Transactions necessary "to preserving an orderly market" were authorized in April 1937. A year later, the Federal Reserve sought to avoid too rapid of a rise in bond prices. The Federal Reserve thus developed a concern for a stable government bond market. Aggregate Federal Reserve Banks' holdings of government bonds remained around $2.5 billion for most of the time from late 1933 to the end of 1939.

Swollen Excess Reserves

Increased holdings of cash equivalents, as well as of short-term United States government securities, manifested heightened commercial bank demand for liquidity in the 1930's. Over and beyond the reserves that member banks were legally required to hold at the Federal Reserve Bank, vault cash, cash items in process of collection, and balances with banks constituted 13.5 percent of their assets in 1929 and 17 percent in 1933. Enormous gold inflows into the United States pushed excess reserves of member banks to $2.8 billion at the end of 1935.

Alarmed at the inflationary potential of the swelling excess reserves after 1933, the Federal Reserve secured authority in the Banking Act of 1935 to double reserve requirements from the previous ratio. The original Federal Reserve Act had incorporated the nineteenth-century concept of fixed reserve requirements for the purpose of providing a liquid safeguard of deposits. Twenty-two years later, ratios were made flexible "to prevent injurious credit expansion and contraction." By May 1937, the requirement was at the new limit, only to be reduced in April 1938 as monetary policy was eased to cope with a sharp decline in gross national product. At the end of 1939, member banks' excess reserves were over $5 billion, and a year later they reached $7 billion, or 11 percent of their total assets.

The abundance of reserves brought down short-term rates. By the spring of 1934, the annual yield on Treasury bills was 0.05 percent. Until 6 May 1942, bills did not offer a return of more than 0.35 percent, except in May 1937, when it was as high as 0.74 percent.

Currency and the Banks

National bank notes at various times in the 1920's exceeded the $715 million level of 1913. In the early 1930's, over $650 million were outstanding, and 1933 saw an all-time peak of $900 million. There were still upwards of $700 million in national bank notes when on 1 August 1935 the Treasury Department retired the United States bonds that served as their backing. Long after the provision of currency ceased to be an important commercial bank function, a century and a half of their activity as banks of issue came to an end in 1935.

Circulation of Federal Reserve Notes had surpassed national bank notes by 1918 and in 1933 were over three times as great. Yet these issues had not realized Willis's goal "of a single uniform currency, provided by federal reserve banks, resting upon an adequate gold reserve issued only for commercial paper, and expanding and contracting as business requirements made it needful."

As gold left the United States in 1931-1932, the rigid collateral requirements of the 1913 law had "prevented the Reserve System from adopting a monetary policy that was clearly in the interests of combating the prevailing deflation," the House Banking Committee reported. After untoward delay, United States bonds owned by the Federal Reserve Banks were made eligible in February 1932, but only temporarily because of misgivings about this departure from principle. The arrangement became permanent in 1935. Subsequent modifications in the law eliminating gold reserve requirements altogether in 1968 at long last made Federal Reserve notes truly elastic.

Time Deposits in Relative Decline

Currency held by the public rose over 34 percent from 1930 to 1933 while deposits held by individuals, partnerships, and nonbank corporations, declined sharply: almost 38 percent in the case of demand deposits and over 32 percent for time. In 1933 demand deposits comprised 58 percent and by 1940 over two-thirds of the total, excluding interbank and government deposits. Demand deposits more than doubled; commercial bank time deposits increased by only a third from 1933 to 1940. Not until early 1944, amidst the high savings of wartime prosperity, was 1930's $20.2 billion attained again. During the depression years, banks developed a disinterest in time deposits--by 1940 some 400 did not accept them at all. Rates offered savers dropped from an average of 3.2 percent in 1930 to 2.4 percent in 1934 and 1.3 percent by 1940.

The FDIC, the outstanding positive result of the banking collapse, was called upon to protect some 1,300,000 depositors in the 398 insured banks with aggregate deposit liabilities of about $500 million which had closed from 1934 through 1945 (mostly before 1941). Only 2,000 depositors, with accounts in excess of $5,000, suffered any losses.
demand deposits in 1947 and 1971. Meanwhile, households increased their share of total demand deposits from 27.5 percent in 1947 to 32.0 percent in 1971. In 1946, 34 percent of households had checking accounts; a decade later, 50 percent; by 1970, 75 percent.

Check volume rose from under 4 billion pieces in 1941 and 5.3 billion in 1945 to some 23 billion in 1971. Without new techniques, this flood of paper could not have been handled expeditiously and economically. In 1945 the American Bankers Association developed the check routing symbol (the denominator of the fraction printed in the upper right-hand corner of checks), and later encouraged magnetic ink encoding to enable electronic handling. By the middle 1960's, nearly 90 percent of all checks were electronically sorted and accounted for. After 1 September 1967 the Federal Reserve Banks handled only checks that could be processed on high-speed electronic equipment.

If the number of checks written continues to grow at a 7 percent compounded annual rate, 42 billion would have to be handled by 1980. Some authorities envision a less-check and others a checkless society in the not too distant future. Meanwhile, despite rapidly growing check usage, the currency and coin component of the money supply increased from 20.3 percent in 1960 to 23.0 percent a dozen years later.

**Surge of Time Deposits**

Commercial banks dominated the liquid savings field in 1920, with 61.1 percent of the total, which also included accounts in mutual savings banks, savings and loan associations, postal savings, and credit unions, but by the end of 1940 they had declined to 48.3 percent. The commercial bank share of time deposits owned by individuals and business firms in 1945 was the same as in 1930, 53.5 percent. By 1960, however, it was less than 40 percent.

The postwar loss of position was a source of great concern, as simultaneously demand deposit growth slackened. Bankers complained about the unequal competition for savings: mutual thrift institutions (savings banks, savings and loan associations and credit unions) paid much lower taxes and enjoyed regulatory advantages, including the absence of a legal reserve requirement on their deposit type obligations.

Interest rate ceilings on time deposits were of no consequence to commercial banks in the first two decades of their application. Some banks began to feel constrained by Regulation Q in the early 1950's, though the 2.5 percent limit was above the prevailing average. The first increase in ceiling rates took effect at the beginning of 1957. Time deposits rose 11 percent that year and even more in 1958, a recession period. As the ceiling's impact became increasingly restrictive, the Board of Governors raised it again as of 1962. In the next years the differential between the rate offered by commercial banks and the mutual thrift institutions on passbook savings narrowed. It might have vanished altogether if Regulation Q had not been amended in 1966 under special legislation aimed at preventing this.

Time deposits owned by nonfinancial corporations were less than $1 billion until 1954, $2 billion in 1959, and $26.4 billion at the end of 1972. These deposits came to take the form mainly of negotiable certificates of deposit (CDs) in denominations of $100,000 and over. They were first issued by the First National City Bank of New York in February 1961; other large banks quickly followed. Investors needing funds before maturity could sell the CDs in the open market, where these obligations of leading banks soon became a major instrument.

Important Wall Street banks did not pay interest on business time deposits until 1961. They were forced to change their attitude as total deposits in New York's leading banks grew insignificantly in the post-1945 era. Large denomination CDs soared to $18.6 billion by August 1966 only to decline by $3 billion in the next 3 months because the Board of Governors refused to raise the ceiling rates at a time when investors could get a higher interest return in the open market. Again from November 1968 to December 1969 these CDs shrank, this time by 60 percent—over $14 billion—because of the unfavorable differential between what banks were permitted to offer and the open market rates.

Nonnegotiable CDs were not a new instrument, but in the 1960's they were promoted vigorously. As a result, noncertificated savings deposits, over 75 percent of total time deposits as recently as the end of 1961, were just over 45 percent a decade later.

Time deposits were 20.3 percent of total deposits in 1945 and 26.2 percent in 1955. After 1945, the time deposit total declined only in 1969; the $9 billion drop was the consequence of the low ceiling under Regulation Q. At the end of 1972, time deposits were a record 51.1 percent of total deposits, compared with 40.2 percent in 1929 and 33.4 percent in 1961.

**Federal Funds**

Banks actively seeking loanable funds did not confine themselves to attracting time deposits. Near the end of 1964 Morgan Guaranty Bank of New York announced it would use federal funds as a long-range resource instead of merely as a temporary device for reserve adjustments. Since then, the rate on