

# economic review

AUGUST 1966

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FEDERAL RESERVE BANK OF CLEVELAND

# ANOTHER LOOK AT BANK CASH MANAGEMENT

In June 1962, the Federal Reserve Bank of Cleveland introduced a system of "daily reporting" for member banks in the Fourth Federal Reserve District. Under daily reporting, District member banks each day report figures on deposits, vault cash, and related items to the Federal Reserve Bank of Cleveland. By so doing, and with the information on maintained reserves and required reserves provided by this Bank in return, member banks are afforded the opportunity to manage cash assets more efficiently, particularly through the minimization of cash reserves in excess of legal requirements. This article presents the results of a research project designed to find out whether District member banks did in fact manage their cash assets more tightly; by so doing, the article evaluates the influence that daily reporting had on the cash management practices of District banks.<sup>1</sup>

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<sup>1</sup> As background for this article, the reader may wish to consult other articles on cash management that appeared in previous issues of the *Economic Review*. See "Bank Management of Cash Assets," "Management of Cash Assets at Reserve City and Country Member Banks," and "Management of Cash Assets at Fourth District Reserve City and Country Member Banks," Federal Reserve Bank of Cleveland, Cleveland, Ohio, April, July, and December 1965. The first article provides a general discussion of the cash management function.

In order to provide a standard for comparison, it was necessary to utilize a control group of member banks located in an area where daily reporting was not in use for a specified period of time. In other words, characteristics of banks in the control group were compared with characteristics of selected Fourth District banks. Specifically, the two groups of banks were (1) those Fourth District member banks located in the Cleveland territory (the portion of Ohio served by this Bank's main office), and (2) member banks located in the portion of Indiana served by the Federal Reserve Bank of Chicago.<sup>2</sup> These areas are shown by the shaded parts of the accompanying map.

The findings of this study, while perhaps not conclusive, strongly suggest that a noticeable *improvement did not occur* in the cash

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<sup>2</sup> Considerations of data availability made it desirable to limit the study to member banks located in the area covered by this Bank's Cleveland office. Member banks located in that part of Indiana served by the Federal Reserve Bank of Chicago were chosen as a control group because "daily reporting" is not in effect in the Seventh Federal Reserve District and because of Indiana's similarities and proximity to Ohio.

The Research Department of the Federal Reserve Bank of Cleveland acknowledges the cooperation of its Chicago counterpart in supplying data and technical advice.



management performance of Ohio banks (compared with Indiana banks) *in the period following the start of daily reporting*. That is to say, and as will become more evident later, daily reporting in the Fourth District did not widen the performance differential between Ohio and Indiana banks that had already existed at the time daily reporting was introduced.

Nevertheless, as a by-product of the consideration of daily reporting, the study did yield some interesting findings of a broader nature, which become the major emphasis of this article. In capsule form, the findings show that member banks in Ohio, in the time period studied, managed their cash balances more aggressively than member banks in Indiana. More aggressive performance of the cash management function in turn reflected the influences of deposit composition, deposit instability, and the intensity of loan demand.

### CHARACTERISTICS OF THE DATA

The data used in this study are for the years 1961-63, inclusive. Except for measures of loan demand, the data are reserve period averages of daily figures, with the reserve period in all cases that for Country member

banks (14 days). In the case of loan demand, a proxy measure derived from Call Report data was used—the ratio of loans (net) to deposits. The data on loan demand, in contrast to the data on reserves, were as of a certain date (the date of the Call Report).

Because bank size significantly influences the performance of cash management, banks in each group were distributed in seven size classes. The total of gross demand and time deposits—averaged for three selected periods—was used to measure bank size. The ranges of the size classes and the number of member banks in each class are shown in Table I. Because the relative distributions (Column 5) left Indiana poorly represented by very small banks (size class 1) and, more importantly, by very large banks (size class 7), all-bank aggregates would easily be misleading. This situation strengthened the decision to focus on individual size classes. It should be noted that all banks in size classes 1 through 6 are Country member banks, whose legal reserve calculation periods cover two-week intervals. Member banks in class 7, on the other hand,

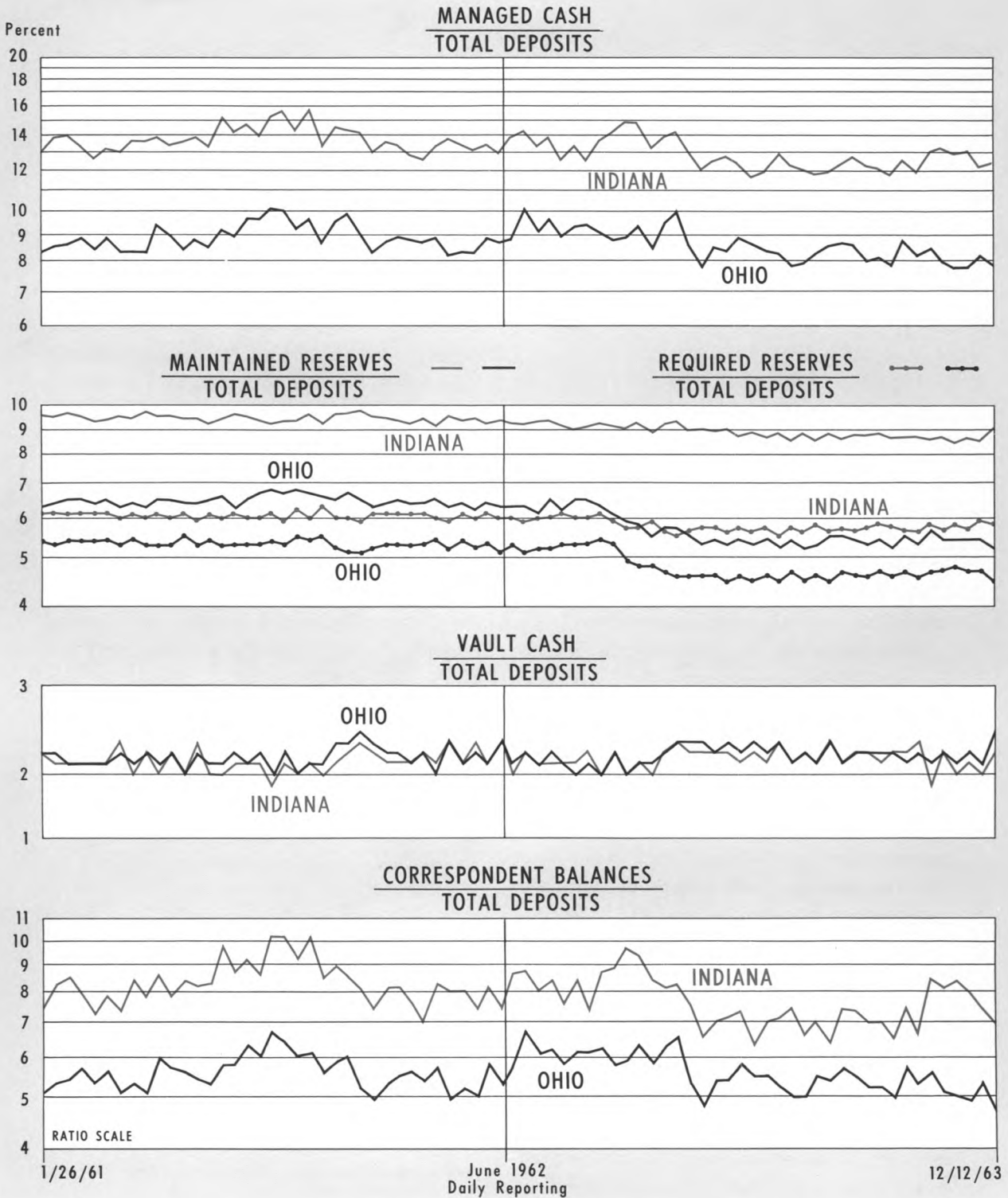
**TABLE I**  
Size Classes and Number of Banks  
Selected Banks in Ohio and Indiana

(1) Size Class	(2) Gross Deposit Ranges	(3) Number of Banks		(5) (4) as a Percent of (3)
		Ohio	Indiana	
1	Less than \$1 million	6	2	33%
2	\$1-\$5 million	101	66	65
3	\$5-\$10 million	55	37	67
4	\$10-\$25 million	52	32	62
5	\$25-\$50 million	18	10	56
6	\$50-\$100 million	9	6	67
7	\$100 million and over	11	3	27
		252	156	

Sources: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

# CASH RATIOS for SELECTED BANKS in OHIO and INDIANA

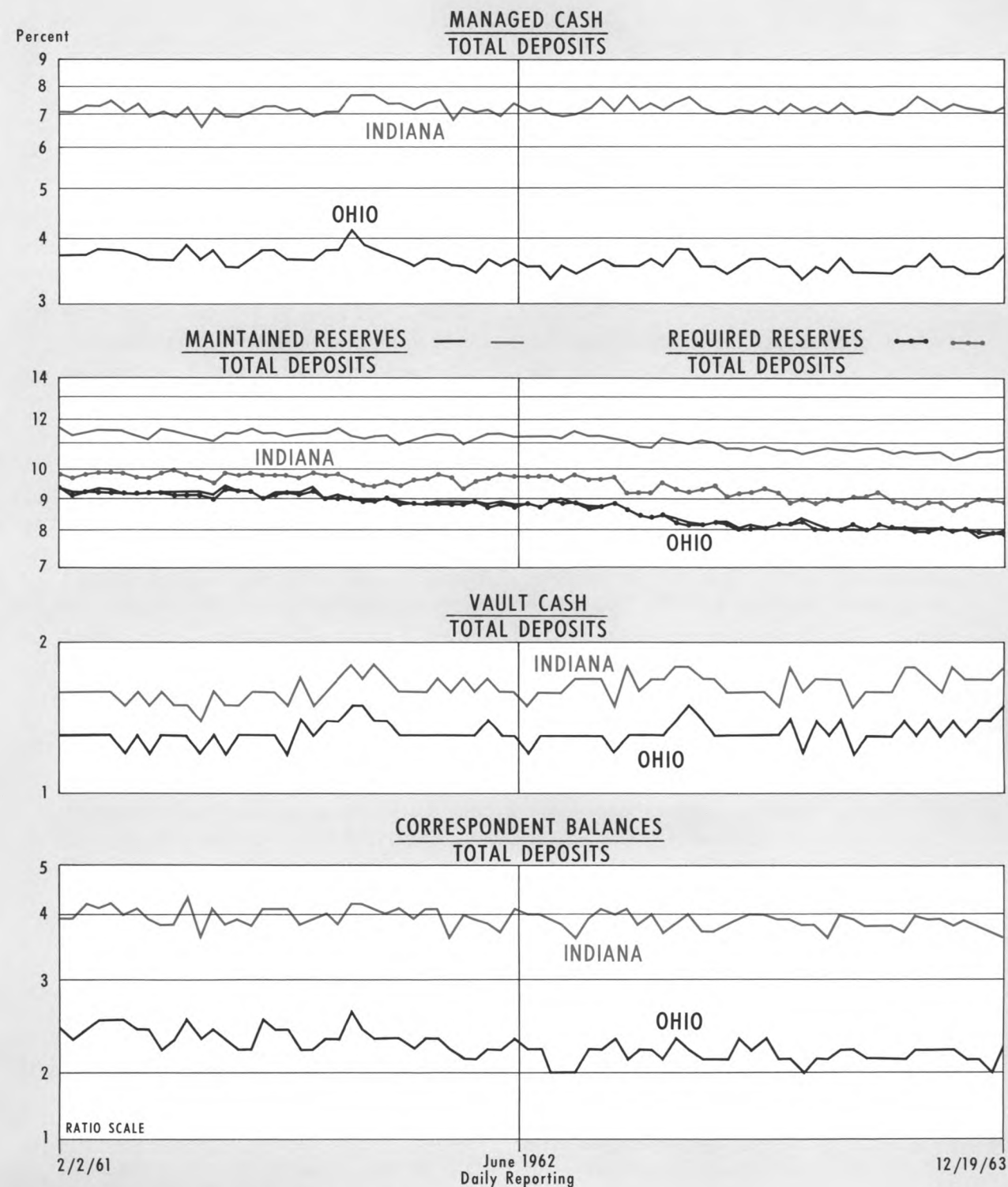
Size Class 3



Sources of data: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

# 1b. CASH RATIOS for SELECTED BANKS in OHIO and INDIANA

Size Class 7



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are all Reserve City banks (Country banks in Ohio with over \$100 million in deposits were excluded), whose legal reserve positions must be adjusted over a seven-day period. For banks in the latter size class, each observation was computed from daily averages covering two reserve calculation periods.

### CASH MANAGEMENT PERFORMANCE

Since performance variation among the size classes is largely in the details, and the basic essentials of performance are reasonably consistent throughout all size classes, the graphic presentation is limited to only two size classes. Thus, data for member banks in size classes 3 and 7 are used to illustrate differences in cash management performance between member banks in the two groups (see Charts 1a and 1b). From the charts, it is clear that Ohio bankers were more aggressive than their counterparts in Indiana in managing discretionary (managed) cash assets.<sup>3</sup> This is evidenced by the substantially higher proportions of managed cash to total deposits held by both relatively small (size class 3) and very large (size class 7) Indiana banks.<sup>4</sup>

As shown by the values of the managed cash ratios in Table II (Column 1), Ohio banks, in every size class, outperformed similarly

classed Indiana banks. For example, during the three-year period, 1961-63, the managed cash ratio averaged 13.31 percent for Indiana banks in size class 3 compared with 8.74 percent for Ohio banks in that size category. In the case of the largest size banks, those in Indiana operated with managed cash ratios averaging 7.21 percent compared with 3.59 percent for Ohio banks.

Table II also presents average values of the component ratios (with the appropriate computational sign of each) that enter into the measurement of the managed cash ratio. The first three component ratios (Columns 2, 3, and 4) are more easily and effectively considered when combined into the ratio of excess reserves (maintained reserves + vault cash - required reserves) to total deposits (Column 5). The existence of excess reserves causes banks to forego income that could be earned if such reserves were loaned out or invested; bank management therefore prefers to keep such balances to the minimum consistent with various operating considerations. As Table II reveals, in the period under review all classes of Indiana banks showed excess reserve ratios that were larger (between 47 percent in the case of class 2 banks, and 143 percent in the case of class 7 banks) than the ratios of similar size banks in Ohio. In all cases, Indiana banks also kept substantially larger proportions of total deposits as demand balances at correspondent banks (Column 6). Thus, the pattern prevailing in the case of the managed cash ratio was also clearly evident in the two major component ratios.

At this point, it is appropriate to ask the seemingly obvious question, why? That is to say, what reasons can be found to explain the

<sup>3</sup> See the articles referred to in footnote 1. Discretionary, or managed, cash assets are defined as the sum of correspondent balances plus excess reserves, with the latter calculated as the difference between the total of balances maintained at the regional Federal Reserve bank plus vault cash and the volume of required reserves.

<sup>4</sup> The start of daily reporting in June 1962 did not widen the differential in favor of Ohio banks—particularly smaller banks—as can be seen from the charts.

**TABLE II**  
**Managed Cash and Component Ratios**  
**Selected Banks in Ohio and Indiana**  
**(Mean Values of Reserve Period Averages, 1961-63)**

	(1)		(2)		(3)		(4)		(5)		(6)
	Managed Cash ÷ Total Deposits	=	Maintained Reserves ÷ Total Deposits	+	Vault Cash ÷ Total Deposits	-	Required Reserves ÷ Total Deposits		Excess Reserves ÷ Total Deposits	+	Correspondent Balances ÷ Total Deposits
	(2+3-4)										
<b>Size Class 1</b>											
Ohio	11.91	=	6.26	+	3.11	-	3.94		5.43	+	6.48
Indiana	22.29	=	12.37	+	2.51	-	5.01		9.87	+	12.42
<b>Size Class 2</b>											
Ohio	10.30	=	6.54	+	2.15	-	4.75		3.94	+	6.35
Indiana	13.95	=	9.45	+	2.18	-	5.83		5.80	+	8.14
<b>Size Class 3</b>											
Ohio	8.74	=	6.04	+	2.17	-	5.04		3.17	+	5.58
Indiana	13.31	=	9.13	+	2.13	-	5.90		5.36	+	7.94
<b>Size Class 4</b>											
Ohio	8.76	=	5.46	+	2.33	-	4.88		2.91	+	5.85
Indiana	11.65	=	8.68	+	2.42	-	5.51		5.59	+	6.05
<b>Size Class 5</b>											
Ohio	7.59	=	5.51	+	2.25	-	5.02		2.74	+	4.85
Indiana	12.21	=	8.41	+	2.48	-	5.56		5.33	+	6.87
<b>Size Class 6</b>											
Ohio	8.24	=	5.07	+	2.60	-	4.93		2.74	+	6.04
Indiana	12.61	=	8.06	+	2.11	-	5.71		4.46	+	8.13
<b>Size Class 7</b>											
Ohio	3.59	=	8.65	+	1.32	-	8.61		1.36	+	2.23
Indiana	7.21	=	11.11	+	1.64	-	9.45		3.30	+	3.91

Sources: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

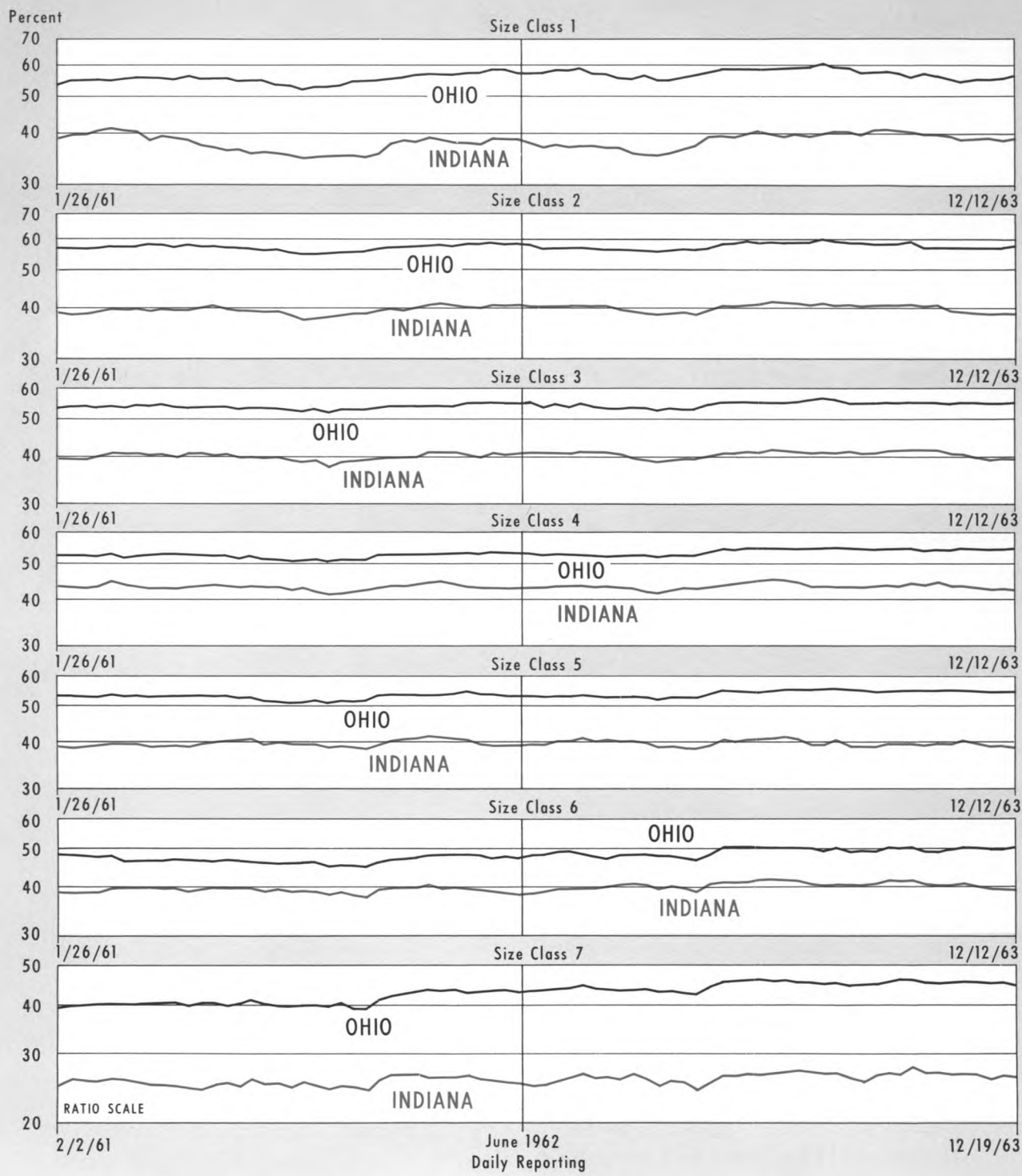
more aggressive cash management performance of member banks in Ohio. (The criterion for "more aggressive," it should be reiterated, is that lower ratios indicate less income foregone.)

## DEPOSIT COMPOSITION

A marked difference in the deposit mix of banks in the two groups would appear to be of particular importance in explaining the better performance of Ohio banks. As seen in Chart

2, time and savings deposits held by all size classes of Ohio banks comprised considerably larger proportions of total deposit liabilities than in the case of Indiana banks. The consistency in the differential between the proportions during the 1961-63 period suggests that structural factors played an instrumental role. While there does not seem to be a complete explanation for the (locational) difference in deposit composition, one known influence does offer some possibility and merits

# 2. TIME DEPOSITS as a PERCENT of TOTAL DEPOSITS for SELECTED BANKS in OHIO and INDIANA





**TABLE III**  
**Growth of Time and Savings Deposits, 1961-63**  
 Selected Banks in Ohio and Indiana  
 (in thousands of dollars)

Size Class	Ohio	Indiana
1	$T_1 = \$408.5 + \$2.1t$	$T_1' = \$293.2 + \$0.7t$
2	$T_2 = 1,526.0 + 5.8t$	$T_2' = 1,026.9 + 3.8t$
3	$T_3 = 3,527.0 + 16.5t$	$T_3' = 2,570.1 + 7.8t$
4	$T_4 = 6,891.8 + 32.6t$	$T_4' = 5,561.3 + 21.0t$
5	$T_5 = 15,028.1 + 78.3t$	$T_5' = 13,607.6 + 33.1t$
6	$T_6 = 28,270.8 + 111.8t$	$T_6' = 24,229.6 + 66.2t$
7	$T_7 = 306,338.9 + 1,911.8t$	$T_7' = 177,883.2 + 353.3t$

Sources: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

comment. The lesser importance to Indiana banks of time and savings deposits partly reflects the regulation by the State of Indiana— affecting all commercial banks in the State— that sets (what have turned out to be comparatively low) maximum interest rates payable on time and savings deposits. Thus, until January 1, 1964, the maximum rate payable on passbook (savings) accounts was 3 percent; since that date, the maximum rate has been raised to 3½ percent. The maximum rate on time deposits (including negotiable certificates of deposit) with maturities of 90 days or more has been fixed at 4½ percent since December 29, 1964, while a 4 percent ceiling is in effect for shorter maturities.

The consequences of this situation, as well as the influence of other factors, are suggested in Table III. The data presented in the table are estimates of the average dollar increase in total time and savings deposits ( $T_i$  and  $T_i'$ ) for the range of size classes 1 through 7 during the 1961-63 period. For Indiana banks in size class 4, for example, the equation indicates that during the period under review time and savings deposits in each two-week

**TABLE IV**  
**Growth of Gross Demand Deposits**  
 Selected Banks in Ohio and Indiana  
 (in thousands of dollars)

Size Class	Ohio	Indiana
1	$T_1 = \$340.7 + \$1.0t$	$T_1' = \$502.1 + \$0.5t$
2	$T_2 = 1,167.2 + 3.3t$	$T_2' = 1,592.1 + 4.6t$
3	$T_3 = 3,218.9 + 7.9t$	$T_3' = 3,945.1 + 8.9t$
4	$T_4 = 6,593.8 + 15.0t$	$T_4' = 7,375.6 + 26.7t$
5	$T_5 = 14,029.4 + 44.3t$	$T_5' = 20,858.6 + 46.9t$
6	$T_6 = 33,057.1 + 41.9t$	$T_6' = 38,706.7 + 50.7t$
7	$T_7 = 483,892.5 + 537.6t$	$T_7' = 544,692.0 + 336.6t$

Sources: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

interval (the duration of a Country bank's reserve adjustment period) increased, on average, by about \$21 thousand. The \$5,561.3 thousand figure in the equation is a constant that represents an estimate of the amount of time and savings deposits as of the base period (January 1961).

The numbers reveal two important points. First, for each size class, Ohio banks began the year 1961 with more time and savings deposits than did Indiana banks of similar size. Second, member banks in Ohio achieved larger additions to time and savings deposit liabilities than did Indiana banks. (For example, class 5 banks in Ohio experienced average reserve period gains of \$78.3 thousand compared with \$33.1 thousand for Indiana banks in the same class.)

Similar equations for gross demand deposits are presented in Table IV. As can be seen quickly, there is not the same consistency of behavior as revealed by time and savings deposits.

Identification of the relative prominence of time and savings deposits in the liability structure of Ohio banks is the first step in explain-

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ing differences in cash management performance between member banks in that State and those in Indiana. It will be recalled that the required reserve ratios of Indiana banks exceeded those of Ohio banks of similar size in the period under review. Since reserve requirements against demand deposits and against time and savings deposits were the same for all member banks of the Federal Reserve System during the period studied, the higher required reserve ratios of Indiana member banks reflected the greater proportions of demand deposits in the total deposit mix of those banks. This is the case because legal reserve ratios set against demand deposits (presently, 12 and 16½ percent for Country and Reserve City member banks, respectively) are substantially higher than the legal reserve ratio applied to time and savings deposits (in the period studied, 4 percent).

If deposit composition influenced only the required reserve ratio, and if in all other respects member banks in the two states were alike, the managed cash ratios of Indiana banks, by definition, would be lower than those of Ohio banks of similar size (the required reserve ratio is a deduction item in the computation of the managed cash ratio). However, deposit composition also influences, both directly and indirectly, the other components of the managed cash ratio. To some extent, the higher effective required reserve ratios of Indiana banks explain their higher maintained reserve ratios, since it is the deposit of cash at the regional Federal Reserve Bank, plus the holding of vault cash, that allows member banks to meet legal reserve

requirements.

But it also would seem that deposit mix influences cash management performance in ways other than through the required reserve route. As a general matter, and assuming all other things do not change, positive relationships may be asserted to exist between the ratio of demand to total deposits and the ratios of maintained reserves and correspondent balances to total deposits. Consider first the deposits a member bank keeps with its correspondent bank. These balances compensate the correspondent for the various services the latter provides. Probably the single most used service is that of check clearance. In part, then, the demand balances a bank may keep at its city correspondents compensate for the costs incurred by the latter and, closely related, provide the correspondent with ready cash to settle negative clearing balances on the bank it is servicing. Because checks are written against demand deposits, only correspondent balances will tend to increase with the proportion of demand to total deposits.

Deposits at the Federal Reserve bank, on the other hand, serve both a regulatory function and a check-clearing function generally similar to that served by correspondent balances (the Federal Reserve System operates check-clearing facilities that both complement and supplement those offered by the correspondent network). A member bank's maintained reserves, like its correspondent balances, act somewhat like a sponge—absorbing net clearing surpluses on some days and providing immediate liquidity needed on other days to meet unforeseen deficits.

**TABLE V**  
**Estimates of Gross Deposit Instability**  
**Selected Banks in Ohio and Indiana**  
**(Coefficient of Variation)**

Size Class	(1)	(2)	(3)
	Ohio	Indiana	(2) as a Percent of (1)
1	3.34%	4.17%	125%
2	1.97	2.03	103
3	1.36	1.83	135
4	1.26	1.68	133
5	1.31	1.59	121
6	1.49	1.55	104
7	1.26	2.18	173

Note: As implied, the coefficient of variation (V) is a measure of relative dispersion—in this instance, a measure of short-run deposit-level instability. In making the estimates, the following procedure was used:

- (1) Trend was eliminated from each deposit series;
- (2) For each series, the standard deviation (O) of the residuals about the trend line was estimated;
- (3) Because, even within a size class, average size of bank differs between the two states (see the following table), V instead of O was selected as the more meaningful statistic for comparison purposes. For with everything else the same, the larger a bank's deposits, the more absolute volatility in its levels is to be expected. A relative measure of variation (V) was calculated for each series, as well as for each size class and state, by dividing the average deposit magnitude into O.

**Average Size of Bank**  
(in thousands of dollars)

Size Class	Ohio	Indiana
1	\$ 867	\$ 842
2	3,045	2,941
3	7,686	7,158
4	15,318	14,772
5	33,777	37,546
6	67,245	67,434
7	884,536	749,123

Sources: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

**DEPOSIT INSTABILITY**

Deposit instability, that is, fluctuations in deposit levels, also influences the size of a bank's managed cash ratio. The more a bank's deposits fluctuate day-to-day and week-to-week, the more cash it must hold to meet sudden net deposit withdrawals. As a general

matter, the estimates of deposit instability (measured by the magnitude of the coefficient of variation) shown in Table V, suggest that short-term (reserve calculation period) fluctuations were larger for Indiana banks in the period under review than for Ohio banks. With the exception of size classes 2 and 6 (where differences were slight), the deposit instability of Indiana banks exceeded that of Ohio banks of similar size by between 21 percent (class 5) and 73 percent (class 7).

The influence of deposit volatility is not independent of deposit mix. Short-term instability of demand deposit levels, as shown in Table VI, is substantially greater than that of time and savings deposit levels. This situation coupled with the greater relative importance of time and savings deposits in total deposits of Ohio banks explains the lesser deposit volatility for Ohio banks (see Table V).

The data in Table VI are interesting in two additional respects. First, there is a tendency for demand deposit volatility to decline sharply with the first increases in bank size (as well

**TABLE VI**  
**Estimates of (a) Demand Deposit and**  
**(b) Time and Savings Deposit Volatility**  
**Selected Banks in Ohio and Indiana**  
**(Coefficient of Variation)**

Size Class	Demand Deposits		Time and Savings Deposits	
	Ohio	Indiana	Ohio	Indiana
1	6.19%	7.02%	2.49%	1.15%
2	4.37	3.43	0.88	0.41
3	3.22	3.06	1.17	0.52
4	2.94	2.92	0.85	1.20
5	2.87	2.77	1.54	0.74
6	2.68	2.62	2.17	1.57
7	2.53	2.93	1.61	0.77

Sources: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

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as for time and savings deposits), and for these declines to continue, though more gradually, as bank size increases. The considerably greater deposit instability observed at the smallest banks (in both groups) is, perhaps, explained by the lack of diversification in deposit ownership and by the dependence of small banks in rural areas upon agricultural activities.

Second, except for member banks in size class 4, member banks in Ohio experienced greater instability of time and savings deposit levels than like size institutions in Indiana. Only for one size class (6) was the volatility of time and savings deposits at Indiana banks more than one-half of what it was at Ohio banks; conversely, for all other classes the coefficients of variation of time and savings deposits at Ohio banks were more than double what they were at Indiana banks of comparable size. Possibly, the relatively low rates paid on time and savings deposits by Indiana banks discouraged corporate money managers and other holders of temporarily idle funds who are sensitive to interest rate differentials from holding time deposits (particularly certificates of deposit) in banks in that State.

## LOAN DEMAND

Differences in cash management performance between member banks in Ohio and Indiana may also be a consequence of differences in loan demand. Table VII presents the average net loan to deposit ratio for each size class of bank, as of June 30, 1962. The ratio may be interpreted in at least two ways: (1) as reflecting bank management's aggressiveness in making loans—a function con-

**TABLE VII**  
**Net Loans as a Percent of**  
**Total Deposits—June 30, 1962**  
**Selected Banks in Ohio and Indiana**

<u>Size Class</u>	(1) <u>Ohio</u>	(2) <u>Indiana</u>	(3) <u>(1) as a Percent of (2)</u>
1	53.9%	21.7%	248%
2	51.5	43.5	118
3	54.1	39.7	136
4	54.2	44.1	123
5	53.1	47.0	113
6	48.5	43.7	111
7	49.3	50.6	97

Sources: Federal Reserve Bank of Cleveland and Federal Reserve Bank of Chicago

sidered by most observers to be a bank's most profitable, and most socially desirable, use of acquired funds; or (2) as some indication of the circumstances or conditions surrounding loan demand, for example, the intensity or lack of intensity of loan demand. For present purposes, the latter interpretation is given more weight, particularly because there is no reason to expect managerial competence to vary among states (bank size has already been isolated out).

It is clear from the data in Table VII that, with the exception of member banks in size class 7, net loan to deposit ratios were higher for Ohio banks. It can also be noted that the differences tend to narrow with increases in bank size, becoming relatively insignificant in the case of the very largest banks. Thus, the net loan to deposit ratio maintained by Ohio banks in size class 1 exceeded that of similarly classed Indiana banks by about 150 percent, while in the case of class 6 banks the differential was only 11 percent. The 3 percent differential in favor of Indiana banks in size class 7 can perhaps be best interpreted, in the absence of other information, as sug-

gesting no significant difference among the largest institutions with respect to loan demand. In the case of small banks, where loan demand is more or less confined to the surrounding locale, community characteristics, for example, industrial-agricultural mix, may account for the lower loan ratios observed for relatively small banks in Indiana. Local factors are less dominant in the case of the larger banks, and in the case of the largest banks virtually completely give way in importance to national economic circumstances and conditions.

With the making of loans viewed as the "first" business of commercial banking, it is to be expected that, unless and until considerations of liquidity and solvency demand otherwise, higher loan demand will result in compression of the managed cash and investment ratios. Banks might, of course, always seek to maximize profits by placing any and all idle balances into liquid, interest-bearing assets, for example, U. S. Treasury bills and Federal funds. But this assumes both that the maximization of profits is the goal of bank management and, as pointed out in an earlier

article,<sup>5</sup> that the way to maximize total profits is to maximize each income element and to minimize each cost element.

As businessmen, bankers obviously like to make profits. That they seek to maximize profits, at least in some short-run sense, is quite another matter and considerably less certain than the first statement. Like everyone else, bankers have various objectives and goals, all of which may not be mutually compatible. Moreover, like everyone else, bankers are creatures of habit, to say nothing of inertia. In short, it should hardly be surprising if bankers, viewing the making of loans as the basic banking function, were to reveal some slackness in managing their bank's cash position, and were to exercise more successful management only under the pressure of intense loan demand.<sup>6</sup>

<sup>5</sup> See "Management of Cash Assets at Reserve City and Country Member Banks," *Economic Review*, July 1965, *op. cit.*

<sup>6</sup> Thus, it may not be surprising that daily reporting was not found to have the type of results, with respect to improved cash management by Country bankers, that some individuals suspected it would have.



# THE TIGHTENING LABOR MARKET

During the first five years of the current business expansion—from the first quarter of 1961 to the first quarter of 1966—total employment in the U. S. rose from 66.8 million to 73.6 million persons, and unemployment declined from 4.9 million to 2.9 million persons. Payroll employment in nonagricultural industries over the same time span rose by an even larger amount than total employment, or from 53.5 million to 62.5 million persons. Expressed as annual averages, total employment increased by almost 1.4 million persons per year (an annual growth rate of 2.0 percent), nonfarm payroll employment increased by 1.8 million persons (3.1 percent growth rate), and unemployment declined by nearly 0.4 million persons.

The changes in total and nonfarm employment over the five-year period were not evenly distributed, the averages notwithstanding. For example, as shown in Table I, during the most recent two years the annual average

**TABLE I**  
Employment and Unemployment, U. S.  
First Quarter Averages, Selected Years  
Seasonally Adjusted

	In Millions of Persons		
	Total Employment	Nonfarm Payroll Employment	Unemployment
1961	66.8	53.5	4.9
1964	69.8	57.5	4.0
1965	71.4	59.6	3.6
1966	73.6	62.5	2.9
Year-to-year change			
1961-66 (avg.)	+ 1.4	+ 1.8	-0.4
1961-64 (avg.)	+ 1.0	+ 1.3	-0.3
1964-65	+ 1.6	+ 2.1	-0.4
1965-66	+ 2.2	+ 2.9	-0.7

Source: U. S. Department of Labor

increase in total employment was substantially larger than that of the entire five-year period. Similarly, the gain from the first quarter of 1965 to the first quarter of 1966 amounted to 2.2 million persons, a gain exceeded only once before (between the first quarters of 1955 and 1956), and was more than double the annual average increase during 1961-64. The decline in unemployment during the 1965-66 period amounted to 0.7 million persons, or considerably more than the earlier annual averages shown in Table I.

The accelerated pace of employment growth in the four-quarter period under review was accompanied by a noticeable tightening of the labor market, which at this time shows little sign of abating. It is the purpose of this article to examine some aspects of that tight-

Note: Employment and labor force data for the second quarter of 1966 that have become available since this article was prepared do not completely fit the pattern prevailing through the first quarter. For example, while the labor force continued to grow at a slackened pace, the increase, for the first time since 1964, was larger than the increase in employment (employment increased by an unusually small amount in the second quarter). While these developments do not invalidate the retrospective analysis presented in this article, they could influence prospective developments, depending of course on whether the second quarter was a temporary departure or a turning point.

1.  
**CIVILIAN LABOR FORCE, EMPLOYMENT,  
 and UNEMPLOYMENT**



Source of data: U.S. Department of Labor

ening and to explore some of the implications for the economy, both in retrospect and in prospect.

### CHANGES IN THE LABOR MARKET

The degree of labor market tightness reflects the amount of balance—or lack of balance—between the supply of and demand for manpower. Expansion of the civilian labor force (labor supply) and gains in total civilian employment (reflecting, although not directly measuring, labor demand) are shown in Chart 1 for the period since 1963. Employment gains fell short of labor force expansion during 1963, so that the number of unemployed (shown in the upper portion of the chart) failed to decline. In fact, unemployment moved slightly higher, lending some support to the then widely held view that unemployment would continue to settle on a progressively higher plateau after each postwar

business recession.

The effect of public policy measures (for example, reductions in income taxes) introduced after 1963 to stimulate economic activity, which in turn would stimulate employment growth and reduce unemployment, is evident from the chart. As the chart shows, employment gains exceeded labor force expansion in each quarter beginning in 1964, and the level of unemployment declined correspondingly.<sup>1</sup> Interestingly, the recent widening of the margin between employment gains and labor force growth did not result from a rising pace of employment increases but from a slowing down in labor force growth. Thus, employment gains remained fairly steady throughout the last five quarters shown in the chart—between 500,000 and 600,000 persons per quarter—in contrast to a progressive reduction in civilian labor force expansion from nearly 500,000 in the first quarter of 1965 to 300,000 in the first quarter of 1966. (See also Table II.)

The quarterly increases in the labor force in 1965, when combined, more than met the goal of a 1.5 million average annual rise projected by the U. S. Department of Labor for the second half of this decade, but the annualized increase in the first quarter of 1966 fell considerably short of the mark.<sup>2</sup> The shortfall, of course, may be made up by the expected

<sup>1</sup> There was a net gain in employment in the third quarter of 1964 despite the unusual appearance of the data plotted in the chart. The phenomenon reflected the late occurrence of the survey week in relation to the end of the school year, which shifted normal third-quarter employment increases into the second quarter.

<sup>2</sup> In the second quarter of 1966, the gain in the civilian labor force was even smaller than in the first quarter.

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**TABLE II**  
**Civilian Labor Force and Employment, U. S.**  
 Quarterly Changes, 1964-1966  
 Seasonally Adjusted

		In Thousands of Persons							
		Adult Men		Adult Women		Teenagers		All Groups	
		Labor Force	Employment	Labor Force	Employment	Labor Force	Employment	Labor Force	Employment
1964	1st Q	+138	+243	+136	+108	+116	+158	+390	+509
	2nd Q	+161	+253	+330	+388	+100	+ 44	+591	+685
	3rd Q	+ 69	+103	-159	- 98	- 40	+ 23	-130	+ 28
	4th Q	+ 24	+ 73	+163	+177	+ 74	+ 46	+261	+296
1965	1st Q	+246	+318	+226	+255	+ 5	+ 7	+477	+580
	2nd Q	+ 32	+102	+103	+130	+296	+278	+431	+510
	3rd Q	-157	- 63	+248	+298	+302	+336	+393	+571
	4th Q	-191	- 29	+151	+188	+402	+379	+362	+538
1966	1st Q	+193	+268	+ 64	+178	+ 51	+138	+308	+584

Source: U. S. Department of Labor

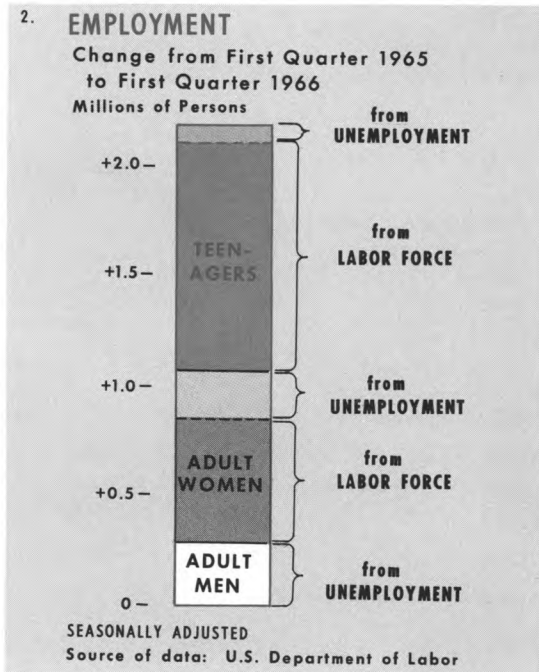
large influx of young people into the labor force after mid-1966. On the other hand, the shortfall may also be a warning signal that the labor force is losing its elasticity in supplying the manpower needs of the economy. If the latter were the case, it would be a reversal of the situation prior to 1964 when labor force expansion, although much below the recent rate, was too fast for employment to keep abreast.

The recent slowdown in growth of the civilian labor force can be traced to one specific component group—adult men. For example, a decline for that group occurred in the third and fourth quarters of 1965, instead of normal expansion in line with population growth (see Table II). The decline mainly involved three age brackets within the adult male group. In the 20-24 year group, it reflected increased manpower demands of the armed forces as well as shifts from part-time to full-time student status. Among males 65 years

and older, increased retirement from work resulted in reduced labor force participation, while a decline in the 35-44 year labor force group followed steady shrinkage of that age group in the population. Normal growth of the remaining portion of the adult male labor force was too small to offset the combined losses in the three age groups that showed declines.

In contrast, labor force participation of adult women has continued to rise, and, coupled with rapid growth in the number and labor force participation of teenagers (in response to more job opportunities suitable for that group), has produced the overall increase in the labor force shown in the table. Thus, while a decline in the adult male labor force did not halt total labor force growth between the first quarters of 1965 and 1966, it did necessitate adjustments on the part of employers to a supply of additional manpower that was largely teenagers (70 percent).





**Composition of Employment Gains.** Shifts within the labor force left their mark on the composition of the employment gain from 1965 to 1966 (first quarters), as Chart 2 shows. Teenagers, representing about 9 percent of the labor force, accounted for one-half of total new employment, while adult men—roughly 60 percent of the labor force—contributed only one-eighth of the gain. The latter represented a sharp drop in the share of new employment that had been accounted for by men in previous years (40-45 percent). It also meant that for the second year in a row the contribution by men was smaller than that by adult women. For one thing, this situation reflects the relative depletion of the supply of suitable male workers among the unemployed; it also indicates that few untapped sources of male labor are left, espe-

cially in the prime age groups where labor force participation is 95 percent or higher.

The steep rise in teenagers' share of total new employment—from less than one-tenth a year earlier to one-half in the 1965-66 period (first quarters)—underscores the coming-of-age of the record baby crop of the mid-1940's. It also points to the importance of young people as a source of additional manpower in the next several years. The large rise in employment between 1965 and 1966 would not have come about except for the availability of young people, since the gain in adult employment in that period was less than the gain in the same time span a year earlier. In percentage terms, during 1965-66 (first quarters) teenage employment rose much more than adult employment, while adult males recorded a smaller gain than adult women.

Chart 2 further indicates that two out of every three adult women and more than nine out of every ten young people constituting the employment gain during 1965-66 reflected net additions to the labor force. The remaining portion in each group consisted of persons previously unemployed.<sup>3</sup> In contrast, the entire net increase in employment among adult men was accounted for by the unemployed, including an additional number of persons

<sup>3</sup> These numbers show that the predicted midyear invasion of the labor market by teenagers, which in the spring of last year was viewed with alarm by most observers, was harmlessly channeled into employment without damage to the unemployment rate. There were even a few jobs to spare for reducing teenage unemployment over the year. It must be remembered, however, that many of the new teenage workers found employment in Neighborhood Youth Corps and similar Government-financed projects designed specifically to assist young people.

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needed to offset the decline in the male labor force mentioned earlier.

About 45 percent of additional employment during 1965-66 went to white-collar occupations, while a slightly smaller percentage filled blue-collar jobs. The balance of the gain, reduced by the loss in farm jobs, represented additional employment in service occupations. The largest relative gains occurred among clerical, sales, service, and semiskilled blue-collar workers, with each registering employment gains of over 5 percent between the first quarter of 1965 and the first quarter of 1966 (see Table III).

**Manpower Needs in 1966.** In order for the economy to expand in 1966 at the same pace as in 1965 and to attain currently estimated levels of total output, it will be necessary to have an increase in total labor input that matches the combination of last year's rates of growth in manhours and in productivity. Stated differently, economic growth could be retarded and production could fail to reach estimated goals if one or all of the ingredients of total labor input should slacken, or if an insufficient increase in one is not offset. If labor productivity, or output per manhour, continues to advance at last year's rate—a rather bold assumption, perhaps, in light of some of the observations discussed later in this article—the manhours variable (number employed times hours worked per employee) will be the other key factor in assuring that this year's output goals will be met. Specifically, achieving the number of manhours needed will require a net addition of at least two million employed persons this year, who would come either from the unemployed or from persons outside the labor force.

**TABLE III**  
**Employment Change by Occupation**  
**First Quarter Averages, 1965-1966**

	In Thousands of Persons	Percent
White-collar workers	+921	+2.9%
Professional and technical	+164	+1.8
Managers, proprietors	— 64	—0.9
Clerical	+588	+5.4
Sales	+233	+5.2
Blue-collar workers	+851	+3.4
Craftsmen, foremen	+254	+2.9
Operatives	+714	+5.5
Nonfarm laborers	—117	—3.4
Service workers	+471	+5.2
Service excl. household	+397	+5.8
Farm workers	—196	—5.5
TOTAL	+2,047	+2.9%

Source: U. S. Department of Labor

As Chart 2 indicates, unemployment contributed about one-third of the employment gain during 1965-66, including about 400,000 adult men, 200,000 adult women, and less than 100,000 teenagers. Considering only the numbers involved, it should be possible to shift about one-fourth of the present approximately three million unemployed persons into employment this year, thereby reducing the unemployment rate to about 3 percent, assuming continuation of current labor force trends.<sup>4</sup> Given the composition of the unemployed pool, however, potential difficulties become readily apparent. Unlike the labor force, the unemployed

<sup>4</sup> A reduction of the unemployment rate below 3 percent, or very close to the absolute minimum, was anticipated in May by the chairman of the President's Council of Economic Advisers, if output were to continue to advance at recent rates. The Secretary of Labor two months earlier had associated "full employment" with an unemployment rate of "about 2.5 percent."

**TABLE IV**  
**Percent Distribution of Unemployed Persons**  
**First Quarter Averages, 1965 and 1966**  
**Seasonally Adjusted**

	<u>1965</u>	<u>1966</u>
By age and sex:		
Men, 20 years and over	43%	40%
Women, 20 years and over	30	30
Both sexes, 14-19 years	27	30
By duration of unemployment:		
Less than 5 weeks	48%	53%
5 to 14 weeks	29	26
15 to 26 weeks	12	11
27 weeks and over	11	10

Source: U. S. Department of Labor

pool is not a self-replenishing source of manpower. When the level of the pool declines in response to strong demand, its composition is apt to change, with primary workers—particularly adult males with previous work experience in a skilled or semiskilled occupation—in greater demand and likely to be withdrawn sooner than secondary workers. As shown in Table IV, the total number unemployed in the first quarter of this year included proportionally more persons under 20 years of age and fewer adult men than was the case one year earlier. Compared with the age-sex composition of the labor force—six adult men, three adult women, and one person under 20 in every ten persons—the unemployed group for the first quarter was distorted in that it included three teenagers and only four adult men in every ten persons.<sup>5</sup>

The decline in total unemployment has also affected the length of time individuals are unemployed (see Table IV). For example, the

<sup>5</sup> In the second quarter, the proportions moved still closer toward equality: 33 percent teenagers and 36 percent adult men.

percentage of short-term unemployment (under five weeks) increased during 1965-66. The decline in duration, coupled with the very low levels to which unemployment rates of specific age or occupation groups have dropped, suggests that unemployment in at least some segments of the labor force is approaching the frictional level, and represents to a large degree labor turnover. In contrast, unemployment rates are far from a frictional level for such groups of workers as nonwhite or young people, although a "frictional" level for teenagers should probably be pegged higher than for other workers in view of the known propensity of young workers for frequent job changing. Secondary worker categories—those lacking in training, educational attainment, or significant work experience—are likely places where additional manpower may be found, especially if further efforts are made to bridge the gap between job requirements and qualifications of available persons by redesigning jobs and by training workers. It should not be overlooked, however, that reduced productivity and upward pressure on unit labor costs are likely consequences of employing workers who lack experience or skill.

Further difficulty in culling the manpower needed this year from the unutilized labor supply stems from the gap between occupational skills available among the unemployed and skills needed to fill new jobs. This is illustrated by a comparison of the distribution of the present three million unemployed (by reported occupation of last job) with the occupations represented by the two million additional jobs created during 1965-66 (see Table V). It would appear that demands in

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**TABLE V**  
**Unemployment and Changes in Employment,**  
**by Occupation**  
**First Quarter Averages, 1965 and 1966**

	In Thousands of Persons	
	Unemployed 1966*	Employment Change 1965-1966
White-collar workers	710	+921
Professional, technical	110	+164
Managers, proprietors	100	- 64
Clerical	340	+588
Sales	160	+233
Blue-collar workers	1,480	+851
Craftsmen, foremen	410	+254
Operatives	720	+714
Nonfarm laborers	350	-117
Service workers	470	+471
Service excl. households	380	+397
Farm workers	100	-196
No previous work experience	400	—
<b>TOTAL</b>	<b>3,160</b>	<b>+2,047</b>

\*Calculated from percent distribution of total number unemployed.

Source: U. S. Department of Labor

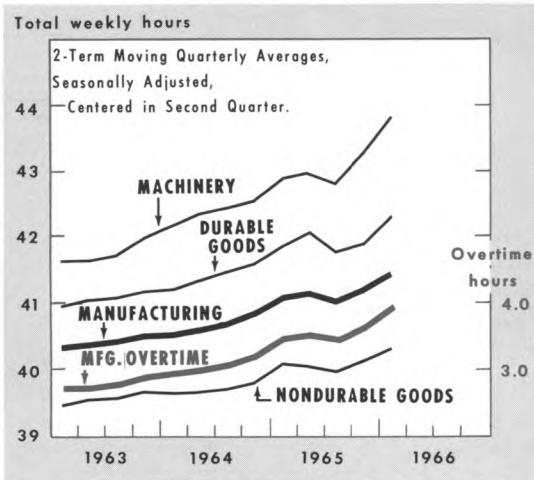
few (if any) of the categories shown could be substantially met from the unemployed, especially if it is remembered that a portion of the unemployed in each group are merely changing jobs and thus are not really available to fill new jobs. Resort to untapped sources of supply, as well as to more training, particularly for occupations in short supply, again appears to be an inescapable condition for meeting this year's manpower demand.

Since the unemployed pool is slowly drying up and is becoming an increasingly uncertain source of additional manpower, the labor force assumes more importance as a source of supply, both through natural growth in numbers and through increased participation of specific groups. The present rate of

total labor force participation of about 57 percent appears to leave some room for further expansion, considering that as much as 63 percent participation was achieved in 1944 (with over 11 million persons in the armed services). Such a high level of participation, however, is likely to be reached only in a period of emergency, if at all. Thus, for 1966, an amount of labor force expansion close to the projected rate of 1.9 percent is possible although by no means assured, in view of the rather slow gain during the first half of this year and the uncertain contribution of the adult male segment of the labor force due to its vulnerability to fluctuating military demands.

**Longer Workweek.** The scarcity of skilled labor in general, as well as shortages of workers in specific occupations, cannot be quickly remedied by even the most elastic labor force. Such stringencies can be removed only through training of new workers and, possibly, more efficient utilization of present work forces, including a lengthening of the workweek and possibly recall of skilled workers from retirement. Chart 3 presents average weekly hours of production workers in manufacturing industries, a group that accounts for about one-fifth of total employment and whose behavior is considered as a reliable indicator of the general trend in employment. The chart shows that a longer workweek has indeed been resorted to in order to find a partial substitute for unavailable skilled workers. Total weekly hours (as well as overtime hours) have risen almost without interruption since 1963, with the pace picking up in the middle of 1965, notably in the durable goods industries.

### 3. AVERAGE WORKWEEK in MANUFACTURING



Source of data: U.S. Department of Labor

While the rise in hours per week in manufacturing since 1963 may not appear excessive, the aggregate tends to conceal substantially larger increases in individual industries that have been faced with rising production requirements and an insufficient supply of labor. In the machinery industry, for example, the increase in hours is twice as large as for all of manufacturing. An even larger rise has occurred in the metalworking machinery subsection of that group, where the average workweek has been as high as 46 hours and individual plant schedules have run as high as 50 hours per week.

How much higher is the workweek likely to be pushed in an effort to raise total man-hours in general or in specific labor-starved industries in particular? A comparison of the current level of weekly hours with the workweek in previous periods of labor stringencies

—during the Korean War and World War II—shows that weekly hours in both durable and nondurable goods in the first quarter of this year<sup>6</sup> had already surpassed the highest level of hours attained in any month of the Korean period. However, they were still below peak levels recorded during 1943-1945, when the workweek climbed as high as 47 hours in the durable goods sector, and above 43 hours in the nondurable goods sector. A further expansion in weekly hours would thus not seem impossible. There are serious doubts, however, as to whether such a development would be advisable or desirable in view of the fatigue effect of sustained overtime work on labor productivity, as well as the indirect effect on labor cost and the direct cost pressure due to premium pay for overtime hours. There is the further question as to how long an extended workweek can be maintained before leisure time begins to look more attractive to employees than a fatter pay envelope.

**Rising Compensation.** In addition to the upward pressure on labor costs due to increased overtime work and employment of workers possessing only marginal productivity, there is a tendency in periods of tight labor supply for wage and salary levels to rise generally. A recent study by the U. S. Department of Labor shows that, between 1954 and 1965, average negotiated wage rate adjustments tended to change inversely with changes in

<sup>6</sup> A slight easing of weekly hours, as well as overtime hours, in manufacturing was reported in the second quarter of 1966. The reduction, part of which reflected curtailed work schedules in the auto industry, does not alter the comparison of the length of the workweek between the current and previous periods of short labor supply.

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the unemployment rate.<sup>7</sup> Thus, negotiated wage settlements in the first quarter of 1965 resulted in larger percent increases both for the first contract year and over the entire life of the contract than in the corresponding periods of 1964 and 1963.

An appraisal of the outcome of wage negotiations in the early part of 1966, undertaken by a private research organization, found that the average increase in wage rates negotiated from January through March 1966 was larger than gains negotiated during last year's first quarter. Of a somewhat larger order of magnitude, between the first quarters of 1965 and 1966, hourly earnings in manufacturing industries rose by 0.4 percentage points more than the annual average increase between 1960 and 1964.<sup>8</sup> (See Table VI.)

The trend toward more expensive wage settlements is likely to continue during the remainder of the year, with organized labor pressing for sizable raises by pointing to increases in profits and living costs. Moreover, the pressure for higher rates of pay will not be confined to large unionized industries, but will likely affect smaller industries and non-unionized plants as well, as has already been the case for some nonmanufacturing industries. Finally, individual wage and salary rates can be expected to go up as employers compete with each other for their share of the limited supply of workers.

<sup>7</sup> "Major Collective Bargaining Settlements, 1965," *Monthly Labor Review*, April 1966, p. 372.

<sup>8</sup> During the second quarter of this year, average hourly earnings in manufacturing were three cents higher than in the first quarter; the increase amounted to 4.5 percent on an annual basis.

**TABLE VI**  
Average Hourly Earnings  
in Selected Industries\*

	Earnings		Percentage Increase	
	1965	1966	1965-66 (First Quarters)	1960-64 (Annual Averages)
Manufacturing	\$2.59	\$2.67	3.3%	2.9%
Durable goods	2.77	2.86	3.3	2.9
Primary metals	3.16	3.24	2.6	2.7
Machinery	2.92	3.04	4.0	3.1
Electrical equipment	2.55	2.62	2.7	2.5
Transportation equipment	3.18	3.29	3.5	3.2
Nondurable goods	2.33	2.41	3.3	2.9
Printing and publishing	3.02	3.11	3.0	2.7
Chemicals	2.85	2.93	2.8	3.0
Rubber	2.59	2.64	2.1	2.4
Construction	3.65	3.79	3.8	3.8
Communication	2.80	2.90	3.5	4.0
Electric utilities	3.17	3.29	3.7	4.1
Wholesale trade	2.57	2.67	3.9	3.1
Banking	2.10	2.18	4.0	3.3
Laundries and dry cleaning	1.47	1.55	5.4	4.0
Hotels and motels	1.34	1.40	4.5	4.6

\*Production or nonsupervisory workers only.

Source: U. S. Department of Labor

## IMPLICATIONS FOR THE ECONOMY

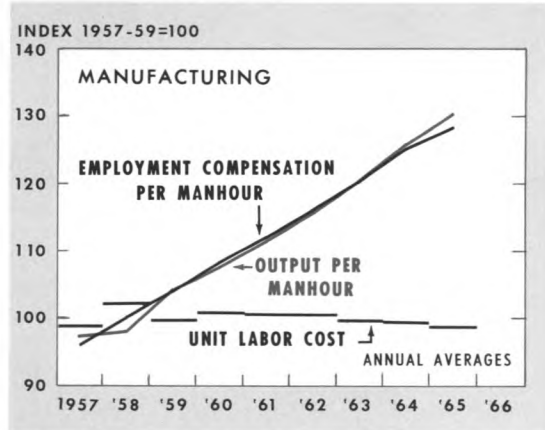
The developments in labor markets just reviewed have an important bearing on current problems of containing inflation. The tightening of labor markets and the bidding up of wage rates move in the direction of increasing labor costs, thereby adding fuel to the inflationary problem. It should be recognized that increasing labor costs are not the only source of inflationary pressure, and that the magnitudes involved in the problem are sometimes unintentionally exaggerated. It is important to retain a sense of correct proportion in dealing with the matter, and to consider the evidence in its proper perspective.

Labor costs make up one element, and an important one, in price determination. Labor costs are not the same thing as wage rates. Interrelations of wage rates, labor costs, and prices are not mechanical or rigid. To what extent increases in labor compensation may be absorbed or counteracted without raising prices, or without dangerously depressing profits, is a question of strategic economic importance. The relevant measure of offset to rising wage rates is increased output per manhour ("productivity"), although that measure reflects the influence of modernized equipment as well as labor and management efficiency.

**Output Per Manhour.** In recent years, and apparently right up to the present, the record of achievement in increasing output per manhour is quite remarkable. Annual changes in output per manhour in manufacturing since 1957, expressed on an index-number basis, are shown in Chart 4. The continued rise is clear, although the gain of 3.6 percent for the year 1965 was somewhat less than the 4.5 percent gain in 1964. An annual gain of 3.6 percent during an advanced stage of business expansion is highly unusual; in most previous expansions a marked tapering off or even decline in output per manhour occurred in the mid-stages or late stages of the expansion. Indeed, many analysts had expected that a serious slackening or decline would occur in 1964 or 1965, but it did not.

Thus, for a protracted period the economy has seemed to some observers to be on the verge (as it has turned out, a "moving verge") of a deterioration in productivity gains. The same factors that were previously advanced as heralding a slackening in productivity gains—resort to less efficient labor and equip-

4.  
**COMPENSATION and OUTPUT PER MANHOUR  
 and UNIT LABOR COST**



Sources of data: U. S. Department of Commerce;  
 U. S. Department of Labor;  
 Board of Governors of the  
 Federal Reserve System

ment under mounting demand pressures, as well as loss of the initial advantage of a sharp rate of increase in volume—are again being advanced under 1966 conditions of even tighter pressures. This time, the outcome *may* be different, but again it may not.

**Unit Labor Costs.** The gains in output per manhour in manufacturing during 1961-65 slightly more than offset the rise in labor compensation, as indicated in Chart 4. The result was that labor cost *per unit of output* registered a slight decline over those years.<sup>9</sup>

<sup>9</sup> It is generally recognized that the favorable showing of unit labor costs in manufacturing during recent years played a highly significant role in making possible the relative stability of prices as well as maintenance or increase in corporate profits. Neither the price nor the profit picture is under direct consideration in this article. It may be noted, however, that the industrial component of the Wholesale Price Index, although showing a renewed tendency to rise in late 1965, scored an average increase for the year of only 1.3 percent.

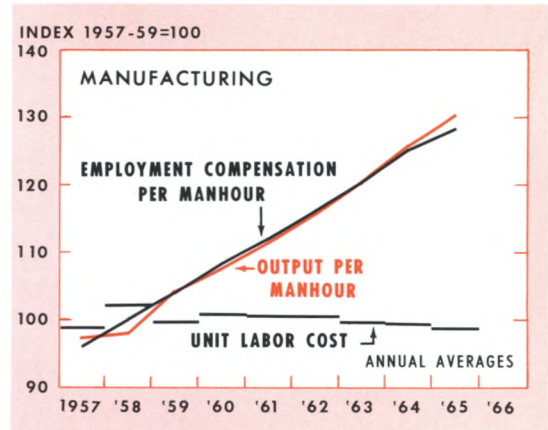
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#### COMPENSATION and OUTPUT PER MANHOUR and UNIT LABOR COST



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**TABLE VII**  
**Employee Compensation and Output Per**  
**Manhour and Unit Labor Cost—Manufacturing**  
**Monthly, 1964-1966**  
 Index 1957-59 = 100, Seasonally Adjusted

	Employee Compensation Per Manhour*	Output Per Manhour	Unit Labor Cost
1964-J	123.8	124.3	99.6
F	123.0	123.4	99.7
M	123.6	124.3	99.5
A	124.5	125.4	99.2
M	125.5	126.6	99.1
J	126.0	126.5	99.6
J	126.1	127.4	99.0
A	126.7	127.5	99.4
S	127.9	127.2	100.6
O	128.0	126.3	101.4
N	127.4	127.5	99.9
D	127.8	128.7	99.3
1965-J	127.5	128.5	99.2
F	128.1	128.7	99.5
M	128.5	129.4	99.3
A	128.9	130.4	98.9
M	129.1	130.6	98.9
J	129.2	130.9	98.8
J	129.4	131.6	98.4
A	130.0	131.8	98.6
S	130.2	131.0	99.4
O	130.3	131.2	99.3
N	130.5	131.0	99.6
D	130.3	132.0	98.7
1966-J	131.7	132.5	99.4
F	132.3	132.5	99.9
M	132.7	133.4	99.4
A	133.6	133.9	99.7
M	134.0	134.7	99.5
J	134.1	135.0	99.3

\*Wages and salaries plus supplements.

Note: Figures in the third column (unit labor cost) are close to, but not identical with those shown by Series No. 62 published monthly in *Business Cycle Developments*, U. S. Department of Commerce.

Minor differences are traceable to alternative methods of seasonal adjustment of the constituent series.

Sources: U. S. Department of Commerce; U. S. Department of Labor; Board of Governors of the Federal Reserve System

(See lower portion of Chart 4.) Arithmetically, the relationship of the three lines in Chart 4 may be identified as follows: compensation,

including fringes, per manhour is divided by physical output per manhour, yielding a figure for labor cost per unit of output.

The question now arises as to whether a continuation of the favorable record is occurring when recent monthly figures are examined. The data in Table VII indicate that some changes are in process, but that they have not appreciably altered the picture. Data for recent months appear to indicate the following. The series on compensation per manhour is rising at a slightly faster pace than previously, which is in accord with the discussion earlier in this article. At the same time, output per manhour, despite forebodings, has continued to rise at a rate only slightly less than last year's general experience. Introduction of modernized equipment, made possible by the large capital spending of recent years, has been an important factor in this performance. Nevertheless, the combination of compensation and output per manhour has resulted in a slight rise in labor cost per unit of output thus far this year, in contrast to a decline in the year-earlier period.

Whether or not this short experience with rising unit labor costs in manufacturing marks a new trend is an important question for the outlook. Some qualified observers feel that a new trend is definitely in the making, and that it is based *both* on rising compensation, on the one hand, and a slackening in the rate of gain in output per manhour, on the other. It is important to remember that these three variables are connected in such a way that an outright decline in output per manhour is not required to produce an increase in labor cost per unit of output.

**Relation to Broader Measures.** Beyond the impact on manufacturing, a question may be raised as to repercussions of recent labor market developments upon the economy, more broadly measured. This subject could be raised in various forms, but, for the purpose at hand, one question may be stated this way: What proportion of last year's real gain in output of the economy may be traced to gains in employment and the increase in hours worked (described earlier), and what proportion may be ascribed to improvement in productivity? What can be said about the prospects for this year, in the same terms?

For this type of measurement, the most practical unit of coverage is the total "private economy," that is, Gross National Product deflated for price changes and less the government accounts. The starting point is the fact that the real output of the private economy ("Gross Private Product") is estimated to have increased last year at a rate of 6.2 percent. (Total real GNP rose by 5.9 percent.)

Of the 6.2 percent gain last year in real output of the private economy, about half is estimated as due to the increase in manhours worked, while the other half stemmed from the increase in output per manhour. The 3.1 percent gain ascribable to increase in manhours worked, in turn, may be broken down as follows: 2.6 percent was due to the increase in numbers of people employed, while 0.5 percent may be ascribed to the net rise in weekly hours worked.<sup>10</sup> The increase in weekly hours worked was quite marked in 1965, as described earlier, and ran counter to the recognized long-run trend, which is

downward. The broader fact that last year's increase in real output resulted in about equal proportions from gains in manhours worked and in productivity is also unusual, reflecting especially the large employment gains of last year. The general tendency for a considerable number of years, including even some of the early 1960's, was for a larger part of the gain in real output to be ascribed to productivity than to employment increases.

The outline of the 1965 performance, with respect to the relative roles of productivity gains and manhour gains in facilitating output growth, helps to shape the nature of the problem being faced in 1966. If the gains in total manhours worked and in productivity turn out to be about the same as experienced last year,<sup>11</sup> the total real gain in output might also be very close to last year's gain of 6.2 percent for the private economy, or 5.9 percent for GNP. But if at the same time the rise in GNP, in current dollars, should be as much as 8.5 or 9.0 percent, to an annual total of \$740 billion or more,<sup>12</sup> as many (although not all) business analysts have suggested as forecasts, it is obvious that such an outcome implies that the accompanying rise in the price level will be considerably larger than last year's rise of 1.8 percent in the GNP deflator. The central point is that the possibility of an unusually large increase in GNP, both in

<sup>11</sup> Such an assumption resolves a number of doubts on the favorable side. Average working hours, for example, are certainly not expected to rise as much as they did last year, and may even decline in accordance with the more customary showing of recent years.

<sup>12</sup> A figure of \$740 billion or more would be roughly equivalent to the \$735 billion forecast which was common before the July revisions in the GNP accounts.

<sup>10</sup> Source of these estimates is the U. S. Bureau of Labor Statistics.

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dollar terms and real terms, is open to some doubt in view of the labor market developments discussed earlier.

### TOWARDS IMPROVEMENT OF LABOR FORCE AND LABOR MARKETS

One of the goals of public and private policy for many years has been a general improvement in the quality of the labor force and the functioning of labor markets, including such targets as the upgrading of qualities and skills of the labor supply, enhancement of the mobility of labor, and a more efficient matching of people and jobs.

As a consequence of the recent tightening of the labor market, such a set of endeavors has taken on certain new angles and new emphases. Outstanding is the marked accent on the acknowledged desirability of stepping up such efforts. Three sets of considerations converge toward this end. They may be outlined as follows.

1. Efforts to reach the goal of full employment have necessarily involved a relative shift in emphasis from the "aggregate demand" approach to the "structural" approach. During the 1960's until this year, the aggregate demand approach (accompanied by considerable debate) was favored in public policy over the structural approach, although the latter was presumably not to be altogether neglected. In retrospect, it can be seen that the advocates of aggregate demand have much in the record to support the validity of their contentions of the early 1960's, insofar as unemployment has, in fact, been dramatically reduced, largely by methods involving the expansion of aggregate demand. Now, however, with the emergence of increased

pressure on resources and reemergence of the inflationary problem, public policy has shifted toward holding down the expansion of aggregate demand. Unemployment, however, is not completely vanquished as a problem, especially for some of the well-known disadvantaged groups. Therefore, the relative importance of the structural approach is coming to the fore. As events have unfolded, it would seem that the basic distinction between the two approaches does not turn on which one is better, but rather on which one came first in terms of emphasis.

2. A second converging set of considerations stems from the pressing need of employers for a better qualified and more mobile labor supply. These are management angles, but they point in the same direction, in terms of needs and goals, as the first set of social policy considerations. So far as a better qualified labor supply is concerned, the desires of employers are clear and uncontested. In respect to mobility as a desideratum, there may be crosscurrents from management's point of view, insofar as one employer's need to hold his workers may offset another's stake in greater mobility. But the general desirability of an efficient matching of people with jobs, which implies mobility, commands a considerable degree of agreement.

3. A third set of considerations, pointing in the same direction as the other two, lies in the relationship between the quality of labor markets and the central problem of stability versus inflation. To the extent that production bottlenecks can be broken by improvements in labor markets, and to the extent that productivity gains can be maintained or increased under conditions of a better qualified

labor force, inflationary pressures are lessened to that degree. Although no miracles may be expected from this approach, and although the realization of gains in this direction may be hard to measure, it is nonetheless true that even small advances in a many-sided approach to the containing of inflation are helpful. Any appreciable gains in this direction would relieve some of the burdens of more rigorous anti-inflationary measures such as tighter monetary policy or tax increases.

In the light of the foregoing considerations, much greater attention (and in some cases a different kind of attention) is being paid to a number of interrelated specific measures, both public and private. A few of them are mentioned here for illustrative purposes, with no attempt at a comprehensive listing or an order of priority.

1. On-the-job training of employees is now a matter of recognized importance. Under the gun of necessity, numerous employers have broken new ground in this direction; much ingenuity has been exercised, and more will be needed. Also, the Federal Government has a program of providing assistance to employers in setting up such training facilities, both on the arrangements side and on the finance side, while the control of the operation remains with the employer. Although still relatively small in extent, the Federal program shows signs of gathering momentum, especially since a turn has been made toward industry-wide frameworks of cooperation between the Government and a number of national trade associations.

2. Numerous suggestions have been made for altering the present Social Security regu-

lations that tend to limit the earnings of retired persons. Suggested changes would be aimed at providing incentive for job retention or possible job resumption by skilled older workers. A few years ago, when unemployment was a major problem, the social advantage of early retirement programs was given much stress. Now that shortages of skilled labor have come to the fore, attitudes toward the relative desirability of early and late retirement are undergoing a marked change, for obvious reasons.

3. Under the Manpower Development and Training Act of 1962, as amended in 1963 and 1965, the Federal Government has under way a number of pilot projects for financially assisting the relocation of workers in economically distressed areas. This type of program, involving efforts to move the worker to the job, rather than bringing the job to the worker, is a new-style version of attempts to promote mobility of the labor force in the process of dealing with pockets of unemployment. So far, the scale of operations has been small. Experience in other countries, especially Great Britain and Sweden, indicates that solid results of such programs can be achieved.

4. From numerous quarters has come advocacy of programs for the vesting of pensions, or the adoption of transferable pensions, to facilitate labor mobility. It has been argued that when there are serious shortages of skilled construction workers in upstate New York, for example, accompanied by surpluses in New York City, it is undesirable to have pension considerations interfere with mobility. As mentioned previously, there may be cross-currents in management's view of this type of question. Costs of such programs may be

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large, and management often feels that its past investment in pensions entitles it to the full benefits of retention of existing employees. At least, however, the pension question is getting a new look under the newer circumstances.

5. Improved statistical information about job needs and personnel availability continues to be a recognized goal. But here also efforts are being made in new directions. A vigorous attempt by both public and private agencies to improve statistical data on specific job vacancies is one such instance.

In addition to the five sets of illustrations just mentioned, numerous other types of

measures or programs may be involved in the current approach to improvements in the labor force and the functioning of labor markets. Indicative of the enlarged attention paid to such matters at levels of national policy-making is the fact that the Council of Economic Advisers, which had devoted only about one page to such matters in each of the 1962 and 1963 annual reports, gave ten pages of attention to the subject in its 1965 Annual Report (under the heading of "Toward a More Productive Use of Our Labor Force"), and in the 1966 Annual Report devoted an entire chapter of 22 pages to the subject of "Strengthening Human Resources."



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