Council of Economic Advisers in the early 1960's.

These guideposts for noninflationary wage and price behavior call for annual increases in wages and all fringe benefits per manhour in each industry to be equal to the trend rate of increase in productivity in the private economy (the trend was meant to include a period of three or more years). Industries with above average productivity gains were expected to reduce prices, while industries with below average productivity gains would be justified in raising prices; average productivity gains called for stable prices. As exceptions to the rule, it was recognized that the faster growing industries might be required to grant above average wage increases to attract the labor resources needed for expansion (or if wage levels were exceptionally low, larger wage increases might be necessary). In addition, price trends in certain

industries could be higher or lower than those called for in the guideposts if the industry had insufficient or excess capacity at full employment demand, if costs other than labor had risen or fallen, and if excess market power of an industry resulted in unusually high profit rates.<sup>7</sup>

## TRENDS: 1959–1964

The actual performances of key variables in the major industries can be analyzed against the background of the concepts underlying the guideposts. During the 1959-1964 period, average annual increases in compensation per employee in the private economy exceeded annual gains in productivity, on average, by only 1 percent per year. In view of the possible overstatement of unit labor cost and price in certain industries, the moderate average annual increases in unit labor cost and price (1.0 percent and 1.1 percent, respectively) were tolerable rates of change.

Among the individual industries, productivity gains varied widely—from no measured change in contract construction to a 6.5 percent annual rate of increase in the communication industry. Average annual gains in compensation per employee, on the other hand, fell within a relatively narrow range—from 3.6 percent in mining, nondurable goods manufacturing, and retail trade to 5.0 percent in communication (see Table II). With respect to output patterns, increases in compensation per employee in eight out of the 12 industries were in accordance with what might have been

<sup>7</sup>Although the guideposts have not been promoted in recent years, their underlying concepts are mentioned here as a backdrop for evaluating economic developments in the major industries. See *Economic Report of the President*, together with the *Annual Report of the Council of Economic Advisers*, 1962, 1963, 1964, 1965, and 1966.

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expected (considering nondurable goods manufacturing and durable goods manufacturing as two separate industries). In other words, four industries that experienced below average growth in output also had below average gains in compensation per employee, while four industries with above average growth in output had above average gains in compensation per employee.<sup>8</sup>

From 1959 to 1964, the performance of unit nonlabor cost was more adverse than unit labor cost in every industry. That is, unit nonlabor cost either rose at a faster rate than unit labor cost or declined at a slower rate. In transportation and communication, declines in unit labor cost were more than offset by gains in unit nonlabor cost. Manufacturing and wholesale trade experienced moderate increases in unit labor cost that were of similar proportions; however, prices moved in different directions in these two industries largely because of dissimilar changes in unit nonlabor cost.

After the 1957-1958 recession, unit profits in all industries, except agriculture, mining, and contract construction recovered sharply in 1959. Average annual rates of change in unit profit-type income generally were moderate between 1959 and 1964.

Perhaps the most significant set of relationships during the 1959-1964 period is that all eight industries with above average increases in productivity had below average price increases (or price declines in the case of mining and wholesale trade). The four industries with below average productivity performance, as might be expected, had above average price increases. In contract construction and services, the rate of price increase was three to four times above average.

<sup>8</sup>These developments, together with others to be cited, are summarized in Table III.

## TRENDS: 1964-1969

During the 1964-1969 period, productivity performance deteriorated in all industries, except agriculture (see Table II). At the same time, the rate of increase in compensation per employee accelerated in all industries except communication. In contrast to the narrow spread of increases between 1959 and 1964, average annual gains in compensation per employee during 1964-1969 ranged from 4.4 percent in retail trade to 8.9 percent in agriculture.

Unlike the 1959-1964 period, the relationships between growth rates in output and compensation per employee generally were not as might be expected. In nine out of 12 industries, the association was negative rather than positive. Four industries with below average growth in output had above average growth in compensation per employee, and five industries with above average growth in output had below average increases in compensation per employee.

In every industry, gains in compensation per employee far exceeded the sharply reduced rate of growth in productivity in the private economy as a whole. Only the very rapidly growing communication industry—telephone and telegraph, radio broadcasting, and television—managed to keep increases in compensation per employee within reasonable bounds of its own productivity improvement. Between the 1959-1964 period and the 1964-1969 period, each industry had an accelerated rise in unit labor cost; in some instances, downward trends in unit labor cost during the earlier period were displaced by upward trends in the later period. The recent behavior of unit labor cost was particularly poor in four industries: contract construction; services; finance, insurance, and real estate; and retail trade.

Most industries also incurred larger increases (or less favorable changes) in unit nonlabor cost between 1964 and 1969. As exceptions to the general pattern, the manufacturing; communication; and finance, insurance, and real estate industries improved their unit nonlabor cost performance relative to the earlier five-year period. The industries sustaining the greatest acceleration in unit nonlabor cost increases were agriculture; contract construction; electric, gas, and sanitary services; and wholesale and retail trade.

In agriculture, the stepped up increase in unit nonlabor cost during the 1964-1969 period was due primarily to a surge in unit cost of capital consumption allowances and, to a lesser extent, higher unit cost of indirect business taxes. In contract construction, all of the accelerated rise in unit nonlabor cost was due to a substantial increase in the unit cost of capital consumption allowances (from an average annual gain of 1.7 percent between 1959 and 1964 to an average annual gain of 8.5 percent during the most recent five years). In trade, particularly wholesale trade, a marked increase in unit cost of indirect business taxes largely contributed to the accelerated rises in unit nonlabor cost. Special mention should be made regarding wholesale trade, where the annual rate of increase in unit cost of indirect business taxes more than quadrupled between the two periods under review (from 1.0 percent between 1959 and 1964 to 4.4 percent between 1964 and 1969). As a result, by 1969, indirect business taxes accounted for more than one-fourth of the total cost of gross product in wholesale trade. In the capital intensive electric, gas, and sanitary services industry, which had declining unit nonlabor cost between 1959 and 1964, the relatively steep rise in unit nonlabor cost during 1964-1969 reflected a

pronounced upswing in unit cost of net interest and capital consumption allowances.

In the private economy as a whole, unit profit-type income improved on balance between 1964 and 1969 (despite declines in 1967 and 1969). Running counter to the general trend, however, was the unit profit performance in six industries that collectively account for almost half of gross private product (mining, durable goods manufacturing, transportation, communication, and wholesale and retail trade). Although the growth rate of output in those industries increased between the two periods, unit profit-type income failed to improve or actually worsened. Only two industries, nondurable goods manufacturing and services, managed to improve both their growth rates in output and their unit profit performances between the two periods. The remaining industries (agriculture; contract construction; electric, gas, and sanitary services; and finance, insurance, and real estate) experienced no improvement or declines in their growth rates in output, but nevertheless improved their unit profit performance.

## INDUSTRY CONTRIBUTIONS TO RECENT INFLATION

Price increases accelerated in practically all industries during the recent five-year period; only communication and electric, gas, and sanitary services registered an improvement relative to the earlier five-year period. As might be expected, industries with above average productivity gains had below average price performance (except agriculture), and all industries with below average productivity performance had above average price increases (see Table III). One particular problem area stems from the agricultural industry, where prices rose only about one-sixth as much as in the

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TABLE III

Ranking of Industrial Trends in Output, Compensation  
Per Employee, Productivity, and Price  
(With Respect to Average Changes in Private Economy)  
1959-1964 and 1964-1969

Industry	Output		Compensation per Employee		Output per Employee		Price	
	1959- 1964	1964- 1969	1959- 1964	1964- 1969	1959- 1964	1964- 1969	1959- 1964	1964- 1969
Agriculture, forestry, and fisheries	—	—	+	+	+	+	—	+
Mining	—	—	—	+	+	+	—	—
Contract construction	—	—	+	+	—	—	+	+
Manufacturing	+	+	A	—	+	+	—	—
Nondurable goods	—	+	—	—	+	+	—	—
Durable goods	+	+	+	—	+	+	—	—
Transportation	—	+	—	+	+	+	—	—
Communication	+	+	+	—	+	+	—	—
Electric, gas, and sanitary services	+	+	+	—	+	+	—	—
Wholesale trade	+	+	—	—	+	+	—	—
Retail trade	—	—	—	—	—	—	+	+
Finance, insurance, and real estate	+	—	+	+	—	—	+	+
Services	—	A	+	+	—	—	+	+

NOTE: Plus signs indicate above-average changes; minus signs indicate below-average changes; and A signifies average change.

Source: U. S. Department of Commerce

private economy between 1959 and 1964, but then rose two-thirds faster during the following five years (reflecting the fact that the industry's selling prices—determined in the short run much more by conditions of supply rather than demand—rose faster than its buying prices).

The other four problem industries with above average rates of price increase (contract construction; services; retail trade; and finance, insurance, and real estate) all have been consistently characterized by low productivity growth, and their impact on the overall rate of inflation in the private economy is clearly evident from an inspection of the data in Table II. Other industries with below average rates of price increase, however, also contributed to the nearly trebled rate of inflation in the private economy between the two five-year periods under review. The rate of price

increase in manufacturing, for example, more than quadrupled between the two periods. Largely responsible was the durable goods industry, which sustained a greater cutback in productivity growth and a more severe increase in unit labor cost than the nondurable goods industry. Moderate price declines in the wholesale trade industry contributed to the low rate of price increase during the 1959-1964 period, but the situation was reversed during the following five years, when wholesale trade incurred relatively large price increases. A less pronounced price reversal also occurred in the mining industry.

## CONCLUDING COMMENTS

It is impossible to distinguish between cause and effect in examining aggregative sets of industry data relating to price. The blame for the

Trends in Wages and Salaries Per Employee and  
Supplements Per Employee,  
1959-1969

	Average Annual Percent Change, Compounded				1969	
	Wages and Salaries Per Employee		Supplements Per Employee		Wages and Salaries Per Employee	Supplements As a Percent of Total Compensation
	1959- 1964	1964- 1969	1959- 1964	1964- 1969		
Private economy	3.6%	5.1%	7.5%	7.8%	\$7,074	10.0%
Agriculture, forestry, and fisheries	3.8	8.6	14.3	15.6	2,894	6.0
Mining	3.4	5.7	5.2	7.2	8,587	11.0
Contract construction	4.0	6.4	8.5	5.4	8,628	8.0
Manufacturing	3.5	4.6	7.6	7.5	7,768	12.4
Nondurable goods	3.3	4.8	6.6	7.5	6,977	11.7
Durable goods	3.6	4.4	8.1	7.3	8,319	12.8
Transportation	3.6	5.3	6.0	8.1	9,293	10.7
Communication	4.6	4.5	8.8	8.6	8,032	13.4
Electric, gas, and sanitary services	4.2	5.0	7.2	6.4	9,016	13.5
Wholesale and retail trade	3.4	4.4	7.8	8.3	6,523	7.5
Finance, insurance, and real estate	3.7	5.4	8.5	7.7	7,596	11.9
Services	4.2	5.9	9.9	10.9	5,495	6.1

Source: U. S. Department of Commerce

accelerated pace of inflation in recent years should not fall on any particular industry, although it does seem clear that inflationary pressures have stemmed more forcefully from some industries than others. By the same token, caution should be exercised before pinning the burden of inflation on any particular type of cost. As a case in point, the recent increases in unit interest cost that were

cited for certain industries do not cause inflation, but instead are the effect of a more rapid rate of advance in prices. At any rate, it is hoped that this article has contributed to a better understanding of the relationships between growth in output, employee compensation, and productivity, and the interaction of changes in the major components of unit costs in the determination of price.

## APPENDIX

The previous discussion of trends in compensation per employee made no attempt to distinguish between wages and salaries per employee and supplements per employee. From the standpoint of an employer, and for the economy as a whole, a dollar "paid" to an employee for supplements is just as much a part of total cost as is a dollar paid for wages and salaries.

In most industries, supplements grew at a consistently faster rate than wages and salaries

during the past decade (see Appendix table). By 1969, supplements accounted for 10 percent of total employee compensation in the private economy, and for more than 13 percent in several industries.

It is noteworthy that in the agriculture, forestry, and fisheries industry both wages and salaries per employee and supplements per employee grew at the fastest rates among all industries in recent years; nevertheless, both the

## ECONOMIC REVIEW

average wage level per full-time equivalent employee and supplements as a percent of total compensation were still considerably below average in 1969. The services industry is also characterized by a low wage level and low supplements, despite growth rates consistently above average in both wages and supplements.

Some industries experienced slower rates of increase in supplements per employee between the two periods, 1959 to 1964 and 1964 to 1969. The largest reduction occurred in the contract construction industry. In recent years, construction workers apparently have elected to receive a larger share of their gains in compensation in the form of

wages and salaries rather than in supplements. (In the contract construction industry, supplements accounted for 13.1 percent of the gain in employee compensation between 1959 and 1964, but only 7.3 percent of the gain during the following five years.) Unlike contract construction, the other four industries experiencing an easing in the rate of increase in supplements during the recent five-year period (durable goods manufacturing; communication; electric, gas, and sanitary services; and finance, insurance, and real estate) each continued to have supplements growing at a faster rate than wages and salaries, and in 1969 each had above average shares of supplements in employee compensation.





# REGISTERED BANK HOLDING COMPANY

## ACTIVITY IN OHIO, 1964–1969

Before 1964, there were only two registered bank holding companies in Ohio. One of the registered bank holding companies was formed in 1929 and held 22 banks concentrated in the counties surrounding Columbus. The other registered bank holding company was formed in Clark County in the late 1950's to broaden banking services for a mutual savings bank. Since 1964, six registered bank holding companies have been formed in Ohio and their affiliated banks are located in most areas in the state.<sup>1</sup> The holding company headquartered in Clark County discontinued its operations in 1965, and all of its affiliates, which were located in Clark County, were merged into one commercial bank. Therefore, this registered bank holding company was removed from the data for the years after 1964.<sup>2</sup>

The term registered bank holding company refers to any company that directly or indirectly owns, controls, or holds with power to vote 25 percent or more of the voting shares of two or more banks.<sup>3</sup> Such a company may be any corporation, business trust or association, but does

not include governmental corporations, partnerships, and individuals. Bank holding companies may not acquire nonbanking companies except in certain limited circumstances where the activities of the company to be acquired are closely related to the business of banking.

To date, most registered bank holding companies in Ohio were formed by large banks located in metropolitan areas that wish to expand their operations. The bank that initiates the formation of the bank holding company is customarily referred to as the "lead bank." In most cases, management of the lead bank forms a corporation and offers a proposal to the bank's stockholders whereby they may exchange the shares they hold of the bank for shares in the new corporation. Once this exchange is consummated, management of the newly formed corporation seeks to acquire the stock of an additional bank or banks. After an agreement is reached with the bank to be acquired, the lead bank submits an application to the Board of Governors of the Federal Reserve System for prior approval to complete the transaction. In other cases, the corporation is formed, but no action is taken to acquire shares of the lead bank until an agreement is reached with another bank to join the initiating bank in forming a registered bank holding company. In such a case, an application is submitted to the Board of Governors for prior approval for the corporation to acquire both

<sup>1</sup>One of the six new holding companies was formed in 1970 and is excluded from data used in this article.

<sup>2</sup>This bank was subsequently acquired by another bank holding company in 1967.

<sup>3</sup>In general, shares held or controlled in a fiduciary capacity by a bank are excluded.



simultaneously. According to the Bank Holding Company Act, the Board of Governors has sole authority for approving or disapproving requests for the formation of registered bank holding companies and subsequent acquisitions. Banks that are owned by bank holding companies are ordinarily referred to as bank holding company affiliates.

Although the Board of Governors applies the provisions of The Bank Holding Company Act of 1956 in approving the proposed transaction, the Department of Justice has 30 days in which to bring suit to prevent the acquisition or formation should antitrust laws appear to be violated.<sup>4</sup> The holding company may not proceed to acquire the bank during this 30-day period.

Recently, the phrase one-bank holding company has become more prominent. Any company that owns or controls only one bank is referred to as a one-bank holding company. One-bank holding companies are not subject to the control or regulation of present bank holding company legislation or the Board of Governors.<sup>5</sup> Therefore, their acquisition opportunities and operations are not limited to only bank related functions, and they may enter into activities that are not open to registered bank holding companies or independent banks. The banking affiliate of a one-bank holding company is, however, subject to the same banking legislation and regulation as any other commercial bank. In this article, the term bank holding

company refers only to registered bank holding companies.

**Growth of Holding Company Influence in Ohio.** As mentioned earlier, there were two registered bank holding companies operating in Ohio at yearend 1964. Together these two holding companies controlled 24 commercial banks and operated 51 branch offices. These 75 banking offices accounted for 5.3 percent of the banking offices in Ohio at yearend 1964. Between 1964 and 1969, five registered bank holding companies were formed.<sup>6</sup> During the period under review, only three of the newly formed bank holding companies proceeded to acquire one or more commercial banking affiliates. There were 18 additional banks that became holding company affiliates in the 1964-1969 period as a result of holding company acquisitions and formations, compared with 24 banks in the 35-year period from 1929 to 1964 (see table).<sup>7</sup>

The increase in the number of banking offices operated by affiliates of bank holding companies was much greater than the gain in the number of banks during the period. To a large extent, the sizable increase in banking offices controlled by bank holding companies was due to the fact that the lead bank generally had a large number of branch offices. The number of banking offices under the control of bank holding companies rose from 75 offices in 1964 to 216 at yearend 1969. As a result of the gain of 141 offices, the share of banking offices in the state under the control of bank holding companies increased from 5.3 percent in 1964 to 12.5 percent in 1969. With the

<sup>4</sup>The Sherman Act and The Clayton Act are normally cited in cases brought by the Justice Department.

<sup>5</sup>The U. S. Congress is presently considering legislation which would bring one-bank holding companies under some form of Federal regulation. For a discussion of this proposed legislation, see "Pending Federal Legislation Concerning One-Bank Holding Companies," *Economic Commentary*, Federal Reserve Bank of Cleveland, August 31, 1970.

<sup>6</sup>A net addition of only four after allowing for elimination of one of the prior existing holding companies via merger of affiliates in 1965.

<sup>7</sup>Includes three banks acquired by holding companies in January 1970 that were approved for acquisition in 1969.

**Total Banking Offices, Deposits and Loans of Registered Bank Holding Companies in Ohio  
1964-1969**

	<u>1964</u>	<u>1965*</u>	<u>1966</u>	<u>1967</u>	<u>1968†</u>	<u>1969‡</u>
Number of Companies	2	2	2	3	4	6
<b>Banking Offices</b>						
Banks	24	25	26	29	31	39
Branches	51	74	80	107	136	177
Total	75	99	106	136	167	216
Total as percent of State total	5.3%	6.6%	6.9%	8.5%	10.1%	12.5%
<b>Total Deposits §</b>						
Held by bank holding companies (thous. of \$)	\$ 791.5	\$ 1,413.6	\$ 1,531.5	\$ 2,181.4	\$ 2,807.7	\$ 3,439.8
Percent of State total	5.7%	9.3%	9.5%	12.2%	14.5%	17.5%
<b>Gross Loans §</b>						
Held by bank holding companies (thous. of \$)	\$ 405.4	\$ 811.3	\$ 955.7	\$ 1,237.8	\$ 1,619.9	\$ 2,153.6
Percent of State total	5.2%	9.5%	10.2%	12.6%	14.6%	17.6%
<b>State Totals</b>						
Banks	549	543	538	532	526	522
Branches	873	948	1,009	1,069	1,130	1,211
Banking Offices	1,422	1,491	1,547	1,601	1,656	1,733
Deposits (thous. of \$)	\$13,820.5	\$15,136.5	\$16,126.1	\$17,865.6	\$19,371.6	\$19,699.4
Loans § (thous. of \$)	\$ 7,750.8	\$ 8,564.5	\$ 9,408.9	\$ 9,860.5	\$11,069.9	\$12,220.6

\* One holding company went out of existence, but a new one was formed.

† One affiliated bank merged with another affiliated bank.

‡ Included in 1969 data are three banks acquired by existing registered bank holding companies which were approved in 1969 but were not actually acquired until January 1970.

§ Excludes hypothecated deposits.

Sources: Federal Deposit Insurance Corporation; *Federal Reserve Bulletin*; Federal Reserve Bank of Cleveland

exception of 1966, the annual increase in the number of banking offices under the control of bank holding companies exceeded that of the previous year (see table).

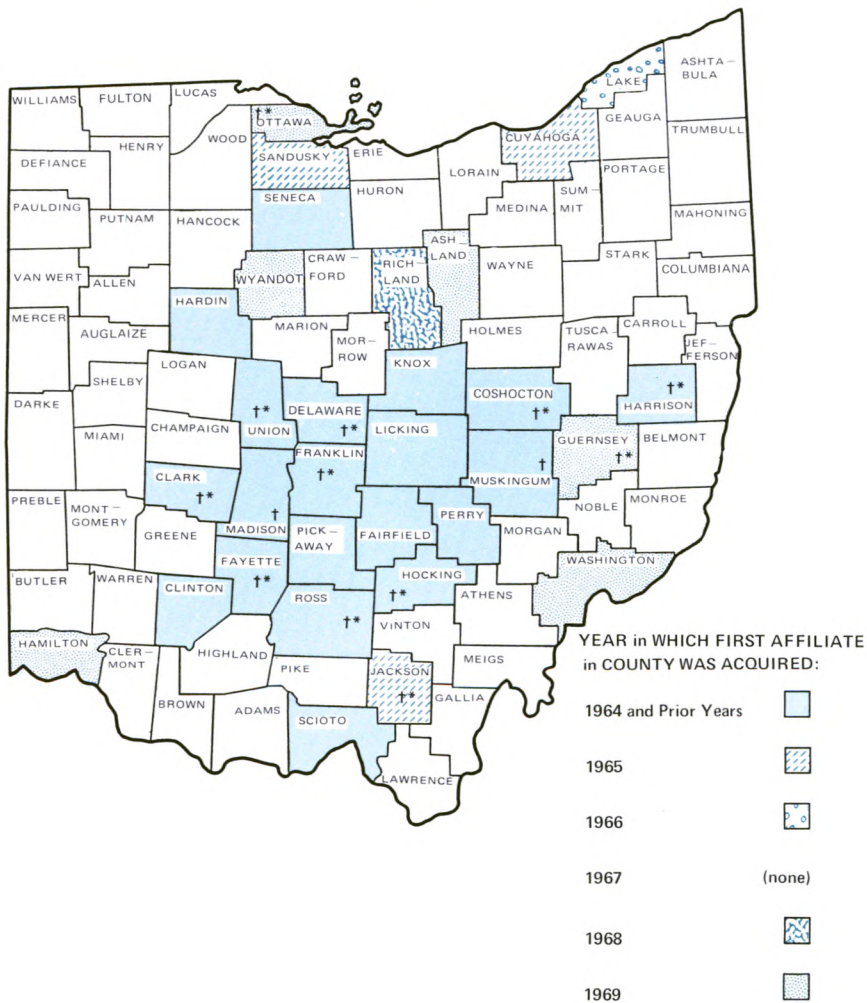
The volume of deposits and loans accounted for by bank holding companies increased even more rapidly than the number of banking offices. From yearend 1964 to yearend 1969, deposits of bank holding companies grew from \$791.5 million to \$3,439.8 million, increasing from 5.7 percent to 17.5 percent of deposits held by all banks in the state. Similarly, there was a marked increase in the

volume of loans outstanding at bank holding companies (see table). These gains in deposits and loans principally reflect the large size of the lead banks in the holding companies formed during this period. In general, the lead banks of bank holding companies were among the state's largest banks in terms of deposits and loans.

**Geographic Location of Holding Companies.** In general, in Ohio, a commercial bank may branch only throughout the county in which it is headquartered. A bank holding company, however, can acquire affiliates anywhere in Ohio.

**Map 1.**

COUNTY LOCATION of AFFILIATES of REGISTERED BANK HOLDING  
COMPANIES in OHIO as of JUNE 30, 1969



\*Bank with largest share of deposits as of June 30, 1969, was an affiliate of a registered bank holding company.

<sup>†</sup> Bank with largest share of loans as of June 30, 1969, was an affiliate of a registered bank holding company.

Source: Federal Reserve of Cleveland

At yearend 1964, there were affiliates of bank holding companies in 20 of Ohio's 88 counties. By yearend 1969, affiliated banks were located in 31 counties, with six of these counties added in 1969 alone (see Map 1).

Twelve of the 39 banks affiliated with bank holding companies at yearend 1969 were the largest banks in their respective home office counties in terms of deposits, and 14 were the largest in terms of loans. At yearend 1964, nine affiliated banks were the largest banks in their respective home office counties in terms of deposits, and 10 were the largest in terms of loans. However, the lead bank of the five new bank holding companies formed since 1964 was not the largest bank in its home office county in terms of loans or deposits when the holding company was formed. Thus, the increase in the number of affiliates that are the largest bank in the county represents acquisitions of banks that were the largest bank in their county rather than the size of the lead bank. After excluding the five lead banks, five of the 13 banks that have become affiliates since 1964 were the largest banks in terms of both deposits and loans in their counties at the time of acquisition. In 1969 alone, three of the eight banks that were acquired were the largest banks in their counties in terms of both deposits and loans.

One affiliated bank became the largest bank in its county in terms of deposits, and three became the largest banks in terms of loans. Two affiliated banks that had been the largest in their counties in terms of deposits and three affiliated banks that had been the largest in terms of loans fell from that position during the 1964-1969 period.

At yearend 1969, bank holding company affiliates accounted for less than 25 percent of the deposits at banks in 14 of the 31 counties in which bank holding companies own banks (see Map 2).

Affiliated banks in nine counties accounted for between 25 percent and 50 percent of the deposits in their county. Of the eight counties where bank holding company affiliates held more than 50 percent of the deposits, affiliates held up to 75 percent of the deposits in five counties; in one county holding company affiliates accounted for 75 percent to 90 percent of the deposits; and in two counties, affiliates held more than 90 percent. The concentration in loans held by bank holding company affiliates was essentially the same as that in deposits (see Map 3).

Since there were 39 banks affiliated with bank holding companies in 31 counties, some counties had more than one bank affiliated with a bank holding company. Five counties had more than one affiliated bank and included the three in which 75 percent or more of deposits are under the control of holding companies (see Map 4). In each of these five counties, the largest bank in both deposits and loans is a holding company affiliate.

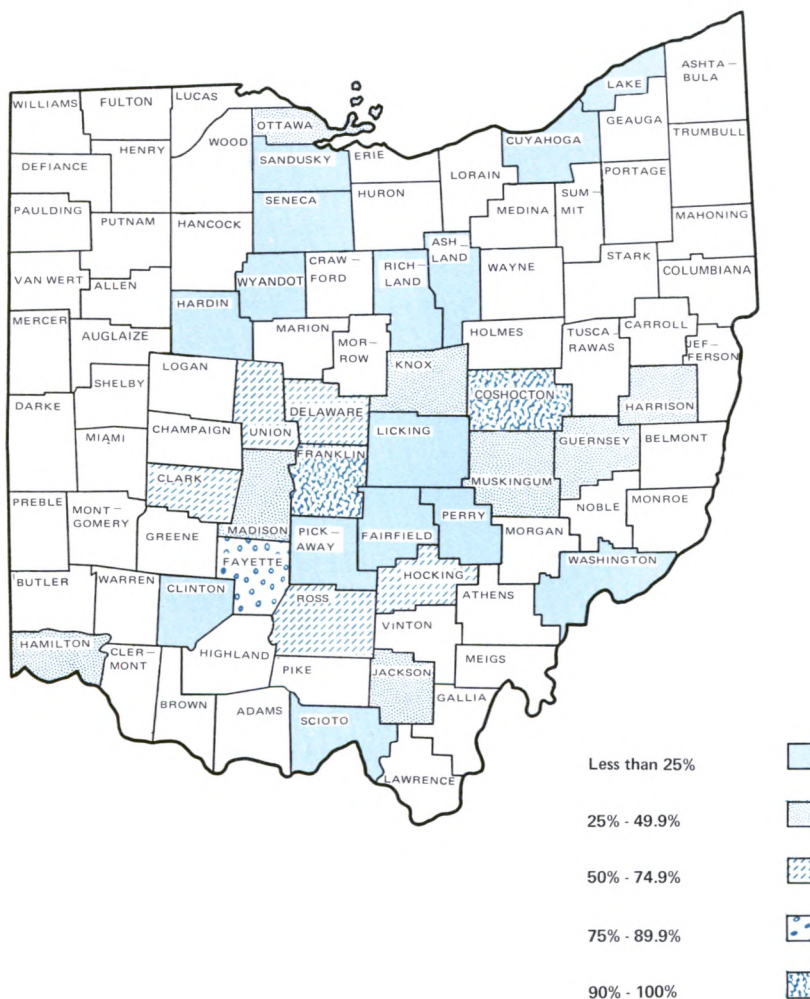
Four of Ohio's six registered bank holding companies are headquartered in Columbus, Ohio (Franklin County). However, one does not have an affiliate in Franklin County, while one other has two affiliated banks in Columbus. This is the only area in the state where a single holding company has more than one bank in a single county. As a result, Franklin County has four banks affiliated with bank holding companies, the most for any county in the state.

Ross County has three banks affiliated with registered bank holding companies, although these three banks as a group control less than 75 percent of deposits and loans at banks in the county. Coshocton County has only two commercial banks and both are owned by holding companies. Clark



Map 2.

SHARE of DEPOSITS ACCOUNTED for by REGISTERED BANK HOLDING COMPANY  
AFFILIATES by COUNTY as of JUNE 30, 1969\*

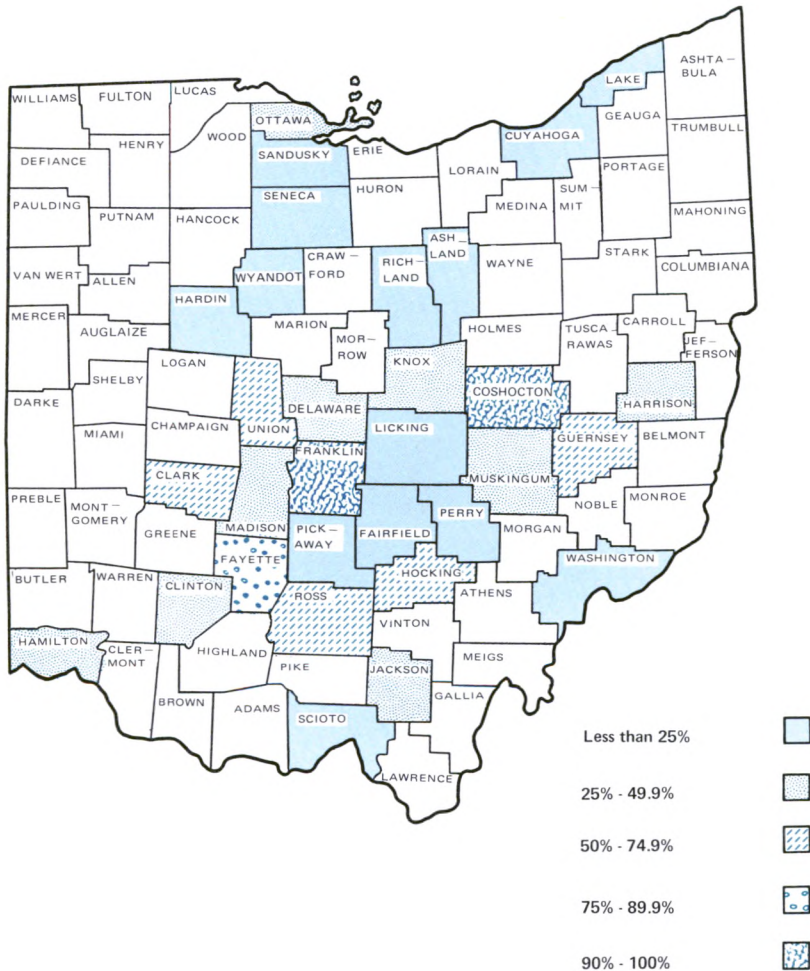


\* Less hypothecated deposits.

Source: Federal Reserve Bank of Cleveland

Map 3.

SHARE of LOANS ACCOUNTED for by REGISTERED BANK HOLDING COMPANY  
AFFILIATES by COUNTY as of JUNE 30, 1969 \*

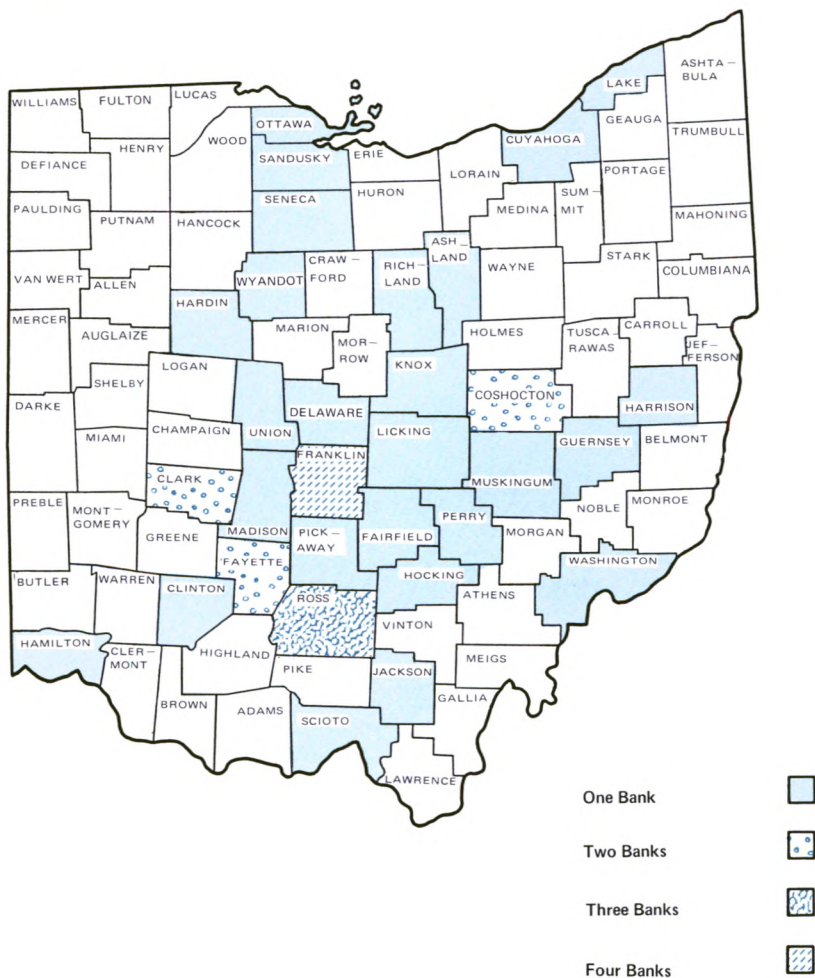


\*Less hypothecated deposits.

Source: Federal Reserve Bank of Cleveland

Map 4.

NUMBER of REGISTERED BANK HOLDING COMPANY AFFILIATES by COUNTY  
as of JUNE 30, 1969



Source: Federal Reserve Bank of Cleveland



and Fayette Counties also have two banks affiliated with bank holding companies.

**Registered Bank Holding Company Activity in 1970.** The Board of Governors has approved the formation of a seventh registered bank holding company in Ohio. In addition, another large bank in the state has announced its intention to become the lead bank of a proposed eighth bank holding company in the state. Furthermore, as of August 1970, existing bank holding companies have received approval to acquire ten banks in the state, have applications pending to acquire two banks, and have announced intentions to acquire five additional banks. These holding company formations and acquisitions could increase the number of bank holding companies in the state to eight and the number of holding company bank affiliates to 60.

Thus far in 1970, seven of the 21 actual or proposed bank acquisitions are the largest banks in their home office county. If all of the proposed

acquisitions are approved, holding companies will have the authority to operate banking offices in 16 additional counties. This would bring the number of counties in which holding company affiliates are permitted to have offices to 47, or more than half of the counties in Ohio.

## CONCLUDING COMMENTS

Registered bank holding company formations and acquisitions have increased sharply, especially since 1966. In a period of approximately three years, from mid-1967 to August 1970, the number of registered bank holding companies rose from two to seven, with intentions already announced to form an eighth. During this three-year period, the potential net gain in holding company affiliates amounts to 34 banks. Registered bank holding companies control more than 10 percent of the banks in Ohio and more than 20 percent of the loans and deposits at banks in the state. Nevertheless, the bank holding company movement in Ohio is still in the early stages.

