

choice among candidate estimates of the money stock, easier than they are today. In any case, the antebellum and Civil War monetary statistics clearly provide a valuable tool for understanding the early history of the United States and a rich field in which to test the principles of monetary economics.

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## MONETARY POLICY

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"Monetary policy" is commonly interpreted as either the intent or outcome of actions taken by a government authority affecting either the stock of money or the level of interest rates. Under the Employment Act of 1946 and the Full Employment and Balanced Growth Act of 1978, the federal government accepted responsibility for pursuing macroeconomic policies that promote high employment and price level stability. Actions by the Federal Reserve System that affect money or interest rates comprise one form of policy focused on achieving those employment and price level goals.

Monetary policy in this sense is a comparatively recent phenomenon. Traditionally, governments defined their currencies in terms of gold or silver, either minting coin with intrinsic value or offering to convert paper currency or minor coin into bullion at a set price. Currency and deposits issued by commercial banks were similarly backed by the commodity. Changes in the commodity stock, over which governments typically had little control, were thus the principal source of changes in the nation's money stock. Historically, monetary policy consisted of changes in the price at which the government would convert its currency into a commodity, the occasional issuance of unconvertible fiat currency to finance wars, and the manipulation of a central bank discount rate to protect convertibility in a financial crisis. For most countries, however, such actions were rare and not made for the purposes of stabilizing national output or prices.

Government manipulation of money or interest rates to achieve general macroeconomic stability became widely accepted after the Great Depression of the 1930s. To gain such control, governments sought to lessen the constraint that commodity (gold) convertibility imposed on their ability to manipulate monetary conditions. Eventually, commodity backing was completely eliminated, and today no currency of a developed country is convertible into a commodity.

The evolution of monetary policy in the United States was similar to that of other countries. The major turning points in the history of metallic standards may be seen in Table Cj108–112. The Coinage Act of 1792 defined the dollar as the unit of account in terms of coins of a fixed weight in gold or silver. The official bimetallic ratio (silver to gold) was set at 15 : 1. The ratio was changed in 1834 to 16 : 1. That ratio prevailed until silver was officially demonetized in 1900 under the Gold Standard Act. The United States was on the gold standard de facto from 1834 to 1971, save for a period of suspension from 1862 to 1879 during and after the Civil War. The Civil War was partly financed by the issuance of inconvertible greenbacks. At war's end, the government deliberately sought to contract the money supply to restore the original parity of \$20.67 per ounce. This official gold price prevailed from 1834 to 1933. After a transition of several months, the official price of gold was fixed at \$35 per ounce in 1934. On August 15, 1971, President Richard Nixon closed the gold window, thus ending official convertibility of the dollar into gold. In 1973, the government's gold stock was revalued at \$42.22 per ounce, where it has since remained.

The United States had no formal central bank until the establishment of the Federal Reserve System in 1914. Two federal banks, the First and Second Banks of the United States (1791–1811; 1816–1836), however, at times pursued the monetary policy objectives of stabilizing the exchange rate and acting as lender of last resort. Following the Second Bank's demise, the Independent U.S. Treasury (founded in 1847) occasionally engaged in monetary policy by switching deposits from the Treasury to commercial banks, usually to ease financial crises. In the late nineteenth and early twentieth centuries, the Treasury increased its monetary policy activities and in a rudimentary way performed many of the functions of a modern central bank.

Periodic financial crises and general dissatisfaction with the functioning of the payments system led to the establishment of the Federal Reserve System (the "Fed") in 1914. The Fed was created as a quasi-public institution consisting of twelve privately owned reserve banks with an overseeing government board. The reserve banks were designed to serve as bankers' banks, providing check clearing and other payments services, and holding commercial bank reserve accounts. By rediscounting commercial bank loans and issuing currency, the Fed also was intended to be a mechanism by which the nation's stocks of currency and bank reserves could expand and contract to meet changes in demand.

In providing reserves and currency, the Fed's founders intended that the system's operations be consistent with the Real Bills Doctrine and preservation of the gold standard. By basing the extension of Federal Reserve credit (currency and reserves) on the rediscount of short-term, commercial loans (that is, "real bills"), the Fed's founders sought to accommodate the credit and currency needs of a growing economy without supplying excessive funds that might cause financial speculation or inflation. A gold reserve requirement placed on the reserve banks served as a further check on the overextension of Federal Reserve credit. The banks were expected to defend their reserve positions, if they were threatened, by making discount rate adjustments.

The Federal Reserve Act also permitted the reserve banks to purchase Treasury securities, presumably as a source of revenue, and bankers' acceptances, so as to support the growth of an acceptance market. Although the Federal Reserve Act seemed to leave little

scope for policy discretion, by the 1920s the Fed had begun to use open market operations in government securities to affect money market conditions with the aim of achieving macroeconomic policy objectives. Confidence in the Fed's expertise at monetary management was one of the factors that underlay the optimistic faith in the "New Era" of that decade.

During its first major test, however – the downward economic slide of 1929–1933 – the Fed proved unequal to the task. In August 1929, amidst signs that the economy was already slowing down, the Fed raised the discount rate (the rate charged for borrowing by member banks) to 6 percent (see Table Cj113–117). Intended to discourage stock market speculation, the action may have precipitated the Crash of October 1929. From that point the Fed quickly reversed course. But its major critics have charged the Fed with neglecting its obligation to serve as lender of last resort, doing little or nothing to prevent several waves of bank failures, while allowing the money supply to fall by one third (Friedman and Schwartz 1963). Subsequent writers have questioned the primacy of the Fed's role in the crisis, pointing out that the stock of high-powered money (currency plus bank reserves) actually rose between 1929 and 1933, while interest rates fell (see Tables Cj113–117 and Cj141), suggesting that deflationary pressures were emanating from elsewhere in the economy (Temin 1976). Nonetheless, interpretations of the Fed's thought and action during this episode continue to be debated (Wicker 1966; Epstein and Ferguson 1984; Wheelock 1991).

Legislation of the 1930s reorganized the Fed's Open Market Committee, giving greater authority to the Board of Governors. The Banking Act of 1935 extended the Fed's authority to change commercial bank reserve requirements. Concerned about expanding levels of excess reserves, the Fed raised reserve requirements in two steps, in 1936 and 1937 (see Table Cj131–134). The economy subsequently slipped into recession in 1937 and 1938, and although analysts are not agreed on the causal connection, the Fed was highly criticized for these actions and has largely avoided the use of reserve requirements as a policy instrument since then.

During World War II and in the postwar period to 1951, the Fed conducted its operations in coordination with the U.S. Treasury to maintain ceiling yields on government securities. In March 1951, the Fed and the Treasury agreed to an accord, which permitted the Fed to pursue other objectives, such as the control of inflation. The Fed then returned to a strategy of targeting net borrowed or "free" reserves (excess less borrowed reserves) with the aim of influencing market interest rates and, ultimately, achieving the system's goals for inflation, employment, and the international balance of payments. Over time, this strategy focused increasingly on influencing the federal funds rate – the interest rate at which commercial banks borrow reserves from one another (series Cj117). Since the early 1970s, the Fed has specified target rates or ranges for the federal funds rate and carried out its open market operations to achieve those targets.

The Fed's free reserves and money market operating strategies have been criticized by proponents of monetary aggregate targeting. These critics point out that the Fed's focus on interest rates led to substantial contraction of the money stock during the Great Depression and to rapid growth of the money stock and inflation from the mid-1960s to 1980. Proponents of monetary aggregate targeting argue that while money market interest rates and free reserves may reflect the intent of policymakers, the growth of monetary aggregates better reflects the true stance of monetary policy. The

monetary base, which consists of bank reserves and currency held by the public, is one such aggregate. Because the reserve requirements that depository institutions are required to meet have varied over time, two measures of the monetary base adjusted for such charges have been created – one by the Board of Governors of the Federal Reserve System and one by the Federal Reserve Bank of St. Louis (see Table Cj135–140).

The Fed has never targeted the monetary base, though at times the Fed has sought to influence the growth of monetary aggregates. In particular, from 1979 to 1982, the Fed acted to reduce inflation by enhancing its control over money supply growth, which entailed a substantial expansion of its federal funds rate target range. Since 1982, the Fed has again rejected monetary aggregate targeting in favor of tight control of the federal funds rate. The evolution of monetary policy since the 1930s is traced in Calomiris and Wheelock (1998).

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## FINANCIAL INSTITUTIONS AND THEIR REGULATION

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Encouraged by Alexander Hamilton, in 1781 Robert Morris persuaded the Continental Congress to charter the Bank of North America, the first commercial bank in the New World. The bank made loans to the cash-strapped Revolutionary government as well as to private citizens, mostly Philadelphia merchants. In addition to supplying a medium of exchange and intermediary services, early American financial institutions were expected to support private enterprise and public infrastructure projects, including bridges, roads, and canals. In many respects, contemporaries viewed banks as one of many government-sponsored infrastructure investments.

### Early National and Antebellum Banking

By 1800, each major U.S. port city had at least one commercial bank serving the local business community. As Americans grew more familiar and comfortable with the corporate form, banking spread to smaller communities and expanded its clientele. Thus, in 1818, there were 338 banks that specialized in short-term credit to