

Chapter 1

Monetary Policy and the U.S. Economy

Few components of economic policymaking are as important to the nation's economic well-being as monetary policy. This book describes monetary policy from the vantage point of the Federal Reserve Bank of New York's Open Market Trading Desk, the area responsible for carrying out most monetary policy actions. The book emphasizes the process of formulating and implementing policy.

As the central bank for the United States, the Federal Reserve has been entrusted by Congress with the responsibility for conducting monetary policy—that is, the terms and conditions under which money and credit are provided to the economy. Money comprises currency issued by the Federal Reserve and coin issued by the U.S. Treasury, as well as various kinds of deposits at commercial banks and other financial institutions. Credit encompasses loans made by depository institutions and by other types of financial or nonfinancial entities; it includes loans evidenced by debt instruments such as notes or bonds.

Congress, through the Federal Reserve Act and other legislation, has long provided the rules and guidelines for Federal Reserve policymaking. Currently, the framework for the monetary policy process is the Full Employment and Balanced Growth Act of 1978, usually referred to as the Humphrey-Hawkins Act for its primary sponsors. The act calls for the Federal Reserve to establish annual growth targets for monetary and credit aggregates and to explain how these targets relate to goals for economic activity, employment, and prices. Monetary policy is carried out through the

Federal Reserve's regulations and techniques for currency issuance and its provision of reserve balances—balances that depository institutions hold at their regional Federal Reserve Bank. The behavior of reserves—reserve balances plus currency held by depository institutions—can in turn influence deposit behavior since reserves partially back some classes of deposits.¹ Through its monetary policy actions, the Federal Reserve can influence the rates and other conditions under which credit is extended, although it cannot directly control the quantity of credit or its price.²

In addition to its mandate to carry out monetary policy in a way that promotes sustainable economic expansion and reasonable price stability, the Federal Reserve has responsibilities for encouraging the smooth functioning of the nation's financial system. It strives to accommodate the substantial short-run variations in the demand for money and credit that inevitably arise in a complex market economy. The Federal Reserve monitors a wide range of financial variables and responds when the variables seem to indicate that credit conditions are out of step with the Federal Reserve System's policy goals. Chief among the challenges facing the Federal Reserve are determining the appropriate policy stance and balancing long- and short-run objectives in the execution of policy. Decisions must be made as events are unfolding on the basis of data whose full significance is not yet clear. The policy actions themselves become part of the dynamic economic processes and may have effects that extend over considerable periods of time.

The remainder of this chapter provides an overview of the other chapters of the book. It then explains the role of money in the economy and examines the tools of policy. This information serves as background for the discussion of the financial system and policy process in later chapters.

Overview of the Book

The structure of this book largely follows that of its predecessors: Paul Meek's 1982 volume and my 1989 volume on U.S. monetary policy. The subject matter is arranged in certain broad divisions. Chapters 2-4 cover various aspects of the institutional setting for U.S. monetary policy. They are followed by three chapters describing the policy process itself, then two exploring the ways that policy affects the domestic and international economy. Chapter 10 assesses the recent record of monetary policy and the economic and financial conditions that have accompanied it.

1. Evolution of Federal Reserve Procedures

The history of the policy process, the subject of Chapter 2, reveals how the Federal Reserve has responded to new problems and changing conditions by significantly modifying its primary goals and the techniques for achieving them. Indeed, since the Federal Reserve's beginnings in 1914, both Congress and the Federal Reserve have substantially revised their views of the Federal Reserve's mandate. In the early days, the gold standard was expected to stabilize the price level. The Federal Reserve saw its role as providing reserves to accommodate routine variations in the need for credit to finance trade and as providing currency to avoid financial panics. The experience of the Great Depression altered priorities, however, and in the years following the Second World War, the policymakers considered economic stabilization a primary goal. Then, as inflationary forces grew during the 1970s, the goal of price stability acquired increased importance. Partly as a result of the high costs of inflation experienced in the 1970s, Federal Reserve policymakers have generally come to consider price stability to be the primary long-run objective of monetary policy.

The Federal Reserve's monetary policy tools (described in a later section of this chapter) have also evolved over time. In the System's early years, loans to the banks through the discount window were the predominant means of short-term adjustments to the banks' reserve balances at the Federal Reserve. Secular changes in money and credit stemmed primarily from changes in monetary gold. In more recent times, both secular growth in money and accommodation of short-term variation in money and credit demands have been provided primarily through open market operations. The setting and changing of reserve requirement ratios has generally played a subsidiary role in the policy process, although requirements can have a powerful impact.

2. The Depository Institutions

Monetary policy reflects continuing interactions among the Federal Reserve, financial institutions, the financial markets, and members of the nonbank public who deposit and borrow funds. The functioning of depository institutions plays a role in transmitting Federal Reserve policy to the economy. Chapter 3 reviews the structure of banking in the United States and aspects of risk and reserve management.

The United States has long had an extraordinarily large number of banking institutions, primarily reflecting restrictions on branching. In recent years, easing of such restrictions and other

institutional developments have encouraged heavy merger activity. The structure has been evolving against a background of increased regulatory emphasis on risk management. Depository institutions must consider many factors when managing the components of their balance sheets. When making loans or investments, they must weigh the interest to be earned against the risks incurred. They must also take account of the cost of capital requirements on the assets acquired and the return on capital that the assets should generate. In attracting deposit liabilities, depository institutions factor in the direct and indirect costs involved, including paying interest and account management expenditures as well as any reserve requirements and insurance premiums on those deposits. If the maturities of the assets and liabilities differ, the institutions must consider the implications of changes in interest rates over their lives.

The techniques that banks employ for managing their reserves held with the Federal Reserve have evolved over time. Banks use their reserve balances intensively to settle interbank transactions. As reserve requirements have been cut, many banks have found that they need more reserves for clearing and settlement than to meet reserve requirements. Because reserves earn no interest, these banks have devoted considerable resources to achieving desired reserve levels.

3. The Role of the Financial Markets

The effects of monetary policy actions are not limited to depository institutions. Indeed, as described in Chapter 4, governments at various levels, quasi-governmental agencies, private corporations, and individuals engage in extensive direct financial market borrowing and lending. The United States has vast financial markets where debt and equity are created and redistributed. These markets are competitive and serve to direct capital to the users with the most urgent demands.

Depository institutions, other financial firms, nonfinancial businesses, and governments all place funds in, or borrow from, the money market—the term used for financial markets specializing in instruments with initial maturities of a year or less—to bridge differences in timing between receipts and payments. They also use the market to defer long-term borrowing or lending to a more advantageous time. They use the longer term capital markets to borrow for investment purposes. Lenders may place funds for a long period, or they may purchase a security with the intention of selling it in what is called the secondary market when cash is needed.

Active secondary markets facilitate transfers of existing debt instruments before maturity and enable the Trading Desk at the Federal Reserve Bank of New York to conduct open market operations efficiently. Open market operations take place in two segments of the markets: one for outright transactions in U.S. Treasury securities and one for temporary purchases and sales of government securities, referred to as repurchase agreements (RPs) and matched sale-purchase agreements (MSPs).

The Federal funds market allows depository institutions to exchange reserve balances at the Federal Reserve among themselves, an arrangement that promotes the efficient use of reserves and the building of a large volume of deposits and credit on a relatively small reserve base. By adding or reducing reserves, open market operations have a direct impact on the Federal funds market. The Federal funds rate, the rate for overnight exchanges of Federal funds, responds to reserve availability.

4. The Policy Process

The formulation and execution of monetary policy, reviewed in Chapters 5-7, occur in several stages. The process originates with the actions of the Federal Open Market Committee (FOMC), the Federal Reserve's principal monetary policymaking unit. The Committee typically meets eight times a year in Washington, D.C. At these meetings, the seven governors and the presidents of the twelve regional Reserve Banks evaluate the economic outlook and develop monetary policy. The Chairman of the Board of Governors presides over the meetings; the permanent voting members of the Committee include the governors and the president of the New York Federal Reserve Bank. Four other Reserve Bank presidents serve as voting members on a rotating basis for one-year terms.

At every FOMC meeting, instructions are adopted and sent to the Trading Desk at the New York Federal Reserve. This "directive" indicates whether the Committee desires to increase, maintain, or decrease the degree of "pressure" on reserve positions. The indicators of reserve pressures have varied over the years. At the time of this writing, the FOMC is characterizing them as reserve provision to the banking system consistent with keeping the inter-bank Federal funds rate in line with a stated goal. The directive also indicates that potential economic, financial, or monetary developments could call for adjustments to the degree of reserve pressure during the period between meetings.

The Trading Desk provides reserves to the banking system in a manner designed to be consistent with the FOMC's desired Federal funds rate. In implementing the Committee's directive, the Desk

purchases or sells U.S. Treasury debt instruments to bring reserves in line with established objectives.

Each February, the FOMC sets growth rate ranges for various monetary and credit measures during the current calendar year. The ranges are reported by the Federal Reserve Chairman to the banking committees of the Congress, as required by the Humphrey-Hawkins Act. In July, the Chairman reports any revisions in that year's objectives, along with preliminary goals for the subsequent year. The uncertain relationships among money, economic activity, and prices have led to a de-emphasis of the money objectives, but they still must be set.

Changes in the monetary policy stance of the FOMC have been announced through press releases issued on the day of the decision since February 1994. The Federal funds rate tends to move to the new level when the change is announced; however, for the rate to be sustained at that level, reserves supplied by the Trading Desk must be consistent with the demands of the banking system.

Depository institutions respond to the change in the cost of funding by shifting the rate structures of their assets and liabilities. A higher funds rate should lead to higher market rates and increased incentives for other economic participants to reduce their holdings of money and their use of credit. Gradually, growth of money balances and credit should slow. At some point, the pace of real economic activity and of inflation will abate. Conversely, when the Federal funds rate falls, depository institutions will be encouraged to acquire more assets. The resultant portfolio adjustments will eventually work to spur monetary growth, increase credit availability, and quicken economic activity.

5. The Economic Impact

What, then, are the channels through which monetary policy impulses are transmitted to the economy? This question, addressed in Chapter 8, is difficult to answer completely because lags and feedback effects hamper efforts to trace all connections. Furthermore, a complex economy operating in a wider world context will not always react in a predictable way to a particular policy initiative. Nonetheless, much has been learned over the years. Individuals and businesses decide to buy or sell goods and services and to borrow or lend on the basis of current and expected values of income, interest rates, and prices. In addition, they respond to the costs of obtaining credit. The Federal Reserve is responsible for analyzing these influences and formulating a monetary policy that appropriately considers them.

Analysts of the monetary transmission process differ over the importance they attach to the various channels. Some economists have emphasized the influence of interest rates on economic decisions. Others have emphasized the importance of adjustments in money supply and demand in determining the state of the economy and the behavior of the price level. Still others have stressed the cost and availability of credit. The impact of expectations on economic decisions has received considerable attention in recent years. Expectations formulation has become an important component of the analysis of the monetary transmission mechanism. In particular, many analysts have examined the role of inflation expectations in determining interest rates. Judging whether interest rates are high or low requires knowing the degree to which inflation is expected to erode the purchasing power of money during the term for which the funds are borrowed or lent.

Various sectors of the economy will respond differently to monetary policy influences, in part because interest rate changes have different implications for them. For instance, consumers as a group are net creditors, while the federal government is generally a net debtor. Moreover, within each sector and income group, debt or credit positions will vary considerably.

Finally, the communication of economic and financial developments can be a factor in policy transmission. A considerable amount of information is disseminated very rapidly and must be interpreted in the context of underlying forces. With prices and interest rates being relatively volatile during the last three decades, firms with particular needs to predict and understand interest rate developments have devoted considerable resources to monitoring the economy and Federal Reserve policy.

6. International Dimensions of Monetary Policy

In the United States, monetary policy is still largely conducted with an eye toward domestic economic conditions and is guided heavily by domestic monetary and financial variables. Nevertheless, the United States is far from being a closed economy. As Chapter 9 shows, U.S. monetary policy can have a significant impact on other countries' economies, and developments abroad can affect the U.S. economy to a substantial degree. Moreover, foreigners use U.S. dollars as a transactions medium and a store of value, and to establish value in long-term contracts. In many dollar transactions, U.S. residents are not even participants, and the transactions do not enter into U.S. economic statistics.

The increased awareness that the United States is an open economy that cannot operate in isolation from the rest of the world

reflects the rapid expansion of international trade and financial transactions in the post-World War II period. As foreign trade has grown, both absolutely and as a share of economic activity, exchange rates have come to have a substantial bearing on U.S. income and production levels and on the U.S. inflation rate. Increased trade has been accompanied by enlarged international capital flows, which were facilitated by the dismantling of capital controls by many nations in the 1970s. Looked at in isolation, the floating exchange rates that replaced pegged rates in the early 1970s increased the opportunities for each country to pursue its own monetary policy goals independent of the actions of other nations. Nevertheless, increased trade and financial flows worked to make exchange rate changes—including those that stem from monetary policy actions—important policy considerations. They also elevated the importance of coordinated policy procedures among major countries in the world economy.

7. Recent Monetary Policy

So far in the 1990s, monetary policy has operated with a view to the importance of achieving price stability to provide a healthy climate for sustainable economic expansion with a minimum of distortions. It is recognized that the central bank must constantly be alert because institutional pressures to inflate are always present to varying degrees. Other goals must be kept in sight as well, such as easing the extremes of economic activity and minimizing structural imbalances. Chapter 10 briefly reviews some of the recent developments shaping monetary policy.

Money and the Economy

Conceptually, money consists of instruments with certain characteristics. Textbooks have generally defined it as a medium of exchange, a standard of value, a standard of deferred payments, and a store of wealth.³ As such, money represents generalized purchasing power, which ought to be reasonably well linked over time with the nominal value of the total spending and output of goods and services in the nation's economic system. Individuals and companies choose to hold money because its use greatly simplifies a wide range of economic transactions. They limit their money balances, however, because holding money has costs in the form of forgone opportunities for alternative investments in goods, services, or financial instruments. The amount of money that is consistent with a central bank's goals for prices

and output depends upon the customs, practices, regulations, and political environment of its country's economy.

Expectations of future price changes will also affect how much money people will wish to hold as a share of economic activity. For instance, if rapid inflation is expected, people will seek to minimize their holdings of those forms of money that do not provide a return sufficient to offset the expected loss of purchasing power caused by rising prices. Alternatively, if prices are expected to be steady, people will generally hold more money because of its convenience in conducting transactions. When monetary growth exceeds the amount needed to support sustainable growth in economic activity, prices will rise.

Stability or slow change in the factors affecting the demand for money increases the likelihood of a predictable relationship between money and economic activity.⁴ Rapid innovation in the nature of monetary instruments, however, such as occurred in the United States in recent decades, weakens those relationships. Also weakening the demand-for-money relationship is the increasing ease with which one can shift between money and those non-money instruments that provide a greater return than money. Essentially, there is no good match between the conceptual definition of money and the actual financial instruments that exist in the United States.

Because financial instruments have varying degrees of "moneyness," the Federal Reserve has set forth several definitions of money, listed in the box on p. 10. The narrow measure of money, M1, comes closest to conforming to all the criteria of the textbook definition, but it omits items that have most of the characteristics of money and are often better stores of value than M1.

The broader measures, M2 and M3, capture some of these close substitutes for M1. In the broader definitions, however, the ease of using the funds for purchases tends to decline. For example, there are penalties for early withdrawals from small time-deposit accounts, a component of M2 but not M1. These accounts generally have the advantage of higher yields, which increases their popularity. Sometimes the distinctions between measures are minor; for example, it is very easy to shift between M1 and the liquid components of the broader aggregates, such as money market deposit accounts and mutual funds. Large shifts often occur when the opportunity cost of holding M1 changes.

1. Money and the Policy Process

In the policy process, some measure of money traditionally served as an intermediate target or indicator, standing between the Federal Reserve's ultimate policy goals of sustainable economic growth with price stability and the operating targets used for day-to-day

Money and Credit Definitions

M1 consists of currency in circulation outside of the Treasury, Federal Reserve Banks, and depository institutions; travelers checks; demand deposits at all commercial banks other than those due to depository institutions, the U.S. government, and foreign banks and official institutions, less cash items in the process of collection and Federal Reserve float; other checkable deposits (OCD), including negotiable order of withdrawal (NOW) and automatic transfer service (ATS) accounts at depository institutions; credit union share draft accounts; and demand deposits at thrift institutions.

M2 consists of M1 plus savings deposits, including money market deposit accounts; small time deposits, including retail repurchase agreements (RPs) in amounts of less than \$100,000; and balances in retail money market mutual funds. M2 excludes individual retirement accounts (IRAs) and Keogh (self-employed retirement) balances at depository institutions and in money market funds. Also excluded are all balances held by U.S. commercial banks, retail money market funds (general purpose and broker-dealer), foreign governments, foreign commercial banks, and the U.S. government.

M3 consists of M2 plus time deposits and RPs in amounts of \$100,000 or more issued by commercial banks and thrift institutions, Eurodollars held by U.S. residents at foreign branches of U.S. banks worldwide and at all banking offices in the United Kingdom and Canada, and all balances in institution-only money market mutual funds. M3 excludes amounts held by depository institutions, the U.S. government, money market funds, foreign banks, and official institutions.

Debt is defined as outstanding debt of the U.S. government, state and local governments, and private domestic nonfinancial sectors. Private debt includes corporate bonds, mortgages, consumer credit (including bank loans), other bank loans, commercial paper, bankers' acceptances, and other debt instruments. The Federal Reserve Board's flow of funds accounts are the source of domestic nonfinancial debt data expressed as monthly averages.

The **monetary base** consists of currency outside the Federal Reserve—including vault cash held by depository institutions—and required and excess reserve balances held at the Federal Reserve. The Board of Governors and the St. Louis Federal Reserve publish separate versions of the monetary base. They use different techniques to adjust the required reserve portion for changes in reserve requirement ratios. Beginning in mid-1996, the St. Louis base has included required clearing balances. (Required clearing balances are additional balances at the Federal Reserve that depository institutions contract to hold in order to facilitate the clearing of interbank transactions. They are discussed in Chapter 6, Box A.) Furthermore, in view of the sharp decline in required reserve ratios and other institutional developments, changes in reserve ratios affect only a subset of depository institutions. The new version of the St. Louis reserve adjustment magnitude incorporates only those changes in reserve requirement ratios that are binding on the depositories.⁵

policy implementation. Money occupied this position because its behavior was related both to the ultimate goals, which could not be controlled directly, and to the potential policy tools over which “the Fed” had direct control.

From the 1950s to the 1980s, most empirical data supported the view that M1 growth was a reasonably predictable leading determinant of nominal economic activity. Although no mechanism was available to control M1 precisely, approximate control was possible over time through adjustments in either the levels of banks’ reserve balances or short-term interest rates. Similarly, the response of nominal gross domestic product (GDP) to changes in M1 showed seasonal and cyclical variation, but it also seemed to be reasonably predictable over the long run.

Starting in the 1970s, the Federal Reserve sought to take advantage of the empirical regularities and to control money growth with the intention of achieving sustainable economic growth while reducing inflation. As described in Chapter 2, however, a number of factors caused the money targets to be overshot persistently, particularly in the second half of the decade. Prices rose until inflation reached wholly unacceptable levels late in the decade. Eager to wind down the inflationary process of the 1970s, in October 1979 the Federal Reserve shifted gears and adopted a more aggressive approach to controlling money.

The technique met with considerable success if judged by its effect on average money growth and its impact on inflation. By 1982, substantial progress had been made in overcoming inflation, but the economy was in a deep recession. Nonetheless, M1 was growing rapidly by the standards then prevailing. It appeared that the previous relationships between M1 growth and nominal economic activity were not faring well. Consequently, the Fed modified its policy implementation techniques late in 1982 to deemphasize the money growth targets, especially those for M1. Later, distortions in the relationships between the broader money measures and economic activity led to reductions in their role as well.

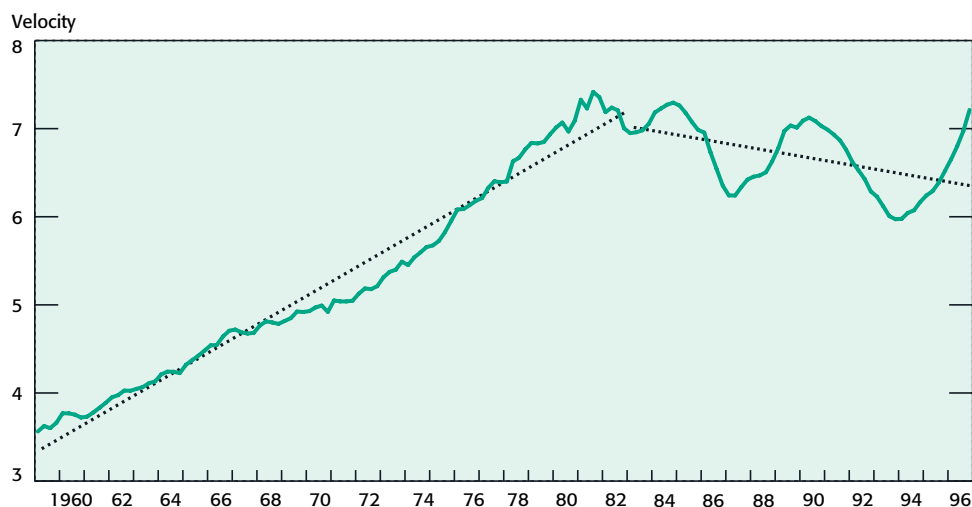
While cutting back on their reliance on the behavior of the monetary aggregates as policy indicators, policymakers placed greater emphasis on measures that might be termed indicator variables. These included short- and long-term interest rates adjusted for inflation and statistics on employment, production, spending, wages, prices, and international trade. None of these measures is directly controllable, and any of them could change for reasons other than the state of monetary policy. Nonetheless, taken together, they should suggest at least the likely course of overall economic activity and the direction in which policy instruments should be adjusted to achieve the ultimate policy goals.

2. Difficulties with Money Demand Relationships

The causes of the shifts in money demand have gradually become better understood. For many years, nominal GDP had grown modestly faster than M1, so the income velocity of M1, or its rate of turnover per income-generating transaction, had shown a modest upward trend. But a series of factors combined to make people less reluctant to hold M1 balances, and income velocity declined on balance beginning in the early 1980s (Chart 1). The spread of interest-bearing consumer transaction accounts included in M1 encouraged individuals to hold some of their savings in transaction form. In addition, lower inflation reduced the loss in purchasing power from holding money balances, an outcome that made holding money a more attractive option. When interest rates began falling, forgone interest also declined. The demand for money also became more sensitive to short-run interest rate movements. With components of M1 paying rates above zero but slow to change, large swings occurred in the relationship between market rates and rates on money balances. As a result, there were also large swings in M1 (Chart 2). Recently, the introduction of sweep accounts has once more lowered measured M1. Banks have been parking consumer checking balances in money market accounts to reduce costs.

Increased demand for U.S. currency in foreign countries during the 1980s and 1990s also interfered with the traditional M1 relationships. The foreign demand largely reflected efforts by residents of

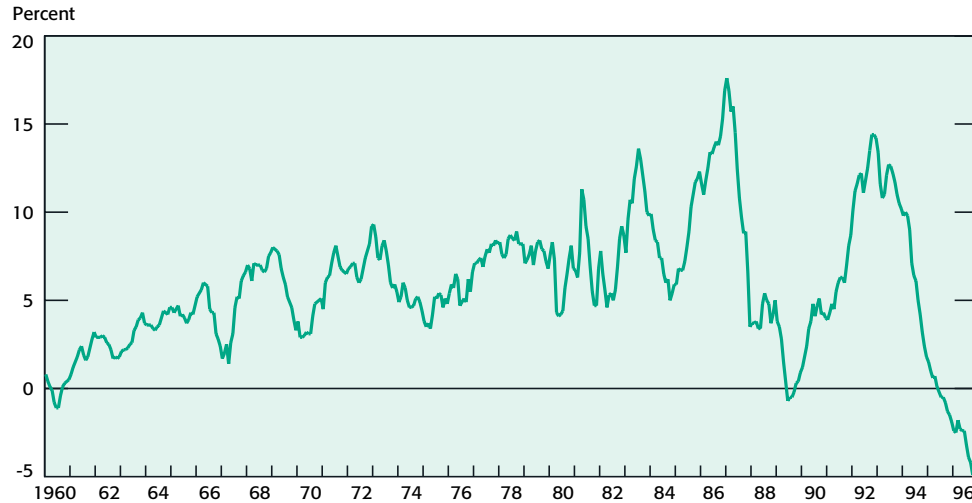
Chart 1. **M1 Velocity and Trends**



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

Notes: Velocity trend from 1959:Q1 to 1982:Q4 was 4.0 percent per year; velocity trend from 1983:Q1 to 1996:Q4 was -1.2 percent per year.

Chart 2. **M1 Growth**
Change from Twelve Months Earlier



Source: Board of Governors of the Federal Reserve System.

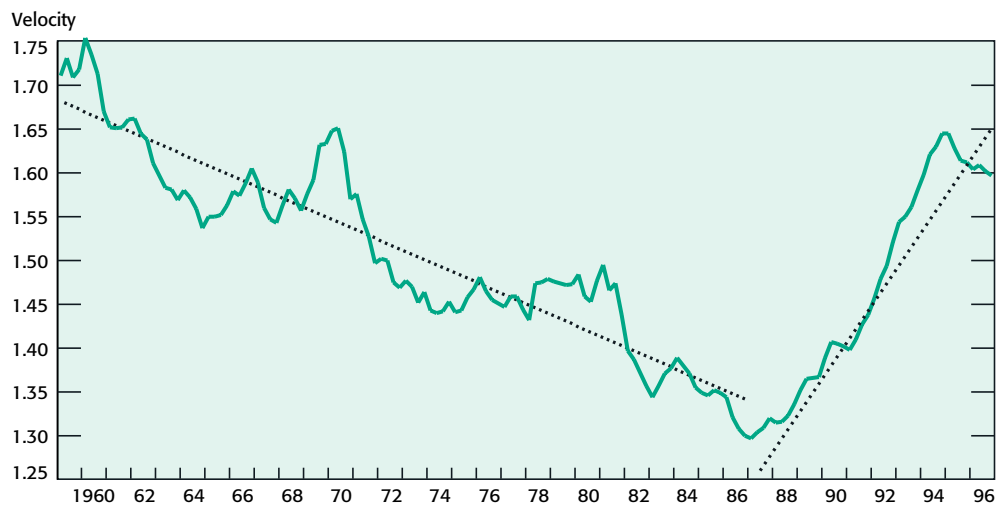
countries with high inflation to substitute a more stable dollar for their own currency. The dollars were not held to facilitate transactions in the United States, so they did not bear much relation to U.S. income measures.

For M2 and M3, the variability of velocity increased. The trend velocities may have shifted, but both series have varied enough to make patterns uncertain (Charts 3 and 4). During the early-to-mid-1980s, a combination of high interest rates and financial innovation encouraged shifting among different types of money. Money market deposit accounts introduced at the end of 1982 were very popular and encouraged the growth of M2 and M3 (Charts 5 and 6). However, late in the 1980s, M2 and M3 growth slowed even as interest rates declined. The sluggish rate of growth continued for several years after the 1990-91 recession—a somewhat surprising trend given the pickup in the economy starting in 1992. One possible explanation for this phenomenon is that since the early 1990s interest rates on components of M2 such as savings and small time deposit accounts have remained low relative to money market interest rates. Early in the 1990s, commercial banks were not aggressively seeking retail accounts because they were attempting to hold down the expansion in their balance sheets to repair their capital positions. M3 was also held down for a while because loans were soft and dollar funding from abroad was attractive to domestic banks.

Chart 3. **M2 Velocity and Trends**

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

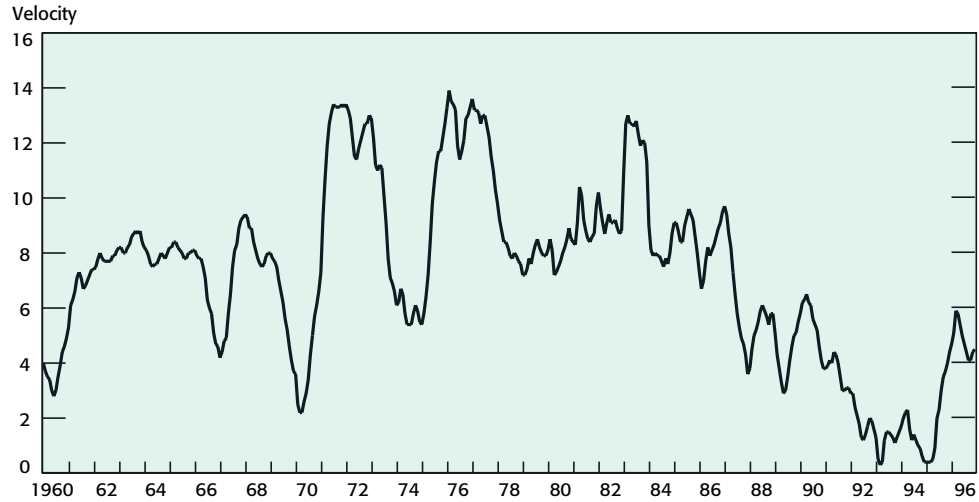
Notes: Velocity trend from 1959:Q1 to 1988:Q1 was 0.07 percent per year; velocity trend from 1988:Q2 to 1996:Q4 was 1.1 percent per year.

Chart 4. **M3 Velocity and Trends**

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

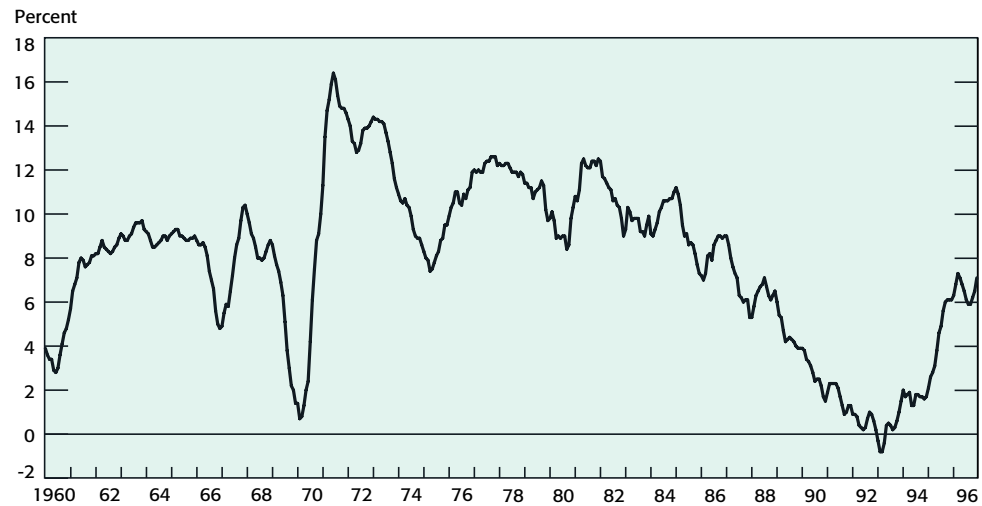
Notes: Velocity trend from 1959:Q1 to 1986:Q4 was -0.3 percent per year; velocity trend from 1987:Q1 to 1996:Q4 was 1.0 percent per year.

Chart 5. **M2 Growth**
Change from Twelve Months Earlier



Source: Board of Governors of the Federal Reserve System.

Chart 6. **M3 Growth**
Change from Twelve Months Earlier



Source: Board of Governors of the Federal Reserve System.

Another factor at work in the early 1990s was a shift of wealth into stock and bond mutual funds as these funds grew in popularity among investors. The Federal Reserve considered including those mutual funds in an expanded M2 measure but did not do so. The expanded aggregate did capture some of the substitution out of M2 and removed much of the weakness during the early 1990s. However, the expanded total was almost as volatile as M2, indicating that other forces probably were affecting both M2 and mutual funds. Another difficulty with the expanded measure is that stock and bond mutual funds are themselves subject to sometimes volatile capital gains and losses.⁶ More recently, the relationship between the traditional measure of M2 and economic activity appears to have stabilized somewhat, but it is too early to be sure.

The Tools of Policy

The Federal Reserve's three traditional primary instruments of monetary policy are open market purchases and sales of U.S. government securities, direct borrowing by banks from the discount window, and the imposition of reserve requirements. Using these tools, the Federal Reserve can affect the cost and availability of reserves to commercial banks and other depository institutions. The tools can be used separately or in combination. Each of the tools is under a different jurisdiction within the Federal Reserve System, but their use can, if needed, be coordinated to meet the needs of a particular situation. Open market operations provide the greatest flexibility and are the most actively employed tool. Nevertheless, the FOMC must take account of the settings of the other instruments when making its choices for open market policy.

1. Open Market Operations

Open market operations are the primary tool used for regulating the pace at which reserves are supplied to the banking system. They consist of Federal Reserve purchases and sales of financial instruments, usually securities issued by the U.S. Treasury. Open market operations are carried out by the Trading Desk of the Federal Reserve Bank of New York under direction from the FOMC. The transactions are arranged through firms that act as dealers, routinely buying and selling Treasury debt. Purchases by the Desk add reserves to the banking system, while sales drain them. Such purchases and sales may be made either outright or under a temporary arrangement in which the transaction is reversed after a specified number of days.

2. The Discount Window

The discount window permits depository institutions to borrow reserve balances from the Federal Reserve at a specified rate provided they meet certain conditions set by the Board of Governors of the Federal Reserve System through Regulation A. Discount rate changes are initiated by the regional Reserve Banks' boards of directors and are subject to final review and determination by the Board of Governors.

Since the mid-1960s, the basic discount rate frequently has been below the prevailing Federal funds rate. The Federal Reserve has relied on administrative procedures to limit access to the window by restricting the frequency and amounts of borrowing. Despite the often attractive rates, the discount window has been used very little in recent years, and borrowing has diminished in importance as a policy tool. The Federal Reserve's administrative restrictions used to be the primary factor that discouraged borrowing, but in the last decade banks themselves have been responsible for much of the limitation. Heavy borrowing in the 1980s by a few banks with financial difficulties caused others to avoid the window for fear depositors might conclude that they were also in trouble. Reluctance to borrow contributes to a seemingly contradictory result—namely, that increases in the amount of reserves in the banking system, when provided through the discount window, make reserve availability more restrictive on the margin because such increases put banks under pressure to find other sources of reserves to repay the loans.

Changes in either the discount rate or the rules and guidelines for access to the window can affect the costs to depository institutions of obtaining reserves to support deposit and credit growth. The response of depository institutions to the discount rate settings may affect short-term interest rates, although the Federal funds rate has greater influence. The implicit or explicit message about monetary policy contained in the discount rate change announcement probably has more effect on bank behavior than does the rate change itself.

3. Reserve Requirements

Reserve requirements play a role in establishing the banks' demand for reserves and help determine the effects of the other monetary tools on bank behavior. Commercial banks and other financial institutions accepting deposits against which payments can be made must maintain reserves in the form of cash in their vaults or deposits at Federal Reserve Banks. The existence of reserve requirements underlies the relationship between the volume of reserves and the transaction deposit component of money.

The Depository Institutions Deregulation and Monetary Control Act of 1980 (MCA) imposed uniform reserve requirements across all depository institutions holding transaction deposits. It also specified a schedule for implementing the new reserve requirements between 1980 and 1987. The MCA gave the Board of Governors of the Federal Reserve System authority to alter reserve requirements within specified ranges.

No changes in reserve requirements were made during the 1980s for the express purpose of influencing the behavior of money or credit. Reserve requirements have been cut twice in recent years—at the end of 1990 and in 1992—to help reduce the banking system's operating costs. Over time, it was anticipated that most of the cost savings would be passed on to depositors and borrowers. In addition, the reductions were expected to strengthen the financial conditions of banks and thereby improve their access to capital markets, putting them in a better position to extend credit.⁷ Recent efforts by depository institutions to avoid reserve requirements by sweeping consumer checking account balances into savings accounts have lowered required reserve balances to levels where they are not binding on the behavior of most depositories.