TAX FOUNDATION

## TAX FOUNDATION BACKGROUND PAPER #6

# *Uncompensated Reserve Requirements: The Hidden Tax on Our Banks*

**By:**

*Arthur P. Hall, II*
*Senior Economist*
Tax Foundation

**November 11, 1993**

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# Uncompensated Reserve Requirements: The Hidden Tax on Our Banks

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# Uncompensated Reserve Requirements:

# The Hidden Tax on Our Banks

Beginning with the National Bank Act of 1863, the federal government has required a substantial segment of the banking industry to hold idle a specified fraction of their deposits. These idle balances are known as required reserves. Starting in 1914, when Congress established the Federal Reserve System, banks—and after 1980, all depository institutions—have had to keep some measure of their required reserve balances as deposits at the Federal Reserve (the Fed).

Congress has never permitted the Fed to make compensating interest payments on banks' required reserve deposit balances. Consequently, legal reserve requirements have acted as a hidden tax on banks, because these requirements reduce banks' earnings by the amount of income they must forego.

## 1. The Amount of the Hidden Tax

The size of banks' reserve tax burden each year is determined by multiplying the amount of non-interest bearing required reserves times some measure of the interest revenue banks could be earning on alternative investments—e.g., loans or securities. Table 1 and Figures 1 through 3 show estimates of the maximum dollar amounts of this tax "paid" by the banking industry since Congress passed the Monetary Control Act of 1980. The federal funds rate, the rate that banks pay each other on short-term inter-bank loans, offers one good measure of banks' foregone interest revenue. (For comparison purposes, Table 1 also shows the estimated reserve tax using the 3-month Treasury Bill rate and banks' annual return on equity—the rate of return on their overall portfolio.) Using the federal funds rate, the banking industry shouldered a 1992 reserve tax burden of about $1.8 billion. It can expect a burden of about $1.6 billion for 1993.

The reserve-tax base equals the sum of idle deposits banks must hold in the form of either vault cash or non-interest bearing accounts at the Fed. The rate of the reserve tax varies with the percentage level of reserve requirements (the fraction of banks' deposits that they must hold idle) and the array of profit-making opportunities available to banks at any given time.

## 2. Who Bears the Reserve Tax Burden?

It is difficult to determine who bears the reserve tax burden. Bank depositors may bear some of the tax in the form of lower interest rates, higher fees, or reduced services. Borrowers may bear some of the tax in the form of higher interest rate charges on bank loans. And bank owners (stockholders) may bear some of the burden in the form of reduced dividends paid out of bank earnings. Which of these groups—depositors, borrowers, or owners—actually "pays" the reserve tax depends on an array of factors that may change over time.

However, the Fed's Board of Governors believes that most of the burden in the competitive U.S. banking industry gets shifted to consumers. In its announcement of the December 1992 reserve requirement reduction from 12 to 10 percent on net transaction (checking) accounts (see Appendix 5), the Board of Governors said that the reduction "will reduce funding costs for depositories and strengthen their balance sheets. Over time, it is expected that most of these cost savings will be passed on to depositors and borrowers."[1]

Assuming that banks must pass the reserve tax burden onto borrowers or depositors, Table 2 and

## Table 1: Various Estimates of the Reserve Tax on Banks

| Year | Required Reserves ($Mils.)[1] | T-Bill Rate (%)[2] | Fed. Fund Rate (%)[3] | Return on Equity (ROE) (%)[4] | T-Bill Estimated "Reserve Tax" ($Mils.) | ROE Estimated "Reserve Tax" ($Mils.) | Fed. Funds Estimated "Reserve Tax" ($Mils.) |
|---|---|---|---|---|---|---|---|
| 1918 | $1,585 | * | * | 9.40% | * | $148.99 | * |
| 1919 | 1,822 | * | * | 10.20 | * | 185.84 | * |
| 1920 | 0 | 5.42% | * | 9.90 | $0.00 | 0.00 | * |
| 1921 | 1,654 | 4.83 | * | 6.50 | 79.89 | 107.51 | * |
| 1922 | 0 | 3.47 | * | 7.40 | 0.00 | 0.00 | * |
| 1923 | 1,884 | 3.93 | * | 6.70 | 74.04 | 126.23 | * |
| 1924 | 2,161 | 2.77 | * | 7.40 | 59.86 | 159.91 | * |
| 1925 | 2,256 | 3.03 | * | 8.20 | 68.36 | 184.99 | * |
| 1926 | 2,250 | 3.23 | * | 8.00 | 72.68 | 180.00 | * |
| 1927 | 2,424 | 3.10 | * | 7.90 | 75.14 | 191.50 | * |
| 1928 | 2,430 | 3.97 | * | 8.20 | 96.47 | 199.26 | * |
| 1929 | 2,428 | 4.42 | * | 7.80 | 107.32 | 189.38 | * |
| 1930 | 2,375 | 2.23 | * | 4.00 | 52.96 | 95.00 | * |
| 1931 | 1,994 | 1.15 | * | -1.50 | 22.93 | -29.91 | * |
| 1932 | 1,933 | 0.88 | * | -5.00 | 16.99 | -96.65 | * |
| 1933 | 1,870 | 0.52 | * | -9.90 | 9.63 | -185.13 | * |
| 1934 | 2,282 | 0.26 | * | -5.80 | 5.84 | -132.42 | * |
| 1935 | 2,743 | 0.14 | * | 2.80 | 3.76 | 76.86 | * |
| 1936 | 4,622 | 0.14 | * | 7.74 | 6.61 | 357.84 | * |
| 1937 | 5,815 | 0.45 | * | 5.57 | 25.99 | 324.17 | * |
| 1938 | 5,519 | 0.05 | * | 4.37 | 2.93 | 241.00 | * |
| 1939 | 6,444 | 0.02 | * | 5.67 | 1.48 | 365.46 | * |
| 1940 | 7,411 | 0.01 | * | 5.74 | 1.04 | 425.36 | * |
| 1941 | 9,365 | 0.10 | * | 6.37 | 9.65 | 596.78 | * |
| 1942 | 11,129 | 0.33 | * | 6.04 | 36.28 | 671.90 | * |
| 1943 | 11,650 | 0.37 | * | 8.36 | 43.45 | 973.70 | * |
| 1944 | 12,748 | 0.38 | * | 9.26 | 47.81 | 1,181.08 | * |
| 1945 | 14,457 | 0.38 | * | 10.36 | 54.21 | 1,497.46 | * |
| 1946 | 15,577 | 0.38 | * | 9.66 | 58.41 | 1,504.85 | * |
| 1947 | 16,400 | 0.59 | * | 7.98 | 97.42 | 1,309.36 | * |
| 1948 | 19,277 | 1.04 | * | 9.28 | 200.48 | 1,789.10 | * |
| 1949 | 15,550 | 1.10 | * | 9.11 | 171.36 | 1,416.30 | * |
| 1950 | 16,509 | 1.22 | * | 9.52 | 201.08 | 1,571.59 | * |
| 1951 | 19,667 | 1.55 | * | 8.79 | 305.23 | 1,729.64 | * |
| 1952 | 20,520 | 1.77 | * | 8.50 | 362.38 | 1,743.22 | * |
| 1953 | 19,397 | 1.93 | * | 8.08 | 374.56 | 1,567.23 | * |
| 1954 | 18,618 | 0.95 | 1.07% | 10.33 | 177.43 | 1,923.84 | $199.21 |
| 1955 | 18,903 | 1.75 | 1.78 | 8.87 | 331.37 | 1,675.75 | 336.47 |
| 1956 | $19,089 | 2.66% | 2.73% | 9.23% | $507.39 | $1,761.84 | $521.13 |
| 1957 | 19,091 | 3.27 | 3.11 | 9.25 | 623.70 | 1,765.97 | 593.73 |
| 1958 | 18,574 | 1.84 | 1.57 | 11.46 | 341.58 | 2,129.00 | 291.61 |
| 1959 | 18,619 | 3.41 | 3.30 | 8.09 | 633.98 | 1,505.54 | 614.43 |
| 1960 | 18,988 | 2.93 | 3.22 | 10.94 | 555.97 | 2,076.86 | 611.41 |
| 1961 | 18,988 | 2.38 | 1.96 | 10.74 | 451.53 | 2,039.61 | 372.16 |
| 1962 | 20,071 | 2.78 | 2.68 | 9.89 | 557.57 | 1,985.79 | 537.90 |
| 1963 | 20,677 | 3.16 | 3.18 | 9.50 | 652.77 | 1,964.04 | 657.53 |
| 1964 | 21,663 | 3.55 | 3.50 | 9.77 | 768.82 | 2,116.92 | 758.21 |
| 1965 | 22,848 | 3.95 | 4.07 | 10.13 | 903.41 | 2,313.75 | 929.91 |
| 1966 | 24,321 | 4.88 | 5.11 | 9.54 | 1,187.11 | 2,319.03 | 1,242.80 |
| 1967 | 25,905 | 4.32 | 4.22 | 10.79 | 1,119.36 | 2,795.82 | 1,093.19 |
| 1968 | 27,439 | 5.34 | 5.66 | 10.99 | 1,464.97 | 3,014.33 | 1,553.05 |
| 1969 | 28,173 | 6.68 | 8.22 | 11.50 | 1,881.11 | 3,240.64 | 2,315.82 |
| 1970 | 30,033 | 6.46 | 7.17 | 11.92 | 1,939.53 | 3,578.95 | 2,153.37 |
| 1971 | 32,496 | 4.35 | 4.66 | 11.88 | 1,412.93 | 3,861.58 | 1,514.31 |
| 1972 | 32,044 | 4.07 | 4.43 | 11.68 | 1,304.51 | 3,744.33 | 1,419.55 |
| 1973 | 35,268 | 7.04 | 8.73 | 11.97 | 2,483.22 | 4,222.64 | 3,078.90 |
| 1974 | 37,011 | 7.89 | 10.50 | 11.98 | 2,918.69 | 4,432.25 | 3,886.16 |
| 1975 | 35,197 | 5.84 | 5.82 | 11.36 | 2,054.80 | 4,000.14 | 2,048.47 |
| 1976 | 35,461 | 4.99 | 5.04 | 10.86 | 1,769.15 | 3,850.02 | 1,787.23 |
| 1977 | 37,615 | 5.27 | 5.54 | 11.20 | 1,980.43 | 4,213.66 | 2,083.87 |
| 1978 | 42,694 | 7.22 | 7.93 | 12.31 | 3,082.93 | 5,254.09 | 3,385.63 |
| 1979 | 44,217 | 10.04 | 11.19 | 13.20 | 4,439.83 | 5,838.03 | 4,947.88 |
| 1980 | 42,393 | 11.51 | 13.35 | 12.09 | 4,879.43 | 5,125.82 | 5,659.47 |
| 1981 | 40,414 | 14.03 | 16.39 | 12.45 | 5,670.08 | 5,031.88 | 6,623.85 |
| 1982 | 40,146 | 10.69 | 12.24 | 11.53 | 4,291.61 | 4,630.65 | 4,913.87 |
| 1983 | 38,329 | 8.63 | 9.09 | 10.63 | 3,307.79 | 4,074.43 | 3,484.11 |
| 1984 | 37,227 | 9.35 | 10.23 | 10.06 | 3,480.72 | 3,744.85 | 3,808.32 |
| 1985 | 42,173 | 7.47 | 8.10 | 10.63 | 3,150.32 | 4,482.93 | 3,416.01 |
| 1986 | 50,332 | 5.98 | 6.80 | 9.56 | 3,009.85 | 4,813.41 | 3,422.58 |
| 1987 | 58,318 | 5.82 | 6.66 | 1.55 | 3,394.11 | 905.19 | 3,883.98 |
| 1988 | 60,829 | 6.68 | 7.57 | 12.62 | 4,063.38 | 7,679.49 | 4,604.76 |
| 1989 | 59,715 | 8.12 | 9.21 | 7.60 | 4,848.86 | 4,541.13 | 5,499.75 |
| 1990 | 60,313 | 7.51 | 8.10 | 7.32 | 4,529.51 | 4,414.63 | 4,885.35 |
| 1991 | 49,636 | 5.42 | 5.69 | 7.79 | 2,690.27 | 3,865.29 | 2,824.29 |
| 1992 | 51,694 | 3.45 | 3.52 | 13.29 | 1,783.44 | 6,870.13 | 1,819.63 |
| 1993:Q2 | 53,593 | 2.99 | 3.04 | 12.51 | 1,604.22 | 6,704.48 | 1,629.23 |

1. Estimated through 1958. Beginning on November 13, 1980, includes reserves of all deposit institutions.

2. Years 1920-1931 equal yearly average on 3- to 6-month Treasury notes and certificates. 1932 to the present equal the yearly average on the auction rate of 3-mo. Treasury bills.

3. 1954 includes only the months August through December.

4. The years 1918-1933 represent National banks only. From 1934 to the present represents FDIC data on all insured banks. All National banks had to belong to the Federal Reserve and the Federal Deposit Insurance Corporation

Source: Tax Foundation calculations based on Federal Reserve Board of Governors and Federal Deposit Insurnace Corporation data.

Figure 1: Estimated "Reserved Tax" After Monetary Control Act of 1980
(Measured by Return on Equity)

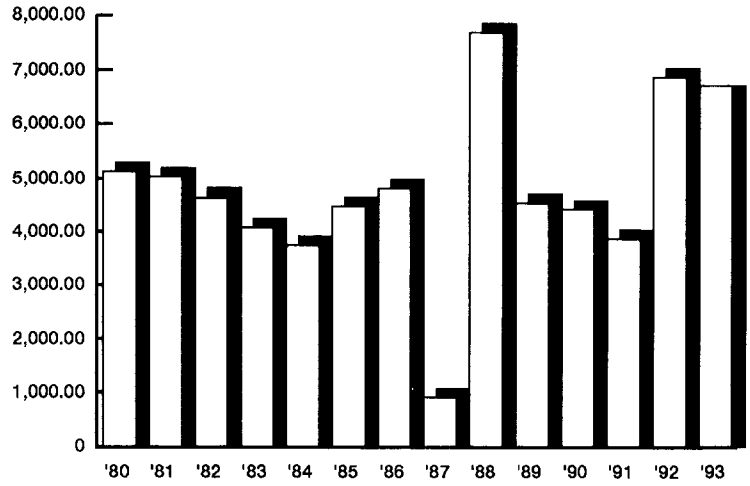



Figure 2: Estimated "Reserved Tax" After Monetary Control Act of 1980
(Measured by Average T-Bill Rate)

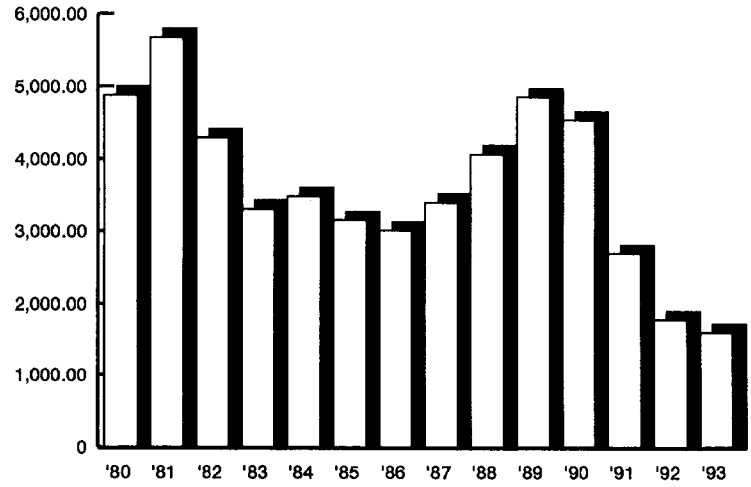
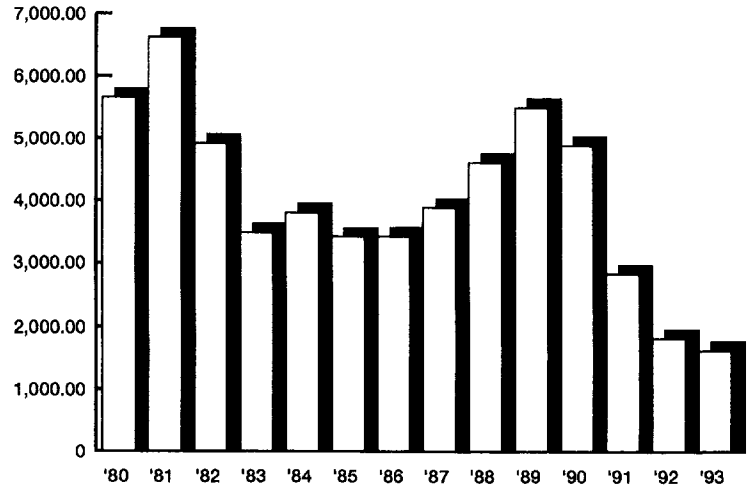



Figure 3: Estimated "Reserved Tax" After Monetary Control Act of 1980
(Measured by Average Federal Funds Rate)




Source: Tax Foundation; Federal Reserve Board of Governors; Federal Deposit Insurance Corp.

Figure 7 show estimates of the additional cost of bank loans or reduced returns on interest-bearing deposits that have resulted from the reserve tax. From 1980 to 1993, using the federal funds rate as a measure of banks' opportunity cost, the average additional interest charge on a bank loan amounts to 109.4 basis points (1.094 percentage points); alternatively, using banks' return on equity, the average additional charge amounts to 124.7 basis points (1.247 percentage points).

The addition of 1.094 percentage points onto the interest charge of a loan increases financing costs considerably. For example, a 9.094 percent instead of an 8 percent rate of interest increases the payments on a $100,000, 5-year business loan by $52.76 per month, or $2,532.54 over the life of the loan. The cost increase for a $100,000, 30-year mortgage is $77.63 per month or $27,947.10 over the life of the loan.

If banks pass the entire amount of the reserve tax onto depositors in the form of lower interest rates and higher fees, then the amount of the reserve tax would also represent an amount of income lost to savers and consumers. For example, a person who contributed $1,000 per year for thirty years to a

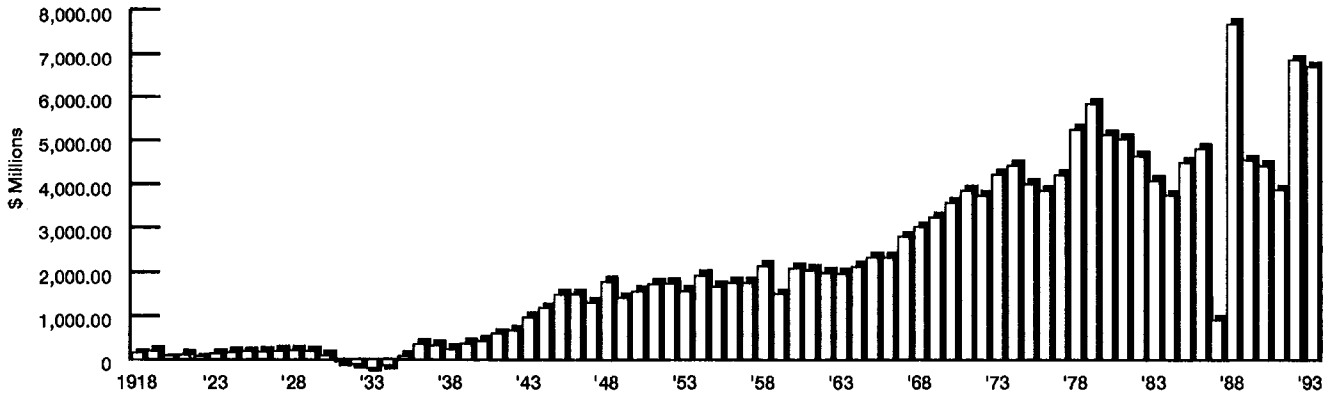
retirement plan would lose $25,437.50 if the reserve tax reduced the interest earned from 9.094 percent to 8 percent. In effect, the reserve tax on banks would act identically to a tax on personal (and business) interest income earned on bank deposits, effectively creating a disincentive to saving.

If bank owners pay some part of the reserve tax, then banks must earn a higher rate of return for their owners than otherwise in order to raise equity capital. Bank managers could earn this higher return in two ways. First, they could take greater care to reduce loan default rates by making loans only to the most credit-worthy individuals and firms. Second, they could seek relatively higher returns from riskier loans. Either way, by increasing banks' operating costs the effect of the reserve tax acts similarly to raising the effective income tax rate paid by banks.

### 3. The Economic Consequences of the Reserve Tax

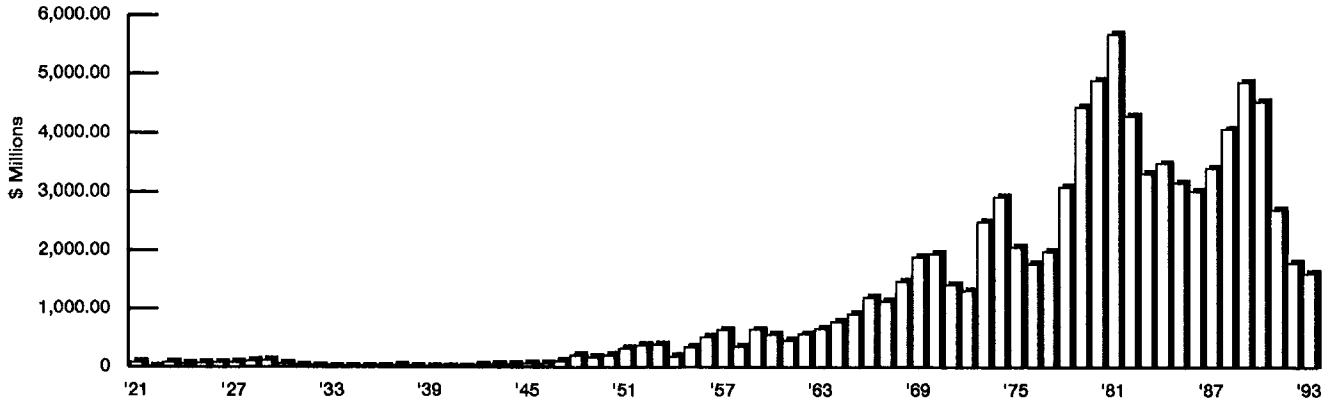
One measure of the direct economic cost of the reserve tax is the reduction in Gross Domestic Product (GDP) that results because the reserve tax restricts a bank's ability to make loans. Paying banks interest on their required reserve balances would eliminate this restriction. Dr. Lawrence

Figure 4: Estimated "Reserve Tax" onFederal Reserve Member Banks, 1918-1979
Measured by Return on Equity




Source: Tax Foundation; Federal Reserve Board of Governors; Federal Deposit Insurance Corporation.

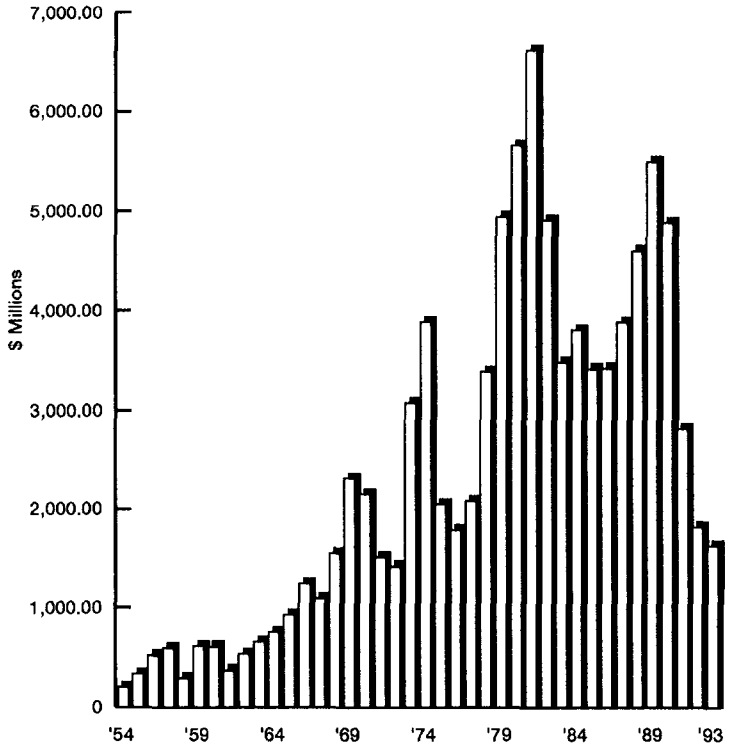
Figure 5: Estimated "Reserve Tax" onFederal Reserve Member Banks, 1921-1979
Measured by Average T-Bill Rate




Source: Tax Foundation; Federal Reserve Board of Governors.

Lindsey, a member of the Board of Governors of the Federal Reserve, recently calculated that for every dollar added to a bank's reserves, it can loan out $12.50 more to households and businesses. Using the federal funds rate as a measure of banks' opportunity cost, Dr. Lindsey's estimate implies that banks could have loaned out an additional $22.75 billion in 1992 had they not been subject to the reserve tax. Had banks made these loans, GDP would have been about $6.87 billion higher. For 1993, banks must forego about $20.35 billion in additional loans, which would mean about $6.78 billion of additional GDP foregone in 1993.[2]

**Figure 6: Estimated "Reserve Tax" on Federal Reserve Members Banks, 1954-1979 (Measured by Average Federal Funds Rate)**




Source: Tax Foundation; Federal Reserve Board of Governors.

Governor Lindsey said in a recent Tax Foundation interview that the benefit-cost ratio to the economy of removing the reserve tax "beats anything the government can do through traditional channels."[3] The members of the Board of Governors unanimously agree with Lindsey about the importance of removing the reserve tax. The Board also knows that U.S. banks may face a competitive disadvantage with foreign banks, because the central banks of many industrialized nations have reduced or eliminated the reserve tax on their banking industries or never imposed it in the first place.[4]

## 4. Reserve Tax Repeal and Federal Budget Deficits

The members of the Board of Governors want to abolish the reserve tax, but not necessarily by eliminating legal reserve requirements. Rather, they think that banks should receive interest payments from the Fed on the required reserves that they hold in accounts at the Fed.[5] In fact, this method of eliminating the reserve tax follows a 1978 Fed proposal that was not included in the Monetary Control Act of 1980.

In its 1978 proposal, the Fed wanted Congress to impose universal reserve requirements on all depositories *and* pay interest on required reserves. The Board of Governors argued that these provisions would provide the Fed with greater certainty over the conduct of its monetary policy. But Congress only

granted them the power to levy reserve requirements universally. In effect, Congress agreed to broaden the tax base and lower the rate of the reserve tax, but not to eliminate it. As a result, the Fed faces a larger measure of uncertainty about monetary policy than it otherwise would.

As Governor Lindsey remarked, the continued imposition of the reserve tax gives bankers and their customers an incentive to channel money away from the accounts that represent "the core of our monetary system." The evidence confirms Lindsey's—and the Board's—concern. In the words of E.J. Stevens, Cleveland Fed economist and Vice President, "The combined reserve deposits and vault cash assets of commercial banks have grown at only about one-third the rates of growth of bank loans and, indeed, of the banking system, largely because the growth rate of reserve deposits has averaged only 1.3 percent since 1952."[6]

Yet, the Board of Governors does not have the authority to remove the reserve tax by initiating interest payments on banks' required reserve balances—Congress does. But Congress has tended to resist this idea. The reserve tax has become another captive of the federal government's continuing budget deficits.

Even though reserve requirements were never meant to be a revenue source for the federal government, they have, through the institutional conventions of the Fed, become a source of revenue for the U.S. Treasury. The original Federal Reserve Act mandated that the Fed pay the Treasury a "franchise tax" (see Table 3) to recapture the income Fed Banks earned from their government-granted privileges. That practice stopped in 1933. However, postwar political considerations motivated the Fed, in 1947, and despite the loud public charge of illegality from former Tax Foundation Board member Dr. Walter E. Spahr, to begin

**Table 2: Various Estimates of the Marginal Reserve Tax on Demand Deposits. (Measured in Basis Points)**

| Year | T-bill Marginal Reserve Tax[1] | Fed. Funds Marginal Reserve Tax[1] | ROE Marginal Reserve Tax[1] |
|---|---|---|---|
| 1954 | $18.11 | $20.33 | $196.33 |
| 1955 | 33.31 | 33.82 | 168.44 |
| 1956 | 50.50 | 51.87 | 175.36 |
| 1957 | 62.07 | 59.09 | 175.75 |
| 1958 | 31.72 | 27.08 | 197.72 |
| 1959 | 58.74 | 56.93 | 139.48 |
| 1960 | 50.51 | 55.55 | 188.68 |
| 1961 | 40.43 | 33.32 | 182.61 |
| 1962 | 45.84 | 44.22 | 163.25 |
| 1963 | 52.09 | 52.47 | 156.73 |
| 1964 | 58.56 | 57.75 | 161.24 |
| 1965 | 65.24 | 67.16 | 167.09 |
| 1966 | 80.54 | 84.32 | 157.33 |
| 1967 | 71.30 | 69.63 | 178.08 |
| 1968 | 88.09 | 93.39 | 181.26 |
| 1969 | 115.18 | 141.80 | 198.42 |
| 1970 | 111.40 | 123.68 | 205.56 |
| 1971 | 75.00 | 80.39 | 204.99 |
| 1972 | 69.21 | 75.31 | 198.64 |
| 1973 | 110.90 | 137.50 | 188.57 |
| 1974 | 124.20 | 165.38 | 188.61 |
| 1975 | 86.11 | 85.85 | 167.63 |
| 1976 | 73.59 | 74.34 | 160.14 |
| 1977 | 76.34 | 80.33 | 162.43 |
| 1978 | 104.70 | 114.99 | 178.44 |
| 1979 | 145.59 | 162.26 | 191.45 |
| 1980 | 166.90 | 193.58 | 175.32 |
| 1981 | 203.44 | 237.66 | 180.54 |
| 1982 | 155.01 | 177.48 | 167.25 |
| 1983 | 103.56 | 109.08 | 127.56 |
| 1984 | 112.20 | 122.76 | 120.71 |
| 1985 | 89.64 | 97.20 | 127.56 |
| 1986 | 71.76 | 81.60 | 114.76 |
| 1987 | 69.84 | 79.92 | 18.63 |
| 1988 | 80.16 | 90.84 | 151.50 |
| 1989 | 97.44 | 110.52 | 91.26 |
| 1990 | 90.12 | 97.20 | 87.83 |
| 1991 | 65.04 | 68.28 | 93.45 |
| 1992 | 34.50 | 35.20 | 132.90 |
| 1993e | 29.66 | 30.16 | 156.40 |

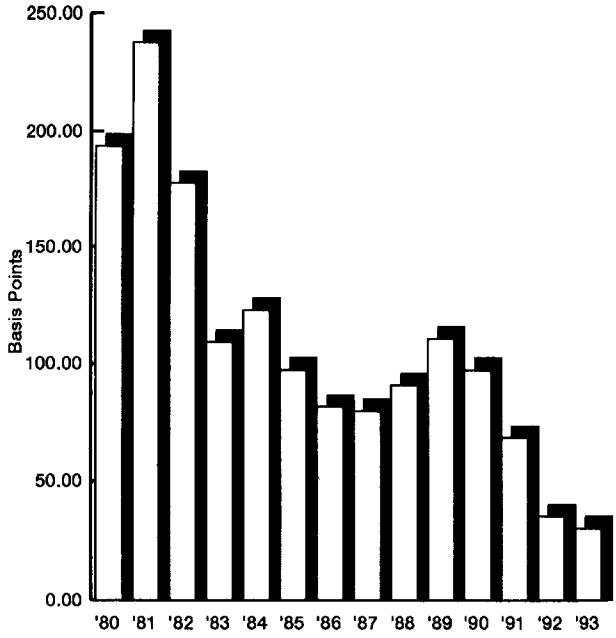
1. Before 1962, the required reserve ratio used is the average of rates for central reserve city and reserve city banks. Between 1962 and 1983, the ratio is the average of rates for banks with more than $100 million in demand deposits. After 1983 uses top rate on net transactions accounts. (See Appendices 1-5.)

Note: The marginal reserve tax is calculated by multiplying the various opportunity cost measures listed by the required reserve ratios identified in footnote 1 of this table.

Source: Tax Foundation calculations using data from Federal Reserve the Board of Governors.

transferring to the Treasury more than 90 percent of the net revenue that accrues to Fed Banks each year. This revenue consists mostly of interest payments received from the portfolio of U.S. government securities that Fed Banks must legally hold as collateral against Federal Reserve notes (currency) and banks' required reserve accounts. Only since World War II has this portfolio become substantial.

**Figure 7: Marginal Reserve Tax on Demand Deposits. (Measured in Basis Points Using Average Federal Funds Rate)**




Source: Tax Foundation computations using data from the Federal Reserve Board of Governors.

If Congress agreed to eliminate the reserve tax, it would reduce the Fed's net revenue (about $1.6 billion in 1993). And less Federal Reserve net revenue means less Fed revenue transferred to the federal government.

As Table 3 and Figure 8 show, these transfers represent a small (and shrinking) component of the federal government's total revenues. However, removing the reserve tax would generate enormous economic benefits for consumers and businesses and make U.S. banks more competitive internationally.

Rather than eliminate the reserve tax, however, Congress wants to *increase* Fed-to-Treasury transfers. During the latest budget reconciliation negotiations, the congressional banking committees, in an effort to produce their share of spending "cuts," recommended measures that would raid the Federal Reserve's surplus account. The surplus account contains retained earnings the Fed uses as a financial cushion to buffer declines in the value of assets, encourage confidence in the currency, and promote the operational integrity of the regional Fed banks.[7] The committees' language became law with the Omnibus Budget Reconciliation Act of 1993 which requires the Fed to transfer to the Treasury an additional $106 million in 1997 and $107 million in 1998.[8]

## 5. Historical Arguments for Reserve Requirements

### *5.1 The Liquidity Argument*

No other major country in the world imposed reserve requirements on banks until about the middle of the 20th century.[9] The evolution of banking in America occurred in the context of a large measure of public mistrust and misunderstanding towards banks. The liquidity argument for reserve requirements reflected this public attitude.

# *A Chronology of Reserve Requirement Legislation*

1837—Virginia becomes the first state to impose reserve requirements on banks' circulation of bank notes. New York follows suit in 1838, Louisiana in 1842, and Massachusetts in 1858. The reserve requirements in Louisiana and Massachusetts also include deposits. Many other states follow after 1863.

1863—Congress passes the National Bank Act in February, establishing the first reserve requirement provisions at the national level. National banks chartered under this legal provision have to hold in the form of "lawful" money (gold, silver, or greenbacks) 25 percent reserves against both bank notes in circulation and deposits. The Act also establishes specified redemption cities—metropolitan areas where banking activity and bank note redemption tend to be concentrated. National banks outside these cities (so-called country banks) can legally hold 60 percent of their required reserves as interest-earning deposit balances at banks in the redemption cities.

This Act also mandates another "reserve" provision requiring national banks to hold dollar for dollar national government securities equal to their outstanding volume of bank notes. This provision has its roots in state banking laws and has the intent of creating a massive artificial demand for the government bonds used to help finance the Civil War. This fiscal motive still plays a part in the modern politics of reserve requirements.

1864—Congress rewrites the National Bank Act on June 3. Overall, the amendments reduce the burden of reserve requirements. New York City is given special status as a key redemption city, and the number of redemption cities increases from nine to 17. The new language allows redemption cities to keep 50 percent of their required reserves on interest-earning deposit at New York City banks. It also drops country banks' required reserve ratio to 15 percent from 25 percent and maintains the 60 percent redemption city deposit rule.

1865—Congress becomes impatient with the slow growth of national bank charters, and thus the circulation of national bank notes secured by government bonds. It therefore attempts to stimulate such growth with an act passed on March 3. The act essentially tries to legislate state bank notes out of existence by imposing a 10 percent tax on their use. The tax goes into effect on August 1, 1866. National bank notes did indeed replace state bank notes as the currency of choice, but the "dual banking system"—the simultaneous operation of state and national regulatory authorities—survives and plays a role in reserve requirement politics up until the Monetary Control Act of 1980.

1874—On June 20, Congress abolishes the reserve requirements against national bank notes. In its stead, the law creates a five percent redemption fund at the Treasury financed with national bank deposits. These deposits with the Treasury count toward reserve requirements against customer deposits at the banks. Hereafter the law only requires national banks to hold reserves against deposits.

1887—An act of March 3 gives the Comptroller of the Currency (the national bank regulator) authority to designate additional redemption cities. Redemption cities are officially given the name "reserve" cities and New York City, with its special status, is dubbed a "central reserve" city. St. Louis and Chicago successfully petition to also become central reserve cities.

1908—An act of May 30 formalizes the practice begun by the Secretary of the Treasury in 1902 of exempting U.S. government deposits from reserve requirements. Prior to this practice the Comptroller of the Currency had also exempted from reserve requirement balances due from other banks less balances due to other banks.

1913—Congress passes the Federal Reserve Act on December 23. Unless a bank has a national charter, membership in the Federal Reserve System is voluntary. This voluntary feature preserves the dual banking system and motivated Congress to reduce the originally conceived reserve requirements (which closely resembles the National banking system's) as the bill moved through the legislative process. Aside from generally lower requirements on demand deposits, the Act set especially low requirements (5 percent for all member banks) for time deposits. Congress made this distinction to allow national banks to compete with state-chartered banks. The law sets reserve requirements for demand deposits as follows: Central reserve city—Total=18 percent; 6 percent as vault cash, 7 percent as deposits with Fed bank, and

5 percent as optional (i.e., split at bankers discretion between vault cash or Fed deposits); Reserve city—Total=15 percent; 6 percent as vault cash; 3 percent as Fed deposits; and 6 percent optional. Country banks—Total=12 percent; five percent as vault cash; 2 percent as Fed deposits; and 5 percent optional.

The Act allows three years for the new reserve requirement provisions to become binding. A key aspect of the new system makes member banks hold their required reserves as deposits with Federal Reserve banks or as vault cash. At first, many state laws will not count deposits with the Fed toward required reserves, but states phase this restriction out over time.

1917—An amendment to the Federal Reserve Act passed on June 21 lowers statutory reserve requirements across the board (see Appendix 1) but eliminates vault cash as a means of satisfying reserve requirements. Fed member banks have to keep all required reserves as deposits with their regional Fed bank. This provision offset the lower rates and may have increased the burden of reserves since well managed banks would have to keep a certain amount of vault cash on hand to meet the requirements of daily business. Time will show that this burden increases in proportion to the distance of a bank from its regional Fed bank [*Federal Reserve Bulletin* (1938), p. 968].

1933—Congress passes the Agricultural Adjustment Act of 1933 on May 12. A part of this legislation known as the Thomas amendment gives the Federal Reserve Board emergency powers to alter, with Presidential approval, member banks' required reserves.

1935—Congress passes the Banking Act of 1935 on August 23. This Act substantially centralizes the power of the Federal Reserve System in the newly designed Board of Governors of the Federal Reserve System. Among other provisions, it enlarges the powers granted by the 1933 Thomas amendment. The emergency powers provision yields to a grant of permanent authority, and the Act eliminates the need for Presidential approval. However, the Act sets a definite range within which the Board of Governors can alter reserve requirements. They can never dip below the current rates in effect (those established by the 1917 amendment to the Federal Reserve Act, see Appendix 1) and they can never exceed a value twice these rates.

1948—In August, Congress gives the Board of Governors temporary authority (ending June 30, 1949) to increase reserve requirements above the 1935 ceiling: 4 percentage points on demand deposits and 1.5 percentage points on time deposits.

1959—Congress passes an Act on July 28 that repeals the 1917 amendment prohibiting the use of vault cash in the calculation of required reserves. This provision becomes fully phased in November 1960. The July Act mandates that within three years (July 28, 1962) the Board of Governors also abolish the "central reserve city" distinction for reserve requirements, eliminating the solely geographic differential of the reserve tax burden.

1980—Congress passes the Monetary Control Act of 1980 on March 31. This Act eliminates Federal Reserve membership as a criterion for abiding by Federal Reserve reserve requirements, and mandates that all depositories—commercial banks, mutual savings banks, savings and loan associations, credit unions, agencies and branches of foreign banks, and Edge corporations—adhere to Federal Reserve reserve requirements. In "exchange," these depositories receive access to Federal Reserve financial services (e.g., check clearing and access to the discount window). But the Fed now must price its services rather than offering them as a privilege of membership.

The Act also reduces reserve requirements and simplifies (flattens) the existing graduated rate schedule. It sets a minimum reserve requirement on demand deposits of eight percent and a maximum rate of 14 percent, and sets a "low reserve tranche" of three percent for the first $25 million of deposits at each depository. The legal range for nonpersonal savings deposits is 0–9 percent.

1982—Congress passes the Gam-St. Germain Depository Institutions Act on October 15. This Act exempts the first $2 million of deposits at each institution from reserve requirements and mandates that this exemption and the low reserve tranch limit set in 1980 be annually adjusted by an amount equal to 80 percent of the annual percentage increase in the nation's total reservable liabilities.

## Table 3: Federal Reserve-to-Treasury Transfers as a Percent of Total Federal Revenues

| Year | Franchise Tax ($Mils.) | Section 13b ($Mils.) | Interest on F.R. Notes ($Mils.) | Federal Govt. Revenues ($Mils.) | Fed. Reserve Transfers as % of Total Fed. Revenues |
|---|---|---|---|---|---|
| 1917 | $1.13 | – | – | – | – |
| 1918 | 0.00 | – | – | – | – |
| 1919 | 2.70 | – | – | – | – |
| 1920 | 60.72 | – | – | – | – |
| 1921 | 59.97 | – | – | – | – |
| 1922 | 10.85 | – | – | $3,487 | 0.311% |
| 1923 | 3.61 | – | – | 3,032 | 0.119 |
| 1924 | 0.11 | – | – | 3,193 | 0.004 |
| 1925 | 0.06 | – | – | 2,966 | 0.002 |
| 1926 | 0.82 | – | – | 3,207 | 0.026 |
| 1927 | 0.25 | – | – | 3,337 | 0.007 |
| 1928 | 2.58 | – | – | 3,194 | 0.081 |
| 1929 | 4.28 | – | – | 3,328 | 0.129 |
| 1930 | 0.02 | – | – | 3,468 | 0.000 |
| 1931 | 0.00 | – | – | 2,717 | 0.000 |
| 1932 | 2.01 | – | – | 1,788 | 0.112 |
| 1933 | – | – | – | 1,785 | 0.000 |
| 1934 | – | – | – | 2,955 | 0.000 |
| 1935 | – | $0.30 | – | 3,609 | 0.008 |
| 1936 | – | 0.23 | – | 3,923 | 0.006 |
| 1937 | – | 0.18 | – | 5,387 | 0.003 |
| 1938 | – | 0.12 | – | 6,751 | 0.002 |
| 1939 | – | 0.02 | – | 6,295 | 0.000 |
| 1940 | – | 0.08 | – | 6,548 | 0.001 |
| 1941 | – | 0.14 | – | 8,712 | 0.002 |
| 1942 | – | 0.20 | – | 14,634 | 0.001 |
| 1943 | – | 0.24 | – | 24,001 | 0.001 |
| 1944 | – | 0.33 | – | 43,747 | 0.001 |
| 1945 | – | 0.25 | – | 45,159 | 0.001 |
| 1946 | – | 0.07 | – | 39,296 | 0.000 |
| 1947 | – | 0.04 | $75.28 | 38,514 | 0.196 |
| 1948 | – | – | 166.69 | 41,560 | 0.401 |
| 1949 | – | – | 193.15 | 39,415 | 0.490 |
| 1950 | – | – | 196.63 | 39,443 | 0.499 |
| 1951 | – | – | 254.87 | 51,616 | 0.494 |
| 1952 | – | – | 291.93 | 66,167 | 0.441 |
| 1953 | – | – | 342.57 | 69,608 | 0.492 |
| 1954 | – | – | 276.29 | 69,701 | 0.396 |
| 1955 | – | – | $251.74 | $65,451 | 0.385% |
| 1956 | – | – | 401.56 | 74,587 | 0.538 |
| 1957 | – | – | 542.71 | 79,990 | 0.678 |
| 1958 | – | – | 524.06 | 79,636 | 0.658 |
| 1959 | – | – | 910.65 | 79,249 | 1.149 |
| 1960 | – | – | 896.82 | 92,492 | 0.970 |
| 1961 | – | – | 687.39 | 94,388 | 0.728 |
| 1962 | – | – | 799.37 | 99,676 | 0.802 |
| 1963 | – | – | 879.69 | 106,560 | 0.826 |
| 1964 | – | – | 1,582.12 | 112,613 | 1.405 |
| 1965 | – | – | 1,296.81 | 116,817 | 1.110 |
| 1966 | – | – | 1,649.46 | 130,835 | 1.261 |
| 1967 | – | – | 1,907.50 | 148,822 | 1.282 |
| 1968 | – | – | 2,463.63 | 152,973 | 1.610 |
| 1969 | – | – | 3,019.16 | 186,882 | 1.616 |
| 1970 | – | – | 3,493.57 | 192,807 | 1.812 |
| 1971 | – | – | 3,356.56 | 187,139 | 1.794 |
| 1972 | – | – | 3,231.27 | 207,309 | 1.559 |
| 1973 | – | – | 4,340.68 | 230,799 | 1.881 |
| 1974 | – | – | 5,550.00 | 263,224 | 2.108 |
| 1975 | – | – | 5,382.06 | 279,090 | 1.928 |
| 1976 | – | – | 5,870.46 | 298,060 | 1.970 |
| 1977 | – | – | 5,937.15 | 355,559 | 1.670 |
| 1978 | – | – | 7,005.78 | 399,561 | 1.753 |
| 1979 | – | – | 9,278.58 | 463,302 | 2.003 |
| 1980 | – | – | 11,706.37 | 517,112 | 2.264 |
| 1981 | – | – | 14,023.72 | 599,272 | 2.340 |
| 1982 | – | – | 15,204.59 | 617,766 | 2.461 |
| 1983 | – | – | 14,228.82 | 600,562 | 2.369 |
| 1984 | – | – | 16,054.09 | 666,457 | 2.409 |
| 1985 | – | – | 17,796.46 | 734,057 | 2.424 |
| 1986 | – | – | 17,803.89 | 769,091 | 2.315 |
| 1987 | – | – | 17,738.88 | 854,143 | 2.077 |
| 1988 | – | – | 17,364.32 | 908,954 | 1.910 |
| 1989 | – | – | 21,646.42 | 990,691 | 2.185 |
| 1990 | – | – | 23,608.40 | 1,031,308 | 2.289 |
| 1991 | – | – | 20,777.55 | 1,054,264 | 1.971 |
| 1992 | – | – | 16,774.48 | 1,091,631 | 1.537 |

Note: Section 7 of the original Federal Reserve Act specified the payment of a franchise tax, but the Banking Act of 1933 repealed this provision. Section 13b was a Banking Act of 1935 amendment to the Federal Reserve Act. It allowed the regional Fed Banks to advance industrial loans. The rationale for transfering to the Treasury interest earned on circulating Federal Reserve notes comes from Section 16 of the Federal Reserve Act.

Source: Tax Foundation; Office of Management and Budget; Federal Reserve Board of Governors.

Traditionally, responsible banking practice has required bankers to keep a reasonable fraction of their assets in cash or highly liquid assets. This practice has assured that depositors can withdraw their money on demand. State and national lawmakers then codified this customary practice, thinking it necessary to compel banks to honor their fiduciary responsibilities, and maintain an adequate stock of cash to weather episodes of financial emergency.

Yet, reserve requirements have not historically provided a liquid reserve because it is illegal for banks to use these reserves to meet a surge in the demand for cash. Banks that dropped below the legal reserve minimum, but which still had "sufficient" reserves, faced regulatory penalties—usually pecuniary fines. Thus bankers have kept the providential reserves they would have kept in the absence of reserve requirements, plus the legally mandated level of reserves.

### *5.2 The Credit Control Argument*

Throughout the 1920s, the Fed moved from the defensive role of maintaining banking system

liquidity to the offensive role of manipulating credit conditions in the U.S. economy.[11] With this new policy orientation, required reserves needed a new justification: central bank credit control. The official conversion to this position occurred in 1931.[12]

Credit control policy remained the argument of choice up to the debates over legislation culminating in the Monetary Control Act of 1980. In 1979, Fed Chairman Paul Volker said that banks' reserve balances at the Fed "and only these balances, provide the 'fulcrum' for the efficient conduct of monetary policy."[13]

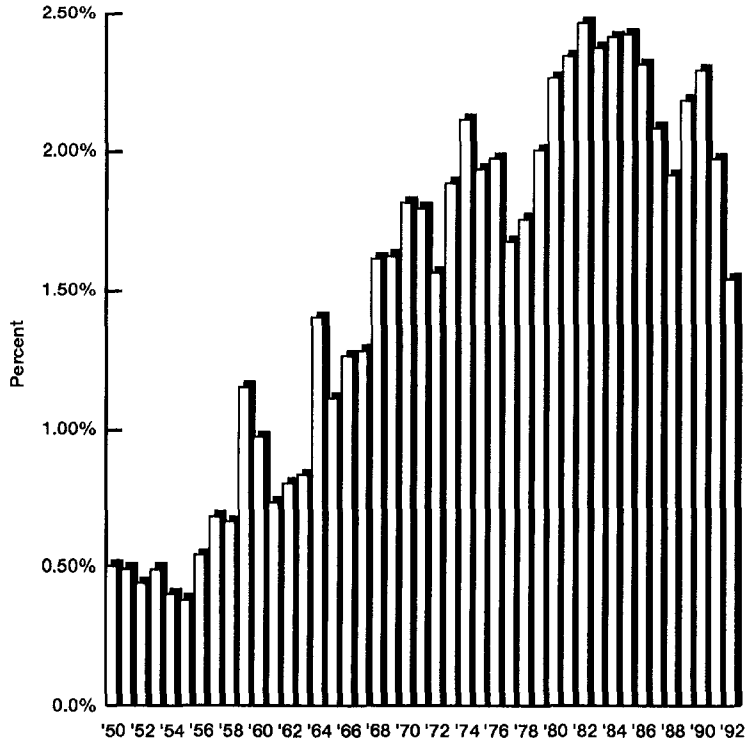
The Fed's rhetoric about reserve requirements being a "fulcrum" for money supply control generally has been a moot point. E.J. Stevens, Fed bank of Cleveland economist and Vice President, put it this way: "Only if monetary policy were to operate in a way in which it has never operated in the past could reserve requirements be rationalized as a way to improve the short-run accuracy of policy implementation."[14]

The Fed has usually conducted monetary policy by targeting short-term interest rates (credit conditions) rather than the volume of bank reserves. Higher reserve requirements would improve the conduct of monetary policy only if the Fed focused on the quantity of reserves.[15]

### *5.3 The Current Argument: Managing the Demand for Bank Reserves and Obtaining Fiscal Revenues*

In the current age, a new justification for required reserves has appeared, one consistent with the Fed's interest rate operating procedure and one that refurbishes the long-discarded liquidity argument. The new rationale seeks to create an artificial demand for the base money that constitutes reserve accounts at the Fed.[16] These accounts are the main vehicle by which banks clear their daily liabilities with one another. The magnitude of these clearings is often difficult for banks to forecast from day to day. Reserve requirements can help, so the argument goes, because making banks hold reserves in excess of what they will typically need to execute their daily clearings prevents them from drawing down their reserve accounts and thereby subjecting themselves to financial penalties.

**Figure 8: Federal Reserve-Treasury Transfers as a Percent of Total Federal Revenues**




Source: Tax Foundation.

Current regulations reduce the stringency of reserve requirements by allowing banks to meet their requirements by averaging their reserves over a two week period. Also, on any given day, banks borrow from or lend to one another through the federal funds market. The interest rate generated in this market—the federal funds rate—is a key guide for the Fed in the conduct of monetary policy.

If the Fed eliminated reserve requirements, or lowered them below what banks typically need for daily clearings, the federal funds market would become less stable. Banks would attempt to "zero out" their Fed accounts each night to escape the reserve tax. Forecast errors in this process on the part of banks would tend to make the supply of, and demand for, inter-bank loans more uncertain. Thus the federal funds rate would become more uncertain and cloud the information the Fed uses to make monetary policy decisions.

The Fed, therefore, tends to favor keeping a binding reserve requirement so that it can conduct monetary policy with more certainty. The Board of Governors, however, wants to pay for this certainty. Congress remains opposed to such compensation.

## 6. The Political Economy of the Reserve Tax

The 1913 Federal Reserve Act shifted to the Fed reserve requirement authority and the power to designate reserve and central reserve cities (see Chronology). All nationally chartered banks had to become a member of the Federal Reserve System. But state chartered banks could join at their option. The U.S. system—known as the "dual banking system"—gives bankers the freedom to choose (and switch) between a national or state charter.

The Federal Reserve Act kept intact the reserve tax imposed by the 1864 National Bank Act, and, indeed, increased it for many country and reserve city banks. Thus until 1980 the dual banking system forced the Fed to remain mindful that membership in the Federal Reserve System was voluntary. This fact has had a key influence over the politics and size of the reserve tax.

The financial panics of 1873, 1893, and 1907 (which were made worse by reserve requirements) exposed in lawmakers' opinions a key defect of the National Bank Act as it pertained to required reserves. It promoted the "pyramiding" of bank reserves in the reserve and central reserve cities. As a result, banks could not get ready access to these reserves during times of financial stress. In the debates over the Federal Reserve Act, Senator Knute Nelson from Minnesota seemed to convince his colleagues that such pyramiding of reserves occurred primarily because country and reserve city banks could earn interest on their required reserve balances.

This conclusion offers one explanation for failure of the Federal Reserve Act to eliminate the reserve tax by paying member banks interest. In Nelson's words, the Act would "prohibit the reserve

banks, which are made the holders of the reserves under the new system, from paying interest on deposits, which has been the great vice of the existing system."[17] Senator O'Gorman provided supplementary evidence:

> If the Federal reserve bank must, in the first instance, pay interest to the member bank, the reserve banks making the loan to the member bank must charge a correspondingly high rate for the accommodation. That suggestion, I think, had weight with those who considered this proposition [to pay interest on required reserve balances] in committee. In other words, by not paying the member bank any interest upon its deposit the member bank can get the accommodation of the reserve bank at a cheaper rate.[18]

The reserve tax started a distinct upward trend in the mid-1940s (see Figure 5). The Federal Reserve had set upon a policy during the war and immediate postwar period of fixing the interest rate on short-term government debt at a low level.[19] That policy began to be phased out in 1947.

The controversy that loosened the fixed interest rate policy started when Fed Chairman Marriner S. Eccles began transferring Fed earnings to the Treasury under the heading "Interest on Federal Reserve Notes." (See Table 3.) This initiative represented a *quid pro quo* between the Fed and the Treasury. Eccles, for monetary policy reasons, wanted interest rates to increase. The Treasury wanted to minimize the cost of war-related finance. Since the interest-rate-fixing scheme inflated the Fed's portfolio of government bonds and corresponding interest income, the Fed offered to relinquish 90 percent of its net earnings to the Treasury to offset the Treasury's higher cost of debt financing.

Professor Walter E. Spahr, a noted contemporary Fed watcher and a Trustee on the Tax Foundation's Board, complained loudly from the private sector on the illegality of Eccles's initiative.[20] Allen Sproul, President of the New York Fed, quietly agreed.[21] But Congress accepted the arguments put forward by the Fed's legal counsel. It seems clear that Eccles made his proposal, and Congress accepted it, for the sake of expediency.[22] It would have taken too much time in their opinion to re-enact the "franchise tax" (see Table 3) written into the Federal Reserve Act but repealed by the Banking Act of 1933. Eccles's initiative did indeed correspond closely with the franchise-tax language. Nevertheless it was—and still is—legally suspect.

Throughout the postwar period (but prior to the Monetary Control Act of 1980) the Fed tried to stop the exodus of its member banks. But each time the Fed attempted to make Fed membership more attractive by reducing the reserve tax, the possible decline of Fed-to-Treasury revenue transfers became a constraint. In a succession of initiatives beginning with the Financial Institutions Act of 1957 and ending in a Fed initiative of December 1964, Congress and the Treasury sought to extract even greater transfers from the Fed. Since 1964, the Fed has transferred to the Treasury 100 percent of net earnings after maintaining a surplus equal to paid-in capital.[23]

Efforts to cope with the alleged monetary policy effects of the declining Federal Reserve membership following the war took two basic forms: (1) broaden the reserve-tax base; that is, mandate that all banks become Federal Reserve members or impose universal reserve requirements, or (2) reduce or eliminate the reserve tax on member banks.

The first postwar attempt to reduce the reserve tax substantially came in 1959. Congress permitted the Fed to include banks' vault cash in their reserve requirement calculations.[24] It also eliminated the "central reserve city" distinction (with its higher required reserve ratio) created in 1864. The two measures lowered the reserve tax, and remedied the long-time geographical bias of the tax. This move to a less distorted reserve tax burden also helped to lower some of the political resistance to the Fed's policy objective of universal reserve requirements.[25]

The Fed followed the 1959 legislation with unilateral regulatory changes in 1968 and 1972. In 1968, it reduced banks' cost of required reserve administration by permitting banks to keep lagged rather than contemporaneous reserve requirements. In 1972, it removed the distinction between "country" and "reserve city" banks (compare Appendices 2 and 3).[26]

The Board had to rely on these unilateral measures, partly because of the concern by both the legislature and the executive that reserve requirement reductions would diminish Fed-Treasury transfers. (Note the post-1959 drop in Fed transfers relative to total federal government revenues shown in Figure 8.) This drop verified a concern about revenue loss that Congress discussed prior to the 1959 legislation.[27] The concern also appeared in the 1963 report of President Kennedy's Committee on Financial Institutions, and helps explain its recommendation of universal reserve requirements instead of a reduction in required reserves.[28]

Despite the Fed's efforts to lighten the reserve tax burden, membership attrition from the Federal Reserve System became pronounced in the late 1970s, even among some relatively large banks.[29] The inflation-driven increase in the reserve tax and the advent of interest-paying checking (NOW) accounts made the cost of membership prohibitive for many banks. This exodus, particularly with regard to NOW accounts, combined with the long spell of legislative disinterest in the Fed's calls for universal reserve requirements, motivated the Fed in 1976 to begin making legislative recommendations that would permit it to pay interest on member banks' required reserve balances. On June 20, 1977, Fed Chairman Arthur Burns testified before Congress that

> In view of the apparent reluctance of the Congress to enact uniform reserve requirements for all banks, the Board has considered other proposals for ending the erosion of Federal Reserve membership. Our conclusion is that the payment of interest on required reserve balances is the most straight forward and appropriate step. Since the Federal Reserve returns virtually all its net earnings to the Treasury, payments of interest on required reserve balances would reduce

> Treasury revenues—something, let me note with some emphasis, that would not occur if the Congress were to enact uniform reserve requirements.[30]

To illustrate the frustration of the Fed in trying to stop its membership attrition, the Board went from seeking to confirm "the authority to pay interest on required reserve balances" in its 1977 *Annual Report* to asserting in 1978 that it did not need the approval of Congress to make such interest payments.[31]

This assertion generated a strong rebuttal from Congress. A letter to Fed Chairman William Miller from Banking Committee Chairmen Rep. Henry Reuss and Sen. William Proxmire said: "We are unalterably opposed to any plan, proposal or draft regulation which purports to authorize the payment of interest on reserve balances without specific legislative approval from Congress."[32] The Committee Chairmen's reasoning was direct:

> In the absence of legislative limitations, the payment of interest on reserve balances, however modestly begun, could ultimately add billions of dollars to the federal deficit. . . . With Reserve bank earnings now running in the neighborhood of $7 billion annually, the payment of any part of these earnings to commercial banks can be viewed as the opening wedge in a serious breach of Constitutional power of the Congress and the President to control federal spending and determine the fiscal policy of the nation.[33]

The fiscal motive for continuing the reserve tax is clear in this statement. Moreover, studies conducted during the late 1970s consistently showed that the federal government would lose more revenue from eliminating the reserve tax than it would gain from the tax revenue generated by greater banking industry profitability.[34] But these studies focused on bank profits only, not the potential economic growth effects of repealing the reserve tax by making compensating interest payments to banks.

The Board of Governors must have understood that the fiscal motive combined with the Fed's emphatic concern over its diminishing control over monetary policy because of membership attrition had finally galvanized political momentum behind its two-decades-old goal of imposing universal reserve requirements. Indeed, the Board's 1979 *Annual Report* dropped any mention of paying interest on required reserve balances, but its recommendation for universal reserve requirements broadened from the inclusion of all banks to the inclusion of all depositories. This recommendation became a central feature of the Monetary Control Act of 1980.

The reserve requirement provisions of this Act represented a beneficial compromise for all parties except nonmember depositories. From the Fed's perspective, membership attrition and its monetary policy implications became a moot point. The Monetary Control Act of 1980 mandated that all depositories abide by Fed reserve requirements and the Fed had to begin charging fees for its services, thus reducing the benefits that were traditionally a part of Fed membership. The Act also kept the size of

Fed-to-Treasury transfers stable by broadening the base and lowering the rate of the reserve tax. Member banks saw a reduction in their required reserve ratios and the evaporation of their competitive disadvantage with nonmember banks. (Compare Appendices 3 through 5.)

The Depository Institutions Act of 1982 ameliorated some of the reserve tax burden placed on small, formerly nonmember depositories by the Monetary Control Act of 1980. The 1982 Act created, in effect, a zero rate bracket for the reserve tax by exempting the first $2 million of deposits at each institution. This exemption codified a like recommendation the Fed made in 1974. The zero reserve tax bracket also created a more graduated reserve tax structure that the Fed had initiated in 1972 through reserve requirement regulatory changes.

Despite the reductions made possible by the Acts of 1980 and 1982 and Fed regulatory changes made in 1990 and 1992, the reserve tax remains in place. The Monetary Control Act of 1980 reformed the nature of the tax to conform with sound principles of taxation—low rates and a broad tax base. The existence of the tax, however, continues to have a negative influence on economic growth, financial resource allocation, the improved performance of monetary policy, and the international competitiveness of the U.S. banking industry. These conditions help explain why the members of the Board of Governors of the Federal Reserve System unanimously agree that the reserve tax should be eliminated by paying depositories a market rate of interest on their required reserve balances kept at the Fed.

## APPENDICES

The following appendices show the discrete changes in Federal Reserve reserve requirement ratios over time. Multiple charts are required because, after 1962, different ratios began to apply to many different (and changing) deposit intervals. (Dashes represent time periods when a specific reserve requirement ratio remained unchanged.)

### Appendix 1: Percent of Deposits: June 21,1917–July 13, 1966

| Effective Date | Net Demand Deposits: Central Reserve City | Net Demand Deposits: Reserve City Banks | Net Demand Deposits: Country Banks | Time Deposits* |
|---|---|---|---|---|
| 1917-June 21 | 13.0 | 10.0 | 7.0 | 3.0 |
| 1936-Aug. 16 | 19.5 | 15 | 10.5 | 4.5 |
| 1937-Mar. 1 | 22.75 | 17.5 | 12.25 | 5.25 |
| May 1 | 26.0 | 20.0 | 14.0 | 6.0 |
| 1938-Apr. 16 | 22.75 | 17.5 | 12.0 | 5.0 |
| 1941-Nov. 1 | 26.0 | 20.0 | 14.0 | 6.0 |
| 1948-Aug. 20 | 24.0 | – | – | – |
| Sept. 14 | 22.0 | – | – | – |
| Oct. 3 | 20.0 | – | – | – |
| 1948-Feb. 27 | 22.0 | – | – | – |
| June 11 | 24.0 | – | – | – |
| Sept. 24, 16 | 26.0 | 22.0 | 16.0 | 7.5 |
| 1949-May 5, 1 | 24.0 | 21.0 | 15.0 | 7.0 |
| June 30, July 1 | – | 20.0 | 14.0 | 6.0 |
| Aug. 1 | – | – | 13.0 | – |
| Aug. 11, 16 | 23.5 | 19.5 | 12.0 | 5.0 |
| Aug. 18 | 23.0 | 19.0 | – | – |
| Aug. 25 | 22.5 | 18.5 | – | – |
| Sept. 1 | 22.0 | 18.0 | – | – |
| 1951-Jan. 11, 16 | 23.0 | 19.0 | 13.0 | 6.0 |
| Jan. 25, Feb. 1 | 24.0 | 20.0 | 14.0 | – |
| 1953-July 9, 1 | 22.0 | 19.0 | 13.0 | – |
| 1954-June 24, 16 | 21.0 | – | – | 5.0 |
| July 29, Aug. 1 | 20.0 | 18.0 | 12.0 | – |
| 1958-Feb. 27, Mar. 1 | 19.5 | 17.5 | 11.5 | – |
| Mar. 20, Apr. 1 | 19.0 | 17.0 | 11.0 | – |
| Apr. 17 | 18.5 | – | – | – |
| Apr. 24 | 18.0 | 16.5 | – | – |
| 1960-Sept. 1 | 17.5 | – | – | – |
| Nov. 24 | – | – | 12.0 | – |
| Dec. 1 | 1.5 | – | – | – |
| 1962-July 28 | † | – | – | – |
| Oct. 25, Nov. 1 | – | – | – | 4.0 |

* All classes of banks
† On this date Central Reserve City classification was abolished.

Source: Federal Reserve Board of Governors.

## Appendix 2: Percent of Deposits: July 14, 1966–November 8, 1972 (Deposit Intervals in Millions of Dollars)

| | Net demand deposits | | | | Time deposits* | | |
|---|---|---|---|---|---|---|---|
| | Reserve City Banks | | Country Banks | | | Other Time | |
| Effective date | 0-5 | Over 5 | 0-5 | Over 5 | Savings | 0-5 | Over 5 |
| 1966-July 14, 21 | 16.5 | 16.5 | 12.0 | 12.0 | 4.0 | 4.0 | 5.0 |
| Sept. 8, 11 | – | – | – | – | – | – | 6.0 |
| 1967-Mar. 2 | – | – | – | – | 3.5 | 3.5 | – |
| Mar. 16 | – | – | – | – | 3.0 | 3.0 | – |
| 1968-Jan. 11, 18 | 16.5 | 17.0 | 12.0 | 12.5 | – | – | – |
| 1969-Apr. 17 | 17.0 | 17.5 | 12.5 | 13.0 | – | – | – |
| 1970-Oct. 1 | – | – | – | – | – | – | 5.0 |

* All classes of banks.

## Appendix 3: Percent of Deposits: November 9, 1972–November 12, 1980 (Deposit Intervals in Millions of Dollars)

| | Net demand deposits | | | | | | Time and savings deposits | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 0 - 5 years, by maturity | | | Over 5 years, by maturity | | |
| Effective date | 0 - 2 | 2 - 10 | 10 - 100 | 100 - 400 | Over 400 | Savings | 30-179 days | 180 days - 4 yrs. | 4 yrs. or more | 30 - 179 days | 180 days - 4 yrs. | 4 yrs. or more |
| 1972-Nov. 9 | 8.0 | 10.0 | 12.0 | 16.5 | 17.5 | 3 | – | 3 | – | – | 5 | – |
| Nov. 16 | – | – | – | 13.0 | – | – | – | – | – | – | – | – |
| 1973-July 19 | – | 10.5 | 12.5 | 13.5 | 18.0 | – | – | – | – | – | – | – |
| 1974-Dec. 12 | – | – | – | – | 17.5 | – | – | – | – | 6.0 | – | 3.0 |
| 1975-Feb. 13 | 7.5 | 10.0 | 12.0 | 13.0 | 16.5 | – | – | – | – | – | – | – |
| Oct. 30 | – | – | – | – | – | – | – | 3.0 | 1.0 | – | 3.0 | 1.0 |
| 1976-Jan. 8 | – | – | – | – | – | – | 3.0 | 2.5 | – | – | 2.5 | – |
| Dec. 3- | 7.0 | 9.5 | 11.75 | 12.75 | 16.25 | – | – | – | – | – | – | – |

## Appendix 4: Reserve Requirements in Effect on December 31, 1984 (Deposit Intervals in Millions of Dollars)

| | Net demand deposits | | | | | | Time and savings deposits | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Time | | | | | |
| | | | | | | | 0 - 5, by maturity | | | Over 5, by maturity | | |
| Effective date | 0 - 2 | 2 - 10 | 10 - 100 | 100 - 400 | Over 400 | Savings | 30-179 days | 180 days - 4 yrs. | 4 yrs. or more | 30 - 179 days | 180 days - 4 yrs. | 4 yrs. or more |
| Mar. 16, 1967 | – | – | – | – | – | 3.0 | – | – | – | – | – | – |
| Dec. 12, 1974 | – | – | – | – | – | – | – | – | – | 3.0 | – | – |
| Oct. 30, 1975 | – | – | – | – | – | – | – | – | 1.0 | – | – | 1.0 |
| Jan. 8, 1976 | – | – | – | – | – | – | – | 2.5 | – | – | 2.5 | – |
| Dec. 30, 1976 | 7.0 | 9.5 | 11.75 | 12.75 | 16.25 | – | – | – | – | – | – | – |
| Mar. 16, 1984 | – | – | – | – | – | – | 3.0 | – | – | – | – | – |

Source: Federal Reserve Board of Governors.

## Appendix 5: Depository Institution Requirements after Implementation of the Monetary Control Act

| Effective date | | Net Transaction Accounts ($Millions) | | Non-personal time deposits (%) By original maturity: Less than 1.5 years | Non-personal time deposits (%) By original maturity: 1.5 years or more | Eurocurrency liabilities (%) All types |
|---|---|---|---|---|---|---|
| Nov. 13, 1980 | | – | – | – | – | 3.0 |
| Oct. 6, 1983 | | – | – | 3.0 | 0 | – |
| Dec. 29, 1983 | amount | $0 - $29.9 | Over $29.9 | – | – | – |
| | percent | 3.0 | 12.0 | | | |
| Dec. 30, 1986 | amount | $0 - 36.7 | Over $36.7 | – | – | – |
| | percent | 3.0 | 12.0 | | | |
| Dec. 15, 1987 | amount | $0 - $40.5 | Over $40.5 | – | – | – |
| | percent | 3.0 | 12.0 | | | |
| Dec. 20, 1988 | amount | $0 - 41.5 | Over $41.5 | – | – | – |
| | percent | 3.0 | 12.0 | | | |
| Dec. 19, 1989 | amount | $0 - $40.4 | Over $40.4 | – | – | – |
| | percent | 3.0 | 12.0 | | | |
| Dec. 18, 1990 | amount | $0 - 41.1 | Over $41.1 | – | – | – |
| | percent | 3.0 | 12.0 | | | |
| Dec. 27, 1990 | | | | 0 | 0 | 0 |
| Dec. 17, 1991 | amount | $0 - 42.2 | Over $42.2 | – | – | – |
| | percent | 3.0 | 12.0 | | | |
| Dec. 15, 1992 | amount | $0 - 46.8 | Over $46.8 | – | – | – |
| | percent | 3.0 | 10.0 | | | |

Source: Federal Reserve Board of Governors.

## NOTES

[1] *Federal Reserve Bulletin*, vol. 78 (April 1992), p. 272. The *Bulletin* lists the reserve requirement reduction as effective in April 1992, but the Board of Governors 1992 *Annual Report* (p. 281) lists the effective date as December 15, 1992.

[2] The ratio of total bank loans to GDP from 1978 through 1993:Q2 appears to be stable over time. So the estimates of lost GDP were made by multiplying the estimated loans lost due to the reserve tax by the loan to GDP ratios for 1992 and 1993:Q2.

[3] Tax Foundation interview with Governor Lawrence Lindsey, June 1993.

[4] See, for example, Stuart E. Weiner, "The Changing Role of Reserve Requirements in Monetary Policy," Federal Reserve Bank of Kansas City *Economic Review*, 4th Quarter 1992, pp.45-63, and the citations therein.

[5] Tax Foundation interview with Governor Lawrence Lindsey, June 1993.
[6] E.J. Stevens, "Is There Any Rationale for Reserve Requirements?" Federal Reserve bank of Cleveland *Economic Review*, 3rd Quarter 1991, p. 8.

[7] Letter from Alan Greenspan to U.S. Rep. Henry B. Gonzalez, May 5, 1993. The maintenance of a surplus account is specified in Section 7 of the Federal Reserve Act. For a copy of the Act, see the first *Annual Report* of the Federal Reserve Board, 1914.

[8] *Congressional Record—Senate*, June 24, 1993, p. S 7994. Letter from Alan Greenspan to U.S. Senator Donald Riegle, May 24, 1993; U.S. House of Representatives, "Omnibus Budget Reconciliation Act of 1993," Conference Report of the Committee on the Budget to accompany H.R. 2264, Report No. 103-213, 103rd Congress, 1st session, pp. 27-28.

[9] Milton Friedman and Anna Jacobson Schwartz, *A Monetary History of the United States* (Princeton: Princeton University Press, 1963), p. 118n.

[10] See, for example, O.M.W. Sprague, *History of Crises Under the National Banking System* (National Monetary Commission), Sen. Doc. No. 538, 61st Congress, 2nd session, 1910.

[11] Marvin Goodfriend and Monica Hargraves, "A Historical Assessment of the Rationales and Functions of Reserve Requirements," Federal Reserve Bank of Richmond *Economic Review*, March/April 1983, p. 5.
[12] Federal Reserve Board, *Annual Report*, 1932, pp. 260-265.

[13] *Federal Reserve Bulletin*, vol. 65 (October 1979), p. 825. Also see Board of Governors, *Annual Report*, 1979, p. 253.

[14] Stevens, "Is Their Any Rationale," p. 3. Also see Weiner, "The Changing Role". Perhaps the closest the Fed has come (except in 1936-37) to using the reserve-multiplier approach was during part of Volker's tenure, the period from October 1979 to late 1982 (Stevens, p. 11n).

[15] Weiner, "The Changing Role" and Stevens, "Is Their Any Rationale".
[16] Stevens, "Is Their Any Rationale"; Ann-Marie Meulendyke, "Reserve Requirements and the Discount Window in Recent Decades," Federal Reserve Bank of New York *Quarterly Review* (Autumn 1992), pp. 25-43; Joshua N. Feinman, "Reserve Requirements: History, Current Practice, and Potential Reform," *Federal Reserve Bulletin* (June 1993), Vol. 79, No. 6, pp. 569-588.
[17] *Congressional Record—Senate*, Vol. 51, December 8, 1913, p. 452.
[18] *Ibid.*, p. 453.
[19] The Fed did this by standing ready to buy (monetize) any amount of new government debt necessary to assure the target level of interest rate on government securities. The policy generated controversy that

ended with the Treasury-Federal Reserve Accord of 1951. See, for example, the collection of readings on this issue in Lawrence S. Ritter, ed., *Money and Economic Activity: Readings in Money and Banking*, 3rd Edition (Boston: Houghton Mifflin, 1967), Chp. 7.

[20] Walter E. Spahr, "Federal Reserve Board Out of Bounds Again"; "More on the Federal Reserve Board's Illegal Distribution of Federal Reserve Banks' Earnings"; "Section 7 of Federal Reserve Act Still Violated!" *The Commercial and Financial Chronicle*, June 19; September 18, 1947; January 27, 1955, respectively.

[21] Board of Governors, "Minutes of the Federal Open Market Committee," April 1, 1947, p. 74. Goodfriend and Hargraves quote excerpts (p. 12).

[22] U.S. Congress, House Banking and Currency Committee, Direct Purchases of Government Securities by the Federal Reserve Banks: Hearings . . . 80th Congress, 1st Session, March 3-5, 1947, p.30; and Senate Banking and Currency Committee, Federal Reserve Assistance in Financing Small Business: Hearings . . . 80th Congress, 1st Session, April 17, 1947, p. 22-23.

In the Senate hearing, Eccles said: "Now, the Board is considering getting the money back through this section 16 [of the Federal Reserve Act], this special tax on notes. If the Congress would prefer to reimpose the franchise tax and get it back that way, they can, but that will take legislation and we can accomplish the same purpose through the application of the tax."

[23] Goodfriend and Hargraves, p. 14.

[24] *Federal Reserve Bulletin*, Vol. 45, No. 8, August 1959, pp. 888-889.

[25] Economic Policy Commission and American Bankers Association, *Member Bank Reserve Requirements* (Washington, D.C.: American bankers Association, 1957), p. 70.

[26] Goodfriend and Hargraves, p. 15-16.

[27] Goodfriend and Hargraves, p. 15. They cite U.S. Congress, House, *Member Bank Reserve Requirements*, H.R. Report 403 on S. 1120, 86th Congress, 1st session, 1959, pp. 7-36; and U.S. Congress, Senate, *Member Bank Reserve Requirements*, S. Report 195 to accompany S. 1120, 86th Congress, 1st session, 1959, pp. 16-23, especially pp. 22-23.

[28] Commission Report, Chapter 2, especially p. 12. Goodfriend and Hargraves (p. 15) provide the relevant quote.

[29] *Federal Reserve Bulletin*, July 1978, p. 607.

[30] *Federal Reserve Bulletin*, July, 1977, p. 640.

[31] Board of Governors, *Annual Report*, 1977, p. 369; and Goodfriend and Hargraves, p. 16.

[32] Letter of June 5, 1978 in U.S. House of Representatives, "Monetary Control and the Membership Problem," *Hearings before the Committee on Banking, Finance and Urban Affairs* on H.R. 13476, H.R. 13477, H.R. 12706, and H.R. 14072, 95th Congress, 2nd session, 1978, p. 780-781.

[33] *Ibid.*, p. 781.

[34] See, for example, John Paulus, "The Burden of Federal Reserve Membership, NOW Accounts, and the Payment of Interest on Reserves," Board of Governors Staff Study, June, 1977; and Abt Associates, Inc., *et. al.*, "The Federal Reserve Membership Problem: Impact on Banks," A Study for the American Bankers Association, May, 1979.