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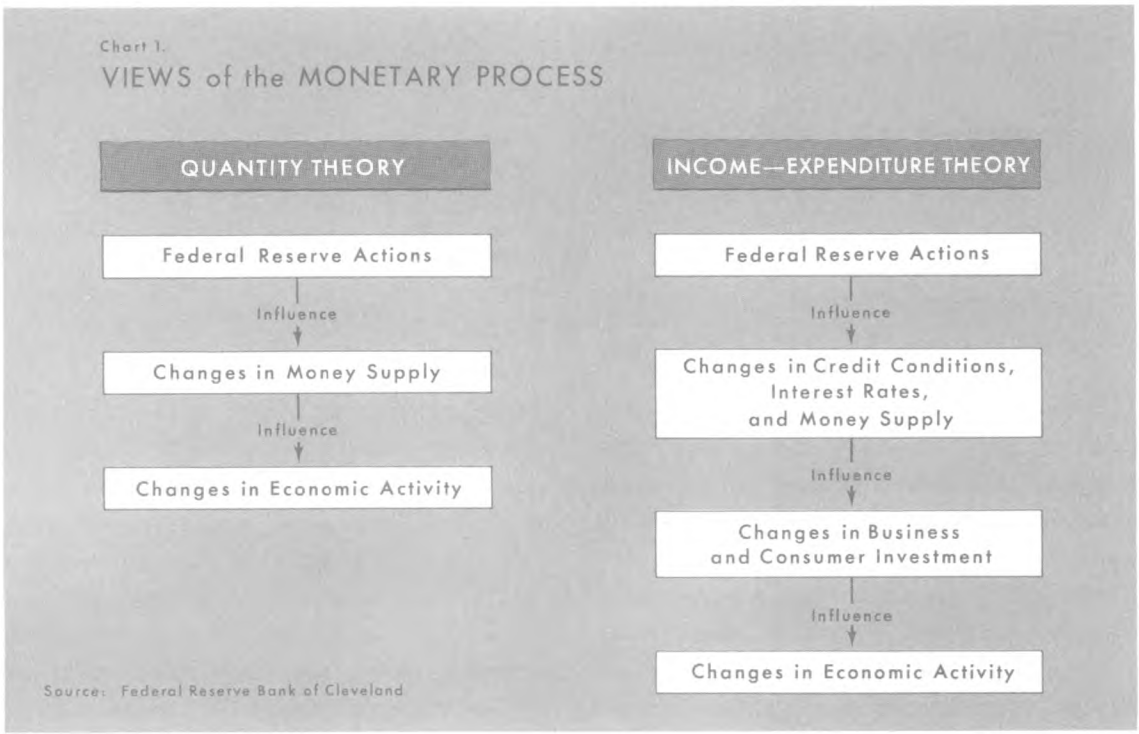
SOME REFLECTIONS ON RECENT MONETARY POLICY*

The Federal Reserve attempts to implement monetary policy in a way that assures a flow of money and credit consistent with the needs of the economy. In short, the Federal Reserve is concerned with financial flows (money and credit) and interest rates that are associated with the expected dimensions of economic activity. The Federal Reserve conducts monetary policy in discretionary fashion—without a predetermined rule or a constant operating guide. A discretionary approach allows the Federal Reserve to respond quickly and flexibly to changing business and financial conditions in the overall economy as well as in the various sectors of the economy.

There is little quarrel with the fact that errors are sometimes made in monetary policy. However, these are errors in judgment, which largely reflect the fact that there is no one explanation of the monetary process that can anticipate or provide for unexpected changes in factors outside the influence of monetary policy—such as swings in fiscal policy, abrupt shifts in business and consumer spending patterns (for example, in the case of the consumer, as a result of a sharp reduction in the personal saving rate), changes in the public's attitudes or expectations about the future, institutional rigidities or constraints, etc. At the same time, discretionary monetary policy faces the problem of uneven and delayed responses to its actions.

It is commonly recognized that there is a lack of unanimity on whether monetary policy should be discretionary, although most observers feel there should be at least some degree of discretion. In addition, there is even less agreement on whether the Federal Reserve looks at the appropriate monetary and financial variables. Finally, there is considerable criticism regarding the slippage between the intent of monetary policy and actual performance. This discussion addresses itself to some of these issues. Part I discusses the operation of monetary policy, with emphasis on the theoretical controversy in monetary economics between the income-expenditure approach (the so-called Keynesians) and the quantity theory approach (the so-called monetarists). Part II reviews the intent and performance of monetary policy since 1965.

* Summary of a presentation by members of the Research staff at a Joint Meeting of the Boards of Directors of the Federal Reserve Bank of Cleveland and the Cincinnati and Pittsburgh branches, on December 12, 1968.



I

Monetary economists have posited several descriptions of the relationship between monetary policy and changes in economic activity. The various descriptions generally fall into two categories—the income-expenditure approach, which is largely the legacy of John Maynard Keynes, and the quantity theory approach, which is most frequently associated with Professor Milton Friedman. The two views are summarized in Chart 1.

The income-expenditure approach focuses on the total amount of spending in the economy (Gross National Product) as well as the major spending sectors: business, consumer, government, and foreign[1]. The income-expenditure approach attempts to explain the various factors and forces that influence the spending of each sector. Such spending can be either induced or autonomous. Although different analysts may make different assumptions, as a general matter, induced spend-

[1] For purposes of illustration, the descriptions of the two approaches are simplified. For more detailed descriptions, among others, see Lawrence S. Ritter, "The Role of Money in Keynesian Theory," in *Banking and Monetary Studies*, Deane Carson (ed.), Homewood: Richard D. Irwin, Inc., 1963; and various selections in Milton Friedman, *Dollars and Deficits: Inflation, Monetary Policy and the Balance of Payments*, Englewood Cliffs: Prentice Hall, Inc., 1968.

ing depends primarily upon changes in income and includes a large proportion of consumption expenditures. Autonomous spending, on the other hand, is not as closely associated with changes in income, but is dependent on other external factors. For example, a decision to change Federal Government spending may reflect policies and actions of the President and Congress, which are noneconomic in intent but have economic consequences. In addition, business spending and consumer investment, which represent the remaining major types of autonomous spending, are dependent to an important extent on such factors as changes in preferences and tastes, technology, population, etc.

The money supply is important in the income-expenditure approach, but only as one of many variables that directly or indirectly influences spending decisions of businesses and consumers. Under the income-expenditure approach, the effects of monetary policy and monetary changes are assumed to be transmitted first to market rates of interest; interest rate changes then influence business spending on investment and consumer spending on durable goods; and finally, total spending determines income. The flow of influence runs from monetary policy to interest rates to spending to income. Therefore, according to the income-expenditure view, changes in the money supply have only an indirect influence on GNP.

There are also other important aspects of the income-expenditure view. For one thing, the view contends that fiscal policy has an important influence on private spending. In its simplest form, it is argued that an increase in Government spending for goods and services directly affects total expenditures in the economy and thus economic activity, regardless of how the resulting deficit may be financed; conversely, a tax reduction increases the spendable income of businesses and individuals, and hence actual spending. In addition, economists who subscribe to the income-expenditure approach are usually concerned with possible imbalances among the various sectors of the economy (for example, too much capital spending and not enough spending on residential construction) as well as the absolute level and rate of growth of total spending.

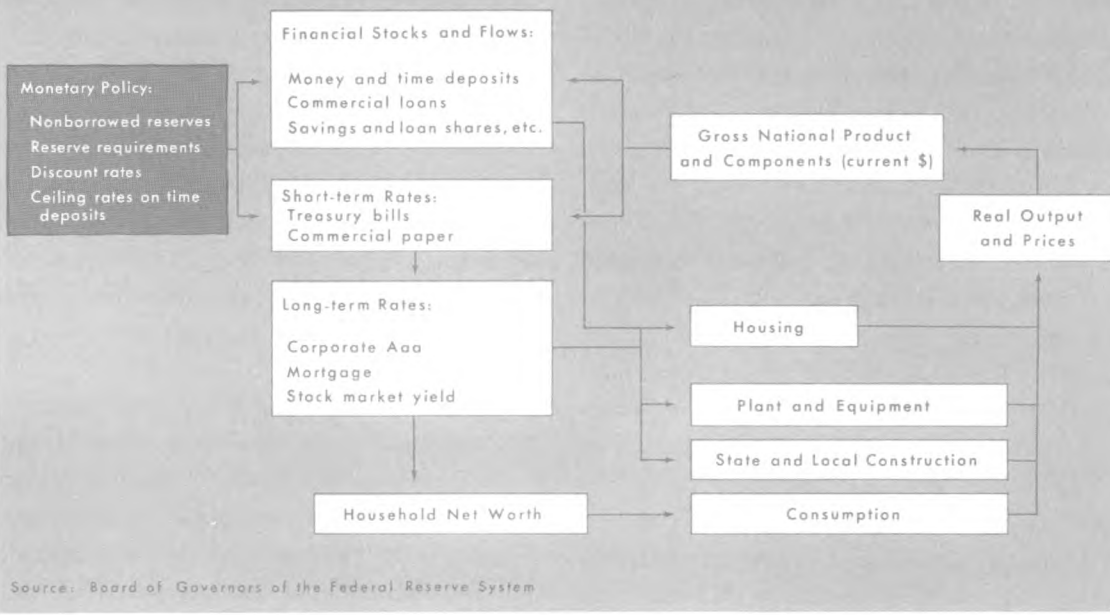
Economists following the income-expenditure approach have developed several large-scale econometric models to improve understanding of the structure of the economy and to attempt to explain changes in economic activity. Econometric models permit economists to trace out and evaluate the effects of alternative policy actions, as indicated in Chart 2.

The major theoretical alternative to the income-expenditure approach is the quantity theory. In recent years, the quantity theorists have received widespread attention, largely as a result of their criticisms of discretionary public policy—both monetary and fiscal policy. One strength of the quantity theory is that it is subscribed to by a fairly large number of articulate and outspoken economists who have also generated a considerable amount of research.

While both the income-expenditure and quantity theory approaches agree that monetary policy has an important influence on the economy, quantity theorists believe that monetary changes are more important than do

Chart 2

THE TRANSMISSION of MONETARY POLICY in the FRB-MIT MODEL



Source: Board of Governors of the Federal Reserve System

economists following the income-expenditure approach.[2] Quantity theorists emphasize the relation between income and the amount of money individuals desire to hold. They assume that desired money holdings are closely related to income and that desired money holdings change in a stable and predictable fashion. If actual money holdings, which can be altered through changes in monetary policy, differ from what individuals want to hold, individuals will adjust spending to bring money balances to desired levels. Spending adjustments will continue until actual money holdings are in line with what individuals want to hold.

In effect, individuals as a group cannot change the total quantity of money held, but can change total spending, which in turn affects the level of GNP. As a result, GNP will change until the desired relationship between income and money is achieved. In an extreme version of the quantity theory, fiscal policy plays only a minor role. According to such a version, the size of the Federal budget deficit is not important. What is important is how the deficit is financed. If the deficit is

[2] For further discussion of some of these issues see Maurice Mann, "How Does Monetary Policy Affect the Economy?", Staff Economic Study, *Federal Reserve Bulletin*, October 1968.

financed by creating new money, then such action will affect the growth of GNP. This is the case because the money supply will expand and not because of the size of the deficit *per se*. Thus, quantity theorists did not expect prompt or direct effects from the income tax surcharge that became effective last July. On the other hand, all things being equal, the quantity theorists would expect that the tax increase might have an indirect effect over time by slowing the growth of the money supply, since additional tax revenues would reduce the need to finance large budget deficits through the creation of new money.

Recently, the quantity theory has received increased attention, primarily because of the proponents' criticisms of frequent shifts and wide swings in monetary and fiscal policy. In general, these criticisms reflect the quantity theorists' contention that over long periods of time there is a close relationship between money and GNP. In addition, some quantity theorists have found that changes in the money supply precede changes in GNP, although by long periods that vary over time.[3] The close relationship between money supply and GNP, coupled with the fact that changes in the money supply tend to lead changes in GNP, provides the major basis for the quantity theory as well as for the policy recommendations growing out of that point of view. In the extreme, some quantity theorists recommend that the money supply should be increased at a constant rate. In support of this view, quantity theorists argue that, since money supply changes affect GNP only with a lag, and since the ability to predict future GNP is not very good, it is better to provide a constant rate of growth in the money supply. The alternative, they argue, is to follow a discretionary policy that may actually be the wrong policy when it becomes effective.

The quantity theory approach is based upon several assertions that may not be completely acceptable in practice. These assertions include: (1) the Federal Reserve System has virtually complete control over the money supply; (2) changes in the money supply are the major determinant of changes in GNP; and (3) the time lag between money supply changes and GNP is both long and uneven. As a result, quantity theorists conclude that monetary policy should not be discretionary, but should follow a rule providing for money supply growth at a steady rate.

Be that as it may, given the wide range of objectives and goals of monetary policy, the Federal Reserve does not have as precise and complete control over the money supply as the quantity theorists suggest. In fact, there is wide agreement among economists on the large number of possible slippages between Federal Reserve actions and the behavior of the money supply—for example, unpredictable shifts in demands for excess reserves and borrowings from the Federal Reserve by commercial banks shifts in the public's preference for various types of bank deposits, shifts in expectations and preferences of financial institutions, shifts in funds between private and public deposits, and international leakages.

In addition, it is conceivable that a constant

[3] Other quantity theorists have found that the lag is not very long and that it is fairly stable. See Leonall C. Andersen and Jerry L. Jordan, "Monetary and Fiscal Action: A Test of Their Relative Importance in Economic Stability," in Federal Reserve Bank of St. Louis *Review*, November 1968.

rate of growth of the money supply, if it could be achieved, might cause interest rates to fluctuate in an unpredictable and perhaps undesirable fashion and possibly to a much greater extent than at present. Such fluctuations might be inconsistent with the wide range of goals and objectives of monetary policy. For example, constantly changing demand-supply relationships for money could cause changes in interest rates that the Federal Reserve would not offset if it were maintaining a constant rate of growth in the money supply. In turn, wider fluctuations in interest rates might increase already serious balance of payments problems, might add to the problems of Federal Government financing operations, and might conceivably lead to swings in investment spending that could result in even wider fluctuations in GNP. Greater fluctuations in interest rates, by affecting the amount of money individuals want to hold, could also increase the difficulty of maintaining a constant rate of growth in the money supply.

Moreover, operating under a rule calling for a constant rate of growth in the money supply, the Federal Reserve could not adjust to special or unusual developments, such as wars, international financial crises, devaluations, etc. The quantity theorist might permit some exceptions from the rule of constant money supply growth for such developments, but once this is done it would be hard to determine where exceptions stop. If many exceptions were permitted, the result would be a discretionary policy.

Although mistakes are admittedly made in discretionary monetary policy, much of the criticism of monetary policy does not stem from the fact that the Federal Reserve follows a discretionary policy. Instead, such criticism usually is leveled at the assortment of objectives and priorities that the Federal Reserve is seeking to achieve.

Quantity theorists argue that some of the problems that have concerned the Federal Reserve System, such as conditions in the housing market in 1966, would not have occurred if the money supply had been growing at a constant rate. Moreover, it is argued that other problems, such as the balance of payments, would be self-correcting if the appropriate institutional framework were adopted. According to the quantity theorists, correcting or reducing some of these problems is not a legitimate function of monetary policy. It goes without saying that those involved in making monetary policy decisions would find it hard to agree.

Even if money supply growth were indeed the crucial determinant of GNP, so that knowledge of, say, the amount of money supply growth in the first quarter of 1969 would allow an accurate forecast of GNP in the third quarter of 1969, such knowledge would not reveal how to achieve the specified growth of the money supply in the short run, the real forces and financial conditions associated with that particular money supply and GNP growth, or the composition of GNP in the third quarter. For example, the resulting situation in residential construction and state and local government expenditures in the third quarter of 1969 would not be known, and a large number of individuals would consider this knowledge as significant from the standpoint of economic and social priorities and objectives.

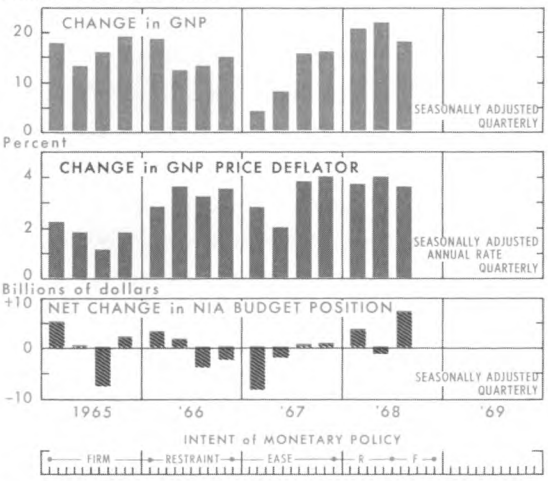
In any event, the present state of economic knowledge is such that neither the income-expenditure approach nor the quantity theory approach can provide final authority on how monetary policy works or should work.[4] While knowledge of the monetary and financial process has improved and continues to advance, many unsettled questions remain, including, perhaps ironically, the question of what is the best measure of the money supply.[5] In short, available evidence is not sufficient to resolve all of the important issues pertaining to the best approach to making monetary policy—and to making it work effectively. The lack of agreement is evidenced by the variety of views of economists as to how monetary policy should be conducted. Most economists, however, favor to varying degrees, a discretionary and flexible monetary policy.[6] Thus, for the present, agnostic eclecticism as opposed to some form of enlightened monism is likely to remain the watchword of policymakers' faith.

II

This section reviews the record of the intent and performance of monetary policy during 1965-1968. The review addresses itself to the question of how various monetary and financial measures have performed in the past few years as well as to the question of whether performance has been consistent with the expressed intent of monetary policy.

Chart 3

ECONOMIC ACTIVITY and PUBLIC POLICY



Last entry: 3Q, November 1968

Source of data: Board of Governors of the Federal Reserve System

As background, it should be helpful to sketch major economic developments during 1965-1968. Since 1965, the escalated defense effort in Vietnam has been the major influence on the United States economy. The top panel of Chart 3 shows that the economy built up steam in 1965, largely as a result of involvement in Vietnam. Quarterly changes in GNP were large throughout 1966, and credit demands soared. In early 1967, economic activity became quite subdued, due in part to restraining actions taken in 1966 by the Federal Reserve System. But the virtual leveling of GNP in the first quarter of 1967 was followed after midyear by a very sharp recovery, and gains in total output became

[4] Mann, *op. cit.*

[5] See "Definitional Aspects of the Money Supply," *Economic Commentary*, Federal Reserve Bank of Cleveland, November 9, 1968.

[6] U. S., Congress, House, Committee on Banking and Currency, *Compendium on Monetary Policy Guidelines and Federal Reserve Structure*, submitted to the Subcommittee on Domestic Finance, 90th Cong., 2nd Sess., U. S. Government Printing Office (Washington, D.C.), December 1968.

excessive in the first half of 1968. After mid-year, GNP continued to increase at an excessive rate, despite the program of fiscal restraint that was introduced in July.

As shown in the second panel of Chart 3, price pressures erupted in 1966 in response to the economy's surge in 1965, although price increases slowed somewhat in early 1967 as GNP growth slackened. Since mid-1967, prices again have risen at an excessive rate, and inflation has become the most serious economic problem facing the nation. In this environment, fiscal policy, as measured by the *net change* in the status of the national income budget, was an important influence on economic developments. As shown in the third panel of Chart 3, the budget became quite expansionary in 1965, shifting from a move toward surplus to a change toward deficit, as defense spending rose sharply. The net shift between the first and third quarters of 1965 represented an impact of about $13 billion. In general, the fiscal position tended to be expansionary until 1968, when the combination of smaller increases in spending and higher tax receipts sharply reduced the national income deficit. This was particularly true in the third quarter when the income tax surcharge took effect.

Throughout the 1965-1968 period, considerable attention was focused on the need for an appropriate mix of monetary and fiscal policy. Monetary policy is widely recognized to be the more flexible of the two, in that monetary policy can adjust easily and quickly to a changed economic situation or to a changed emphasis on specific economic goals. In fact, in the past few years, monetary policy was forced to adjust more than usually to fiscal policy and related developments. For example, the monetary authorities were constrained in late 1967 and early 1968 by expectations of Congressional action on the fiscal restraint program, which was repeatedly delayed. In addition, monetary policy was influenced on many occasions by the need to ensure appropriate financial market conditions for large-scale Treasury financing operations.

During the 1965-1968 period, there were a number of overt changes in monetary policy. Monetary policy was intended to be firm during most of 1965; in December, the discount rate was increased from 4 percent to 4½ percent and Regulation Q ceilings were changed. In February 1966, the Federal Open Market Committee voted to tighten policy even further in view of substantial gains in GNP (due to increased defense spending, capital investment, and an inventory boom) that were leading to rising prices.[7] The degree of monetary restraint increased as the period progressed; in June and August, reserve requirements against time deposits were increased, and in July and September, Regulation Q ceilings were again changed. In September, member banks were requested to moderate the rate of expansion of loans, particularly business loans.

Restraint was ended in late 1966, when the Federal Reserve System moved to accommodate severe needs for liquidity and to counteract a slackening in credit expansion

[7] See the "Record of Policy Actions of the Federal Open Market Committee" in the *Annual Report* of the Board of Governors of the Federal Reserve System, 1966, pp. 127-130.

MONETARY POLICY: INTENT AND PERFORMANCE

	Intent of Monetary Policy							
	Firm	Restraint		Ease		Restraint		Firm
				Subperiods				
	Feb. 1965-Jan. 1966	Feb. 1966-June 1966	July 1966-Nov. 1966	Dec. 1966-Mar. 1967	Apr. 1967-Nov. 1967	Dec. 1967-Feb. 1968	Mar. 1968-June 1968	July 1968-Nov. 1968
Annual Rates of Change (percent)								
Total reserves	5.2 %	3.7 %	—2.4 %	12.3 %	8.6 %	7.8 %	0.6 %	7.4 %
Nonborrowed reserves	4.8	1.5	0.1	18.1	9.1	4.2	—3.3	9.8
Bank credit proxy*	8.6	6.3	—0.5	12.1	10.8	6.0	2.0	12.6
Money supply	5.0	3.6	—0.5	5.2	6.6	3.7	7.6	5.9
Time deposits	13.9	9.3	3.2	17.1	14.0	7.0	4.8	17.0
Average Levels								
Bank borrowings (mil. of $)	$ 478	$ 610	$ 721	$ 377	$ 110	$ 279	$ 698	$ 514
Net reserve position (mil. of $)	—103	—265	—355	+ 13	+251	+ 96	—349	—224
U.S. Treasury bill rate†	4.01%	4.59%	5.15%	4.62%	4.14%	4.97%	5.42%	5.28%
Federal funds rate	4.11	4.76	5.45	4.94	3.95	4.59	5.70	5.88

* Excluding Eurodollars.

† Three-month bills.

Source: Board of Governors of the Federal Reserve System

and economic activity. Open market operations, on balance, became quite expansionary; reserve requirements on some time deposits were decreased in February 1967; and the discount rate was reduced in April.

The policy of ease was maintained until late November 1967, when the discount rate was raised following the British devaluation. By December, sharply rising prices and a resurgence of the United States economy after settlement of the auto strikes prompted a shift in monetary policy back to firmness. In general, this policy stance was continued in the first half of 1968. The discount rate was raised in both March and April (reaching 5½ percent), and higher reserve requirements on demand deposits became effective in January. A modification of policy toward less restraint occurred in the middle of the year, when the Federal Open Market Committee decided to accommodate the easier credit conditions that had developed as a result of the enactment of the fiscal restraint program.

The basic policy periods of monetary policy during 1965-1968 are shown graphically in the bottom panel of Chart 3. The policy periods are based on statements in the policy records of the Federal Open Market Committee, which at this writing are published through October 8, 1968.

The actual performance of monetary policy, in comparison with the intent of policy, should be reflected in the behavior of major monetary and financial variables. The accompanying table shows nine measures frequently used to evaluate policy. These measures reflect the

position of commercial banks, the state of the money market, and System influences on the flow of money and credit. Noticeable variations in the monetary and financial statistics suggest that there were a number of sub-periods within the overall policy periods specified during 1965-1968. The sub-periods reflect either shadings in monetary policy within the basic policy periods or the increasing "grip" of policy as the intent of policy materializes.

Thus, when additional monetary restraint was imposed early in 1966, the rates of growth of total bank reserves and nonborrowed reserves slowed noticeably from the averages of the 1965 policy period. In the second half of 1966, however, total reserves showed an absolute decline and nonborrowed reserves were virtually unchanged, reflecting the increasing grip of restrictive monetary policy. Similar patterns of restraint between February-June 1966 and July-November 1966 are apparent for the bank credit proxy, the money supply, and time deposits. At the same time, member bank borrowings increased sharply in 1966, as commercial banks came under severe restraint. Net borrowed reserves deepened throughout the period, and the Federal funds rate rose in response to heavier bank demands for such funds. Other money market rates, represented in the table by the three-month Treasury bill rate, also increased in the face of large credit demands.

In the succeeding period of monetary ease, which roughly covered the period from December 1966 through November 1967, a different pattern in the numbers is apparent in the table: financial conditions first eased abruptly, but the easing tailed off toward the end of the period. Thus, the annual rate of gain in nonborrowed reserves from April through November 1967 was only half as great as in the preceding four months; the rate of gain in the bank credit proxy also slowed modestly. However, the rate of expansion of the money supply increased slightly as the period of ease lengthened. (This was one of several occasions during 1965-1968 when the money supply behaved differently from other financial indicators or from what appeared to be the intent of policy.) Conditions in the money market also continued to ease during the April-November 1967 policy period, as reflected in further declines in short-term interest rates. In the second half of 1967, commercial banks reported net free reserves and nominal borrowings from the Federal Reserve banks.

The data in the table suggest that monetary policy eased in early 1967 much more rapidly than policy tightened in 1966. Several factors may have been involved. For one, the monetary authorities may have intended to produce a more substantial reaction starting in December 1966. Second, it may be a fact of life that it is easier to ease than it is to tighten. Finally, financial markets may have anticipated to a larger extent the easing in monetary policy that occurred at the end of 1966 than the tightening that occurred in early 1966.

In December 1967, monetary policy was shifted back toward firmness in the absence of Congressional tax action. With an income tax surcharge proposed to Congress in January and again in August 1967, the Federal Reserve System stayed its hand until late November in the hope that the tax proposal would be adopted

quickly, even though the System was concerned that the economy was expanding too rapidly.[8] A gradual turnaround in the monetary and financial measures, as the table shows, occurred in the early months of 1968.[9] At the same time, the monetary authorities accomodated an orderly adjustment to a two-tier gold system, following massive speculation in gold and foreign exchange markets in March.

By the second quarter of 1968, it became apparent that firmer monetary policy was beginning to bite. Nonborrowed reserves declined absolutely, and total reserves increased only slightly. Member bank borrowings increased very sharply, on average, and commercial banks again experienced net borrowed reserves. Interest rates rose to record levels during the second quarter, following another increase in the discount rate in April. But at the same time, the money supply increased at a rate twice as fast as in the preceding three months, primarily because of a substantial decline in Government demand deposits. Thus, any observer who concentrates on the narrowly defined money supply as the sole indicator of monetary policy would have a much different interpretation of monetary policy in March-June 1968 than, in fact, did the Federal Reserve System.

The last column shown in the table refers to the sub-period from July through November 1968. All but two indicators suggest a substantial easing in policy after midyear, whereas the policy record implies a modest modification of the degree of monetary firmness. The income tax surcharge was passed in June, and key interest rates declined. The "easing tendencies in money market conditions" were acknowledged by the Federal Reserve System and were to be confirmed (or "accommodated") "in the period ahead" by the manager of the System Open Market Account.[10] This directive was followed later by a discount rate reduction of one-quarter of 1 percent in August (to a level of 5¼ percent).

During July-November, rates of growth in bank reserves and the credit proxy were very large, and the money supply increased at a rapid but somewhat reduced pace. If time deposits were added to the money supply, the resulting rate of change in the broadly defined money supply would be the largest for any of the sub-periods shown in the table. Although member bank borrowings remained high during July-November, the level of borrowings was down somewhat from the average March-June level; net borrowed reserves also became less deep. The Treasury bill rate declined slightly, on average, although it returned to historically high levels at the end of November. The average level of the Federal funds rate was somewhat higher than in the preceding sub-period.

On balance, it could be said that the behavior of monetary and financial variables during July-November 1968 was not entirely consistent with the intent of monetary policy, which was to be somewhat accommodative but

[8] *Annual Report*, Board of Governors of the Federal Reserve System, 1967, pp. 153-178.

[9] Borrowed Eurodollars are not included in the bank credit proxy shown in the table; the addition of Eurodollars would substantially increase average rates of growth in 1968.

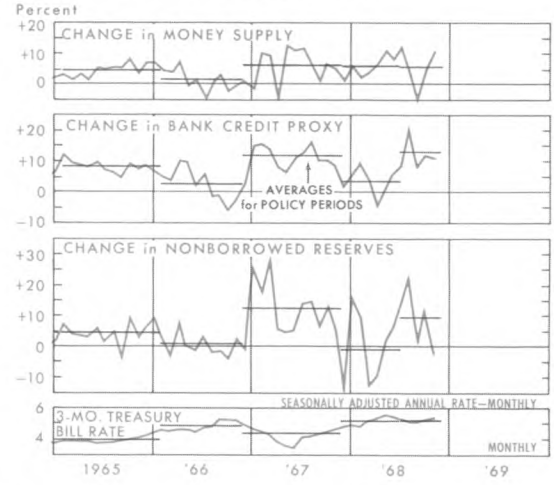
[10] *Federal Reserve Bulletin*, October 1968, p. 859.

was to remain generally firm—particularly if bank credit growth significantly exceeded expectations. In retrospect, the credit expansion allowed by the Federal Reserve System during the past summer was inappropriate in view of the rapid expansion of the economy and the rapid increases in prices. As it turned out, the discount rate was increased again on December 17. The increase was motivated by "the resurgence in inflationary expectations that is impeding the restoration of economic stability."[11] The discount rate action was "taken in furtherance of a policy of restraint."[12]

The foregoing discussion indicates that during 1965-1968 the performance of monetary policy tended to conform to the intent of policy during broad policy periods, but that performance frequently diverged from intent during shorter run periods. The discussion also indicates that the intent of monetary policy is difficult to discern from an analysis of the behavior of key financial and monetary variables in the short run. Examples of short-run divergences between intent and performance are illustrated in Chart 4, where the average rates of change in three major monetary indicators and the average level of the bill rate for each of the basic policy periods are plotted as gray lines. The gray line should be interpreted as follows: in the period of restraint in 1966, the seasonally adjusted annual rate of increase in the money supply was about 1½ percent, while the bill rate, on average, was at a level of nearly 5 percent.

Chart 4

INTERPRETING MONETARY POLICY



Last entry: November 1968

Source of data: Board of Governors of the Federal Reserve System

In general, over complete policy periods, shifts in *average* rates of change in the various reserve and monetary measures and the level of the bill rate are fairly consistent with the intent of monetary policy. For example, during the 1966 period of restraint, rates of change in the money supply, the credit proxy, and nonborrowed reserves dropped noticeably from the preceding policy period, while the average bill rate was nearly 1 percentage point higher. Such developments would be expected under normal responses to changes in monetary policy. Similarly, the reserve and monetary measures shown in the chart expanded sharply during the 1967 period of ease, while the bill rate declined slightly, though not back to its 1965 level. This, too, would be considered a normal response. With the return of restraint in December 1967, reserve and credit growth was contained sharply; money market conditions

[11] *Press Release*, Board of Governors of the Federal Reserve System, December 17, 1968.

[12] *Ibid.*

tightened, with the average bill rate moving to a new high level of 5.65 percent in May 1968. However, the rate of growth of the money supply between December 1967 and June 1968 was almost unchanged from the preceding period of ease, which, it can be argued, was not an expected response. Rapid gains in reserve and credit measures during July-November 1968 stand out in Chart 4. Growth in nonborrowed reserves surged ahead, while the bank credit proxy increased at a record rate. In contrast, the average increase in the money supply held fairly steady (instead, time deposits shot up), and the bill rate, on average, rose 5 basis points further.

When the monthly changes in, or levels of, these measures are also considered, it becomes apparent that there are serious dangers in paying too much attention to short-term changes in monetary and financial variables. For example, the sharp decline in December 1967 in nonborrowed reserves—a variable over which the Federal Reserve System has a considerable amount of control—would have suggested severe monetary restraint. But succeeding monthly rates of change in early 1968 did not support such an interpretation, and instead indicated an easier policy stance (see Chart 4).

Sizable divergences from the average behavior can usually be explained away, but not always. For example, in response to Treasury financing operations in January and August 1968, the System supplied a substantial volume of bank reserves. Following the January experience, nonborrowed reserves actually declined in March and April, indicating that the System withdrew reserves that had been used to support the Treasury financing. In sharp contrast, the large volume of nonborrowed reserves supplied to help support the Treasury financing in August was not re-absorbed. In fact, nonborrowed reserves continued to increase until November, when they declined moderately.

CONCLUDING COMMENTS

It is clear that the record of monetary policy in the past four years is not flawless. In part, this reflects the increased complexity of domestic and international financial markets. In addition, seeming inconsistency between the performance and intent of policy may have reflected delayed and uneven responses to changes in policy or, the inconsistency may simply reflect the difficulty of measuring the intent and behavior of monetary policy.

The sometimes seemingly perverse behavior of monetary and financial variables may also be symptomatic of the difficulty experienced by the Federal Reserve System in attaining the entire set of financial and credit market conditions included in near-term policy objectives. In other words, monetary policy may be overly concerned with achieving too many things at once—a "shotgun" approach that may contribute to wide swings in the behavior of monetary and financial variables within policy periods.[13] The large number of near-term objectives may also lead

[13] In this regard, a number of economists feel that monetary policy should be concerned with a more limited set of target variables, such as reserve growth, money, or the monetary base. See U. S., Congress, House, Committee on Banking and Currency, *op cit.*

to frequent fine-tuning. For example, an unwillingness or inability to allow wide fluctuations in interest rates and the net reserve position of banks, when aiming for a given rate of growth of bank credit, may involve continuing adjustments in open market operations that contribute to the perversity of the behavior of monetary and financial variables.

Nevertheless, it is important to remember that the environment in which monetary policy had to function in the past few years often added to the difficulty of designing appropriate monetary policy. As a case in point, monetary policy had to be concerned with complications resulting from delay in the enactment of needed fiscal restraint and from frequent international financial crises. The Federal Reserve System cannot be impervious to these kinds of complications, even though they make the job much harder. In any event, it would seem that a major advantage of discretionary policy is being able to adjust to disruptions in an increasingly complicated economic and financial world.

CORPORATE MERGER ACTIVITY IN SELECTED FOURTH DISTRICT CITIES, 1950-1967

Business mergers have an important influence not only on the structure of an industry, but also on the organizational structure of firms that are merged. Frequently, the resulting firm is decentralized so that, while acquired firms may remain in the original headquarters location, the basic decision-making authority of the acquired firm is considerably reduced or circumscribed, at least to the extent that control over assets, sales, and productive capacity is transferred to the acquiring firm. In this regard, the implications for the economic well-being of a community are perhaps even greater when the acquired firm is fully consolidated with the acquiring firm, since the consolidation may involve physical relocation of the acquired firm's headquarters to another city. It is therefore not surprising that community leaders are seriously concerned about the implications of losses of corporate headquarters as a by-product of intensified corporate merger activity.

An earlier article in *Economic Review* discussed corporate merger activity in the Fourth Federal Reserve District during the 1950-1967 period.[1] This article reviews highlights of such activity in Cleveland, Pittsburgh, and Cincinnati—the three largest cities in the District. Not surprisingly, the three cities accounted for the bulk of merger activity within the District during 1950-1967.

[1] "Corporate Merger Activity in the Fourth Federal Reserve District, 1950-1967," *Economic Review*, Federal Reserve Bank of Cleveland, Cleveland, Ohio (October 1968), pp. 3-10.

TABLE I
Acquisitions Involving Firms in Cleveland, Pittsburgh, and Cincinnati
1950-1967

	Firms Headquartered Inside		
	Cleveland	Pittsburgh	Cincinnati
Firms Acquired Inside City			
Manufacturing and mining	39	13	2
All other	2	–0–	–0–
Total	41	13	2
Firms Acquired Outside City			
Manufacturing and mining	386	262	95
All other	103	38	35
Total	489	300	130
Total acquisitions by firms based in respective cities	530	313	132

	Firms Headquartered Outside		
	Cleveland	Pittsburgh	Cincinnati
Firms Acquired Inside City			
Manufacturing and mining	123	55	72
All other	9	12	1
Total	132	67	73
Net difference between acquisitions outside city by firms based in respective city and acquisitions in respective city by firms based outside	357	233	59

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

NUMBER OF ACQUISITIONS

The data in Table I provide background on the pattern of acquisitions in Cleveland, Pittsburgh, and Cincinnati. As the data show, Cleveland had by far the greatest amount of merger activity during 1950-1967. The data also show that the highest proportion of acquisitions made by firms headquartered in each of the three cities involved manufacturing firms, reflecting the importance of industrial activity in the city. Moreover, the highest proportion of acquisitions made by firms based in each of the cities involved firms located outside the respective city. Business firms headquartered outside the three cities also concentrated acquisitions among manufacturing firms.

Perhaps the most important point indicated by the data in Table I is that the number of acquisitions by firms based inside each of the three cities sharply exceeded the number of firms acquired by outside firms. During 1950-1967, Cleveland-based firms acquired 489 firms headquartered outside Cleveland. In contrast, 132 Cleveland-based firms were acquired by firms based outside of Cleveland. As a result, Cleveland-based firms acquired 357 more firms from outside the city than the city "lost" to outside companies. Interestingly, the number of Cleveland-based firms acquired by firms headquartered outside of the city was nearly equal to the number in the other two cities combined. During the same period, acquisitions by Pittsburgh- and Cincinnati-based firms also sharply exceeded the number of locally based companies that were acquired by outside companies. The relative showing of Cincinnati, however, was not as favorable as that of the other two cities.

Although each of the three cities showed a net gain in the number of acquisitions, it does not necessarily follow that there was a similar addition to the number of headquarters-based firms. In fact, only a few of the acquisitions involved relocation of headquarters to the city of the acquiring firm. On the other hand, each city lost headquarters-based firms as a result of acquisitions made by firms located in other cities. Although other factors are obviously important, for example, insufficient sales volume to be included in the listing, an impres-

sion of the impact of merger activity on headquarters located in the three cities under review can be gleaned from data on the nation's largest firms, as shown below:

Number of Firms Headquartered in Selected Fourth District Cities*

	Industrial	Merchandising	Transportation	Total
Cleveland				
1955	14	–0–	3	17
1960	17	–0–	3	20
1965	15	–0–	3	18
1966	17	1	3	21
1967	18	1	3	22
Pittsburgh				
1955	23	–0–	–0–	23
1960	22	–0–	–0–	22
1965	20	–0–	–0–	20
1966	20	–0–	–0–	20
1967	18	–0–	–0–	18
Cincinnati				
1955	4	2	–0–	6
1960	3	2	–0–	5
1965	3	2	–0–	5
1966	4	2	–0–	6
1967	4	2	–0–	6

* Based on 500 largest industrial firms (manufacturing and mining) in United States, 50 largest merchandising firms, and 50 largest transportation firms. Except for transportation firms, data are based on sales volume; for transportation firms, the data are based on operating revenues.

Source: *Fortune Directories*

ACQUISITIONS AND ASSETS

Although all three cities registered a net gain in the number of acquisitions, a slightly different picture of merger activity in the three cities is apparent when asset size is considered. Based on acquired firms with assets of $10 million or more, outside acquisitions by Cleveland-based firms represented more than twice the number and more than three times the asset value of local firms that were acquired by businesses outside of Cleveland (see Table II). That is to say, during 1950-1967, Cleveland experienced a sizable net gain in both number of acquisitions and asset value. In fact, of the 45 outside firms acquired by Cleveland-based companies, six had assets of $100 million and over. In contrast, only one Cleveland-based firm acquired by an outside company had assets of more than $100 million at the time of acquisition. As suggested in Table II, the average asset value of firms acquired by Cleveland-based firms was somewhat larger than that of Cleveland firms acquired by outside companies.

Although the number of acquisitions by Pittsburgh-based firms was nearly twice the number of local firms acquired by outside companies, the net gain in asset value to Pittsburgh was nominal (see Table II). That development reflects the fact that three major Pittsburgh-based firms with assets of $100 million or more were acquired by firms based outside of the city, while Pittsburgh-based firms acquired three outside firms with assets of $100 million and over. If the asset value of firms with assets of $100 million or over is excluded from the data, the average asset size of outside firms acquired by Pittsburgh-based firms was slightly larger than that of local firms acquired by outside companies.

Acquisitions by Cincinnati-based firms were larger in terms of number and asset value than the corresponding figures of local companies acquired by outside firms. In fact, Cincinnati clearly fared better than Pittsburgh with regard to asset value gained (see Table II).

ASSET SIZE OF ACQUIRING FIRMS

Distribution of mergers by asset size of acquiring firms in each of the selected Fourth

District cities shows a number of contrasting patterns. As shown in Table III, the largest proportion of acquisitions by Cleveland-based firms during 1950-1967 was in the $10 to $50 million asset size class (44 percent), a proportion considerably larger than in the nation as a whole (32 percent) during a similar time period. On the other hand, the largest proportion of acquisitions by firms based in Pittsburgh was in the $100 million and over size class (50 percent), a proportion more than twice as large as in the United States (23 percent). In fact, more than two-thirds of the acquisitions by Pittsburgh-based firms during 1950-1967 were made by firms with assets of $50 million and over.

The high proportion of mergers by firms with assets of $50 million and over is not surprising in view of Pittsburgh's high rank among leading cities in the number of major firms. Another factor accounting for Pittsburgh's high proportion of acquisitions in the $100 million and over asset size class is that, among the three cities, Pittsburgh showed, on average, the largest number of acquisitions per firm. During 1950-1967, the bulk of acquisitions in $100 million and over asset size class was made by relatively few Pittsburgh firms.

In sharp contrast to Pittsburgh (as well as to the nation), the most acquisition-minded firms in Cincinnati had assets of less than $50 million. In fact, firms in the under $10 million and $10 to $50 million asset size classes accounted for 73 percent of acquisitions by Cincinnati-based firms during 1950-1967. In view of the small number of national firms headquartered in Cincinnati, there were relatively few acquisitions by firms in the $100 million and over asset size class in comparison with Cleveland and Pittsburgh.

ASSET SIZE OF ACQUIRED FIRMS

Although asset data on acquired firms are fragmentary on both the national and regional levels, sufficient information is available to allow some comparisons between merger activity in the Fourth District and in Cleveland, Pittsburgh, and Cincinnati.[2] During 1950-1967, the most notable difference between merger activity in the Fourth District and in the three cities was apparent in mergers involving acquired firms with assets below $50 million. As shown in Table IV, where assets are known, three-fifths of acquired firms in the Fourth District had assets under $10 million and more than one-fourth had assets of $10 to $50 million. The pattern in Cleveland was identical to that for the District; on the other hand, in Pittsburgh and Cincinnati, the pattern was only slightly different from Cleveland and the Fourth District with the relevant proportions about the same for the two cities (see Table IV).

INDUSTRIES OF ACQUIRING FIRMS

Not surprisingly, companies in the Fourth District most active in acquiring other firms during 1950-1967 are situated in industries that are the most important in the industrial life of the region. For example, within the District as a whole, the seven industries with firms most active in acquisitions are the same

[2] Asset data are not available for about three-fourths of the acquired firms in the Fourth District and in the three cities under review.

TABLE II

Acquisitions of Firms With Assets of $10 Million and Over
Cleveland, Pittsburgh, and Cincinnati
1950-1967

City	Acquired by Firms Inside		Acquired by Firms Outside		Net Gain	
	Number	Assets (mil. of $)	Number	Assets (mil. of $)	Number	Assets (mil. of $)
Cleveland	45	$2,003	17	$ 590	28	$1,413
Pittsburgh	31	1,133	16	1,053	15	80
Cincinnati	14	461	9	196	5	265

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

TABLE III

Distribution of Mergers by Asset Size of Acquiring Firms*
United States (1955-1967) and Cleveland, Pittsburgh, and Cincinnati (1950-1967)

Asset Size (mil. of $)	United States 1955-1967		Cleveland 1950-1967		Pittsburgh 1950-1967		Cincinnati 1950-1967	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under $10	2,764	25%	90	19%	21	7%	36	33%
$10 to $50	3,579	32	211	44	63	21	44	40
$50 to $100	1,278	11	58	12	51	17	13	12
$100 and over	2,549	23	99	21	147	50	7	6
Unknown	1,060	9	18	4	13	5	10	9
Total	11,230	100%	476	100%	295	100%	110	100%

* Includes only manufacturing and mining.

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

TABLE IV

Distribution of Mergers by Asset Size of Acquired Firms
Fourth District and Cleveland, Pittsburgh, and Cincinnati
1950-1967

Asset Size (mil. of $)	Fourth District			Cleveland			Pittsburgh			Cincinnati		
	Number	Percent		Number	Percent		Number	Percent		Number	Percent	
		Including Unknown Class	Excluding Unknown Class		Including Unknown Class	Excluding Unknown Class		Including Unknown Class	Excluding Unknown Class		Including Unknown Class	Excluding Unknown Class
Under $10	209	16%	61%	73	17%	62%	37	13%	55%	12	13%	54%
$10 to $25	74	6	21	20	5	17	18	7	27	8	8	36
$25 to $50	27	2	8	13	3	11	5	2	7	—	—	—
$50 to $100	12	1	3	7	2	6	3	1	4	1	1	5
$100 to $250	16	1	5	5	1	4	4	1	6	1	1	5
$250 and over	7	1	2	—	—	—	—	—	—	—	—	—
Unknown	931	73	—	307	72	—	208	76	—	75	77	—
Total	1,276	100%	100%	425	100%	100%	275	100%	100%	97	100%	100%

NOTE: Details may not add to totals because of rounding.

Sources: Federal Trade Commission and Federal Reserve Bank of Cleveland

industries that provide the bulk of employment within the District. The situation appears to be generally similar in each of the major cities under review. Where there are differences, they are due largely to the particular industry mix in the individual cities. For example, firms in the nonelectrical machinery, electrical machinery, chemicals, food, and transportation equipment industries accounted for the largest number of acquisitions in the United States during 1950-1967. Except for food, those industries also accounted for the bulk of acquisitions by firms in Cleveland, but were of less importance in both Pittsburgh and Cincinnati.

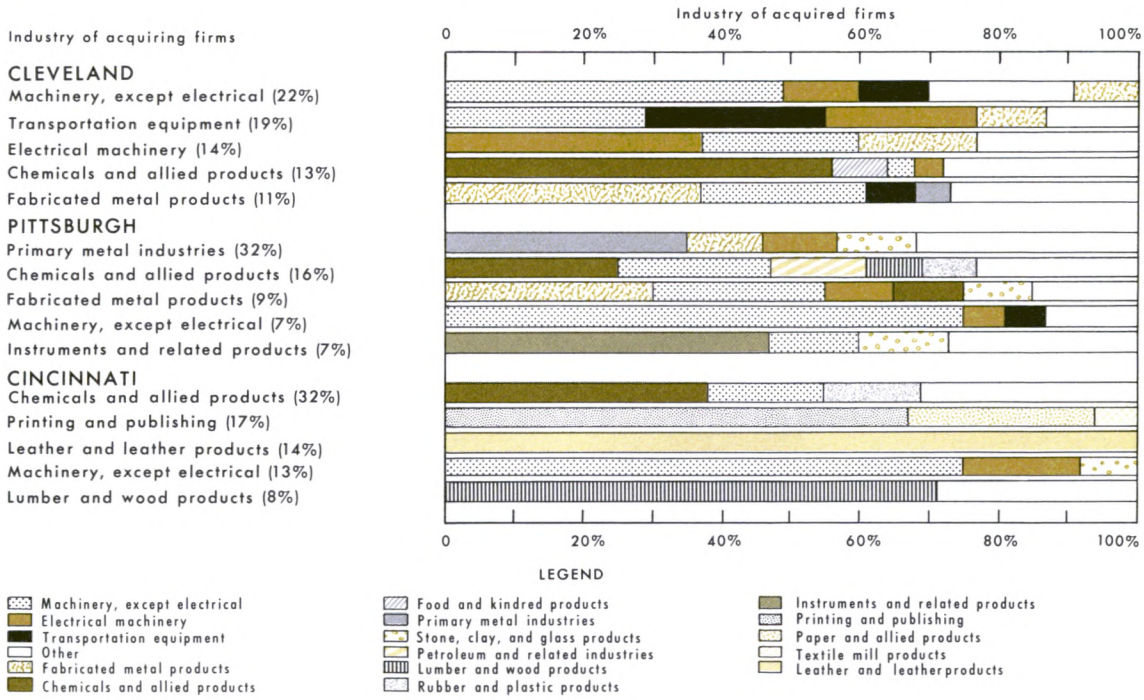
The chart shows the distribution of mergers by industry for each of the selected cities under review during 1950-1967. (The left scale shows the major industry of the firms most active in mergers in that city, with industries identified in descending order of importance. The horizontal bars show the industries of the acquired firms, which are also listed in descending order of importance.) During 1950-1967, firms in nonelectrical machinery, transportation equipment, electrical machinery, chemicals, and fabricated metals accounted for about four-fifths of the acquisitions by Cleveland-based firms. In Pittsburgh, firms in primary metals, chemicals, fabricated metals, nonelectrical machinery, and professional and scientific industries accounted for nearly three-fourths of the acquisitions made by firms in that city. In Cincinnati, firms in the chemicals, printing and publishing, leather, nonelectrical machinery, and lumber industries accounted for more than four-fifths of the acquisitions made by firms based in the city.

The distribution of mergers by industry of acquiring firms in each of the three cities generally corresponded to the distribution of employment in each city. However, there were important exceptions. For example, although the chemical industry in Cleveland ranked among the top five industries in acquisitions, it is not as important in terms of its contribution to manufacturing employment. On the other hand, although the primary metals industry was not among the leaders in acquisitions, it ranks among the top five industries in terms of manufacturing employment. In Pittsburgh, the chemical industry ranked second in the number of acquisitions, but accounts for a relatively small proportion of manufacturing employment. The largest divergence between acquisitions and industrial composition is in Cincinnati, where two of the five most active acquiring industries (leather and lumber) are not among the top manufacturing industries in that city in terms of employment. In part, industry differences between the number of acquisitions and employment patterns in a city are due to the fact that important operations or subsidiaries of large firms, while frequently major employers in a city, make no decisions with respect to acquisitions of the parent company.

As shown in the chart, there is a close association between the industries of acquiring and acquired firms. During 1950-1967, acquiring firms in each industry tended to concentrate acquisitions in lines that were the same as or complementary to existing primary products. One exception is in Cleveland, where firms in the nonelectrical machinery industry represented the largest proportion of firms acquired by firms in the transportation

PERCENT DISTRIBUTION of MERGERS by INDUSTRY

Selected Fourth District Cities — 1950-1967



NOTE: Data in parentheses are percent of total acquisitions accounted for by each industry.

Sources of data: Federal Trade Commission and Federal Reserve Bank of Cleveland

equipment industry. However, the exception is partly explained by the large number of acquisitions by one firm in the transportation equipment industry in Cleveland (the firm acquired several electronics producers). In Cleveland, from as few as 29 percent (nonelectrical machinery) to as many as 56 percent (chemicals) of the firms acquired were in the same industry as that of the acquiring firms; in Pittsburgh, the relevant range was from 25 percent (chemicals) to 75 percent (nonelectrical machinery); and in Cincinnati, from 38 percent (chemicals) to 100 percent (leather). Finally, as the chart indicates, firms in durable goods production tended to concentrate acquisitions among other durable goods producers. On the other hand, firms in a number of nondurable goods industries (for example, the chemicals industry) tended to be more diversified in their acquisitions.

Fourth Federal Reserve District