

# monthly review

Vol. 29, No. 11, November 1987

Regional Report of  
Depository Institutions page 31

Depository Institutions  
Performance page 32

FEDERAL RESERVE BANK OF KANSAS CITY



*Subscriptions to the MONTHLY REVIEW are available to the public without charge. Additional copies of any issue may be obtained from the Research Department. Federal Reserve Bank of Kansas City, Kansas City, Missouri 64198. Permission is granted to reproduce any material in this publication provided the source is credited.*

# Income Taxation of Commercial Banks

By Margaret E. Bedford

Commercial banks are subject to a variety of taxes, including income or profits taxes, property taxes, taxes on the ownership of bank shares or capital, franchise taxes, and an assortment of other miscellaneous taxes. Of these, income taxes are clearly the most important. In 1974, the most recent date for which figures are available, income taxes amounted to \$1.8 billion and are estimated to account for three-fourths of all taxes paid by commercial banks. Federal income taxes comprised 77 per cent of this amount, and state and local income taxes comprised 23 per cent.

In view of the importance of income taxation to commercial banks, this article examines the extent to which the income tax burden of banks has changed in recent years. Attention is given to the impact of tax code modifications on the tax burden and the various approaches commercial banks have taken to minimize their tax burdens. Also examined is the differential burden imposed by Federal income taxes and state and local income taxes on banks in the nation, the Tenth Federal Reserve District, and on banks of varying deposit sizes.

## FEDERAL INCOME TAXATION OF BANKS

Federal income taxes for banks are computed by first determining net taxable income. In general, the base for taxable income represents income from operating transactions, such as interest on loans and securities (excluding interest on municipal securities), trust department income, service charges, etc., less allowable operating expenses, including

wages, interest paid on deposits and borrowed money, occupancy expense of bank premises, etc. This figure is then adjusted to make allowance for net loan losses or recoveries, net securities gains or losses, and for a variety of other modifications to income.

## Federal Tax Burden

The average tax burden for commercial banks has fallen significantly between 1961 and 1974.'

Throughout this article the tax burden, or effective tax rate, of commercial banks is measured by dividing "provision for income taxes" by net income or profits. Revision for income taxes, as reported annually to the FDIC, includes estimated income taxes related to the current years' operations but does not reflect adjustments (refunds or additional taxes paid) for previous years. Net income as used in measuring the tax burden is equivalent to gross profits before taxes. It is not taxable income, but rather total income less normal operating expenses. More specifically, net income includes such items as interest earned on state and local government securities, net long-term capital gains, etc.

This ratio is, of course, potentially subject to certain distortions. For example, a bank's provision for income taxes in a given year may differ significantly from the bank's actual income tax liability. A systematic bias in the figures for all banks though is unlikely. No adjustment has been made for the fact that the interest yield on tax-exempt securities is generally less than on taxable issues, thus imposing an implicit tax burden on investors in tax-exempts. Also net income could be biased by the timing of realizing loan losses and long-term capital gains or losses as well as changes in depreciation methods, etc. The importance of most of these possible biases cannot be determined, but none is likely to result in a regular distortion over time.

Since bank reporting procedures were modified in 1969, the figures have been adjusted to maintain comparability over the 1961-74 period. Some slight variations, however, still exist. A complete description of the 1969 changes in reporting procedures appeared in the *Federal Reserve Bulletin*, July 1970, pp. 564-72. For the 1961-68 period, net profits and recoveries (or net losses and charge-offs) on loans, securities, and other transactions were added to (subtracted from) net current operating earnings to obtain the pretax net income figures used in this article. For the 1969-74 period, interest paid on capital notes and debentures, which was reported by banks as an operating expense in the latest period but included with dividends on preferred stock in the 1961-68 period, was added to the FDIC figure; for income before taxes and securities gains or losses. In addition, gross securities gains (losses) and gross extraordinary credits (charges) were added to (deducted from) net operating income to obtain the 1969-74 net income figures.

## Income Taxation of Commercial Banks

Table 1 indicates that the ratio of Federal income taxes to net income for all insured commercial banks over this period moved from **34.8** per cent to **14.5** per cent, a drop of **20.3** percentage points. Similarly, the effective tax rate at Tenth District banks declined **17.7** percentage points to **18.6** per cent over the same interval.

Banks of all sizes generally experienced a reduced tax burden between **1961** and **1974**. The sharpest declines, however, were experienced by the largest banks. The effective tax rate for banks with deposits under **\$10** million dropped by only one-fifth or **5.2** percentage points, but banks with deposits over **\$100** million cut their effective tax rates by two-thirds or **23.3** percentage points. As a result, the effective tax rate in **1974** generally declined as bank size increased, giving the overall tax structure the appearance of regressivity. U. S. banks with deposits under **\$10** million, for example, paid Federal taxes equal to **23.4** per cent of net income, compared with **16.3** per cent for banks with deposits between **\$10** and **\$100** million and **13.0** per cent for larger banks. Effective tax rates for banks of different sizes in the Tenth District were somewhat greater than the national averages, but exhibited the same general trends.

The shifts in effective tax rates reflect both modifications in tax laws and bank efficiency in exercising legal tax shelters. Federal income tax rates applicable to commercial banks generally fell from **1961** to **1965**, but tended to rise thereafter. Specifically, between **1961** and **1965** the tax rate on the first **\$25,000** of taxable income was reduced from **30** per cent to **22** per cent and on income over **\$25,000** from **52** per cent to **48** per cent. In **1969** and the first quarter of **1970**, a **10** per cent surtax was imposed on all taxable income. Also, in **1969** banks were required for the first time to treat net long-term capital gains on securities as ordinary income. The tax rate for long-term capital gains on securities taken during a transitional period after **1969** and the tax rate on other long-term gains were raised. These tax law modifications suggest that reductions in tax rates contributed importantly to the sharp drop in the Federal tax burden experienced by commer-

**Table 1**  
**FEDERAL TAX BURDENS AT INSURED**  
**COMMERCIAL BANKS**  
**UNITED STATES AND TENTH DISTRICT**  
**(In per cent)**

	Ratio of Federal income taxes paid to net income				Change in effective tax rates
	1961	1965	1969	1974	1961-74
<b>All banks:</b>					
United States	34.8	23.5	20.4	14.5	-20.3
Tenth District	36.3	27.0	25.7	18.6	-17.7
<b>By deposit size:</b>					
<b>Less than \$10 million</b>					
United States	28.6	21.5	19.7	23.4	-5.2
Tenth District	30.1	22.5	21.9	23.6	-6.5
<b>\$10 to \$100 million</b>					
United States	33.6	25.7	22.2	16.3	-17.3
Tenth District	36.3	27.1	24.3	18.2	-18.1
<b>\$100 million and over</b>					
United States	36.3	23.0	19.7	13.0	-23.3
Tenth District	41.6	30.8	30.3	16.0	-25.6

NOTE: Data for 1961-68 are not strictly comparable with data for 1969-74.  
SOURCE: Reports of Income, Federal Deposit Insurance Corporation.

cial banks between **1961** and **1965**. The remainder of the drop during this period, however, and that which has occurred since then is primarily attributable to bank utilization of tax shelters.

### **Tax Shelters**

A number of provisions in the tax laws permit banks to reduce their tax liabilities. Two of these options are investing in state and local government obligations, the interest from which is wholly tax exempt at the Federal level, and transferring funds to bad debt reserves to allow for future losses on loans. Tax benefits are also realized by banks engaged in lease financing and foreign operations. Banks leasing equipment are able to realize tax savings from the investment tax credit and from deductions for depreciation. Banks with foreign operations are permitted deductions for most taxes paid to foreign governments, or, alternatively, foreign income taxes may be claimed as a tax credit rather than a deduction. During the **1960's**, the differential treatment of long-term capital gains and losses on securities also served to reduce the tax burden of commercial banks.

Description of tax advantage	Income deduction or tax credit claimed in 1972	Estimated tax benefit	Percentage increase in total tax if no benefit
	(In millions of dollars)		
Interest on state and local obligations	3,489	1,675	129.9
Net transfers to bad debt reserves deduction	485	233	18.1
Gross depreciation deduction*	1,389	667	51.7
Investment tax credit †	90	90	7.0
Foreign tax credit?	221	221	17.1
Federal income taxes paid	1,289	2,886	223.9
<small>Depreciation deductions cannot be separated between depreciation for ordinary bank assets and depreciation for leased assets. In addition, the depreciation deduction figure includes the deduction taken by noninsured commercial banks and mutual savings banks. † Tax credits include those taken by noninsured commercial banks and mutual savings banks.</small>			

Each of these tax code features will be discussed in detail subsequently, but their relative importance for commercial banks in 1972 has been estimated in Table 2.<sup>2</sup> As can be seen, sizable tax benefits were realized from the interest exemption on state and local government securities and the net transfers to bad debt reserves. Gross depreciation also resulted in a sizable tax saving, but the significance of this figure must be heavily discounted. Available data do not permit the segregation of depreciation on leased assets from that on assets used directly in bank operations. Depreciation on regular plant and equipment is an expense of doing business, while depreciation benefits realized through leasing operations reflect, at least in part, a tax shelter.<sup>3</sup> Finally, the investment and foreign tax credits resulted in small, but noteworthy, tax savings. On balance,

<sup>2</sup>The figures in the first column of Table 2 are for 1972, the most recent year for which comprehensive figures are available, and were supplied by the Internal Revenue Service and the Federal Deposit Insurance Corporation. While the magnitude of individual entries has almost certainly changed since 1972, tax regulations have not experienced any major revisions, suggesting that the relative importance of the individual entries is probably the same.

In examining the figures, a number of data limitations must be remembered. The calculation of tax benefits assumes a marginal tax rate of 48 per cent applicable to all banks. Insofar as some banks would have been subject to lower tax rates, the tax benefits shown in the table would be overestimates. Also, as explained in the text, the inability to isolate depreciation and the tax credit associated with leasing operations results in an overstatement of the tax benefits. On the other hand, data are not available for estimating the tax saving involved on long-term capital gains on securities. Banks realizing such gains on securities acquired prior to July 11, 1969, would have received a tax benefit. In addition, foreign taxes taken as a deduction from income rather than as a tax credit are not shown. In this sense, the table underestimates possible tax savings. Unfortunately it is impossible with present data to determine the extent of these potential biases.

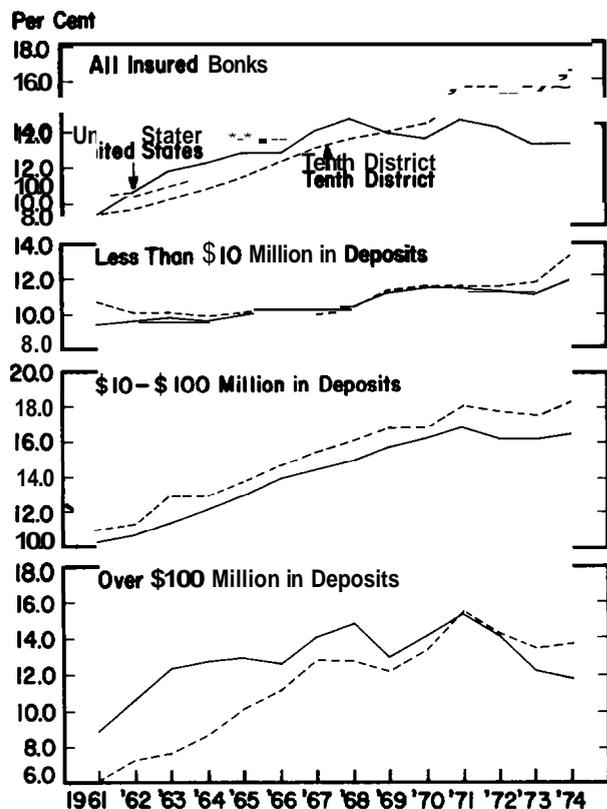
if these features had all been eliminated, the tax liability of commercial banks in 1972 would have more than doubled. These tax shelters have clearly been very important to the profitability of commercial banks.

**Bank Investment in Municipal Securities.** The largest single tax saving for commercial banks, as shown above, is derived from investing in state and local government securities. While bank holdings of state and local obligations have a slight tendency to fluctuate inversely with the demand for loans, Chart 1 indicates that the relative importance of these securities in banks' earn-

<sup>3</sup>The tax benefits realized by banks engaged in leasing operations vary with the nature of the lease and the degree to which these tax benefits may be passed on to renters. Regulations governing bank holding companies require that leases must be the functional equivalent of loans and that the holding company must recover both the full acquisition cost of the equipment and the estimated cost of financing the property during the period covered by the lease. These costs may be realized through a combination of rental payments, estimated tax benefits (investment tax credit, gain from tax deferral from accelerated depreciation, and other tax benefits with a similar effect), and estimated residual values of the property at the time the lease expires. Banks generally follow these same rules, and similar regulations have recently been proposed for national banks.

The potential benefits from leasing can be seen from an example. If a bank makes a loan for the purchase of equipment, the borrower is able to deduct interest paid on the loan and depreciation on the equipment as expenses in computing taxable income; the bank receives no special tax advantage. However, if the bank were to lease the equipment to the customer, the customer is able to deduct rental payments to the bank which are equivalent to interest on the loan plus the repayment of principal (less any scrap value of the equipment). The bank is able to deduct depreciation on the equipment and may utilize the investment tax credit. In effect, therefore, the bank is allowed a deduction or tax credit for the functional equivalent of the principal of a loan. If the bank uses an accelerated depreciation schedule, additional benefits would be received through tax deferrals. Normal lease arrangements permit both the lessee and lessor to realize a portion of these tax savings but which of the two receives the majority of the tax benefit cannot be determined.

Chart 1  
STATE AND LOCAL GOVERNMENT SECURITY  
HOLDINGS AS A PER CENT OF EARNING ASSETS



ing asset portfolios has increased for all groups of banks since 1961. The largest rise, however, has been experienced by banks with deposits over \$10 million. Banks with deposits under \$10 million had only a slight increase in the fraction of earning assets invested in municipals. The chart also shows that in recent years Tenth District banks have had a slightly higher proportion of their portfolios invested in municipals than all U. S. banks generally.<sup>4</sup>

The different behavior of large and small banks regarding holdings of municipals probably is due

4/Although Tenth District banks have a higher ratio of municipal securities to earning assets than U. S. banks, the District tax burden is higher. This reflects, in part, the greater use of other tax shelters by U. S. banks than by Tenth District banks and other factors affecting bank taxes and earnings which are not explicitly discussed here.

to the fact that the tax advantages of municipals are considerably greater for banks with larger net taxable incomes. A bank in the 22 per cent tax bracket would receive a higher return from investing in taxable securities if the pretax yield on these securities is more than 1.28 times the return on tax-exempts. Similarly, a bank in the 48 per cent tax bracket would require a minimum return on a taxable security of 1.92 times the return on a tax-exempt issue to benefit from investing in a taxable security.<sup>5</sup> A comparison of interest rates on intermediate-term U. S. Government issues with the rates on state and local Aaa securities during 1961-74 reveals that banks in the 48 per cent tax bracket were always ahead to invest in tax-exempts. Banks in the lower tax bracket, on the other hand, were often able to earn the highest after-tax return by selecting taxable issues.<sup>6</sup> Smaller banks, which must rely mainly on their security holdings for a liquidity reserve, may also have been deterred from acquiring large amounts of municipals from a concern about their marketability during periods of strong loan demand.

**Transfers to Bad Debt Reserves.** Tax regulations permit banks to use one of two methods in handling loan losses. Under the direct charge-off method, recoveries or losses would be an addition to or deduction from taxable income in the year they occurred. Under the reserve method, a bank is allowed to build up a reserve for anticipated loan losses. Actual recoveries or losses during the year are charged to the reserve rather than to income. For tax purposes, however, allowable transfers to bad debt reserves are treated as an operating expense and thus serve to reduce net income subject to taxes.

5/For a taxable security to be more profitable than a tax-exempt security, the following must hold true: (yield on taxable security) (1 - tax rate) > (yield on tax-exempt security) or (yield on taxable security) / (yield on tax-exempt security) > 1 / (1 - tax rate). Assuming a yield of 8 per cent on a taxable security and a rate of 6 per cent on a tax-exempt security, investment in the taxable security will be more profitable for a bank in the 22 per cent tax bracket since:  $8\%/6\% = 1.33 > 1/(1-.22) = 1.28$ . A bank in the 48 per cent bracket will benefit more by investing in the tax-exempt security since:  $8\%/6\% = 1.33 < 1/(1-.48) = 1.92$ .

6/This analysis assumes that the bank is making the purchase for the interest return only and does not take into consideration the tax effect of a capital gain or loss.

The tax treatment of bad debt reserves has been modified over time.<sup>7</sup> From 1954 to 1964, banks were permitted to base tax free reserves on an average experience factor derived from any 20 consecutive years after 1927. This period, however, included the Depression years of the 1930's when loan losses were unusually high. Consequently, many banks were able to transfer substantially larger amounts to bad debt reserves than were needed to cover current losses. Banks not in existence during the 1930's, though, were at a disadvantage in using this method. To equalize the deductions among banks, the rules for computing bad debt reserves were modified in 1965. Under the change banks were allowed to build up reserves totaling 2.4 per cent of eligible loans outstanding at the close of the taxable year. Or, they were given the alternative of basing reserves on a probable experience method derived from the ratio of net bad debts during the most current 6 years to the sum of loans outstanding at the close of those years.

Under the 1969 Tax Reform Act, banks were further limited in the size of additions to bad debt reserves. The law provided an 18-year transitional period during which banks could claim additions to reserves by the greater of a percentage method or an experience method. The experience method is similar to the procedure used during the 1965-69 period. Until 1976, the percentage method allows a tax free reserve up to 1.8 per cent of eligible loans outstanding at the end of the taxable year. This percentage will be further reduced to 1.2 per cent from 1976 to 1981 and to 0.6 per cent from 1982 to 1987. Beginning in 1988, the average actual loss experience will be the only allowable method for computing bad debt reserves.

Although the allowable percentage of loans that may be held as tax free bad debt reserves has been reduced in recent years, the dollar volume of reserves has continued to grow with loan volume and additions to these reserves in some years have been quite large. For example, in 1974,

U. S. banks had net transfers to bad debt reserves of 9.4 per cent of pretax net income. Moreover, the ratio of bad debt reserves to loans outstanding at U. S. banks tends to rise as bank size increases. This is a partial reflection of the fact that larger banks mainly tend to utilize the reserve method of accounting for loan losses, whereas smaller banks frequently charge off loan losses only when realized and, consequently, have no bad debt reserve. Thus, bad debt reserve deductions result in a greater tax reduction for larger banks. In 1974, had there been no allowable tax free transfers to bad debt reserves, the total effective tax rate<sup>8</sup> would have been 3.1 per cent higher for U. S. banks with more than \$100 million in deposits, 2.2 per cent greater for banks with deposits of \$10 to \$100 million, and only 1.2 per cent greater for banks with deposits under \$10 million.

Security Swaps. Prior to 1969, commercial banks were able to obtain important tax savings by controlling the timing of realizing capital gains and losses on securities. Rules in effect at the time required that banks first offset any long-term capital losses with long-term gains. Beyond that, however, net losses could be deducted from regular income without limit, producing roughly a 50 per cent tax absorption of any loss for banks in the highest tax bracket. Long-term gains, on the other hand, were taxed at a maximum rate of 25 per cent. Under these circumstances, banks could realize the greatest tax benefit by taking capital losses one year and capital gains another. If gains and losses of the same magnitude were both realized in the same year, no tax saving would occur. But if the capital loss were taken one year and the gain in another, the bank would realize a tax saving of about 25 per cent of the loss. One justification for the preferential capital loss treatment was that banks were often forced to sell bonds at capital losses during business cycle expansions to acquire funds to meet loan demands.

The Tax Reform Act of 1969 modified the tax treatment of capital gains by requiring banks to

---

<sup>7</sup>/To prevent banks from concentrating transfers to bad debt reserves in years of extremely high income, certain limitations are placed on the amount that can be added to the reserve in any one year.

---

<sup>8</sup>/The effect of these transfers could not be separated between the effect on Federal income tax burdens and the effect on state and local income tax burdens. Thus, figures for the effect on the total income tax burden are given.

## Income Taxation of Commercial Banks

treat gains or losses on securities acquired after July 11, 1969, as ordinary income. The change considerably reduced the advantage to banks of alternating years of gains and losses, but did not remove all incentive for undertaking security swaps. If a bank realizes a loss on the sale of a security and subsequently invests in a higher yielding bond, the bank would experience increased interest income. In addition, the bank could benefit by reduced taxes in the year of the loss and the postponement of the potential capital gains tax on the new securities until future years.<sup>9</sup> In any event, security swaps have been utilized by banks to moderate fluctuations in net income. Banks have tended to take large security losses in years of sharply rising incomes and to boost income by realizing gains during periods of declining profitability. The 1969 revisions did not alter this tendency.

**Investment and Foreign Tax Credits.** Although the dollar impact has been comparatively small, both the investment tax credit and the foreign tax credit have reduced the domestic tax payments of commercial banks. A tax credit, of course, reduces the dollar amount of taxes paid by the amount of the credit. The investment tax credit was initiated in 1962 to spur economic growth and allowed a deduction from taxes up to 7 per cent of the cost of a qualified investment in new or used property for the first year that the property is placed in service. The credit has remained in effect except for two brief periods of suspension from October 1966 to March 1967 and from April 1969 to December 1970. Just recently, moreover, the investment tax credit was raised to 10 per cent for the period from January 22, 1975, through December 31, 1976.

Commercial banks have been able to utilize the investment tax credit on purchases such as computers used by the banks themselves and on purchases made for their lease financing operations. Normal depreciation on bank leased assets further serves to reduce tax payments.<sup>10</sup> Finally,

---

<sup>9</sup>/For a description of the potential benefits, see Paul S. Nadler, "Are Tax Swaps Dead?" Bankers Monthly, August 15, 1972, pp. 15-16.  
<sup>10</sup>/See footnote 3.

if the equipment is ultimately sold for more than its depreciated value, additional tax savings are experienced. In bank leasing operations, tax benefits are often passed along to customers in the form of lower leasing costs. However, since banks are able to realize significant tax benefits which would not be possible if a loan had been made to purchase the equipment, leasing operations have frequently been viewed as a major tax shelter for commercial banks. These tax savings are undoubtedly responsible in large measure for the substantial growth in leasing operations by both banks and bank holding companies. Nonetheless, it should be recognized that, in periods of strong inflation, these benefits are inadequate to allow for full replacement costs. Some observers feel these tax features should be further liberalized to reduce the potential real capital shortage the country may face over the coming decade.

The foreign tax credit has also been called a tax shelter, but this observation is not fully justified. The credit was introduced to limit double taxation of income by both the United States and foreign countries. Before 1962, banks paid taxes on foreign income only when it was repatriated to U. S. shareholders through dividend distributions. However, since the Revenue Act of 1962 was passed, domestic corporations have been taxed according to their share of income from foreign subsidiaries. Banks have had the options of either deducting foreign taxes from net income, or claiming a credit for foreign income taxes paid or accrued during the taxable year. The latter method usually yields the greatest tax advantage, but the former is easier to compute."

The sharp rise in foreign operations of large banks since the mid-1960's and the temporary suspensions of the investment tax credit are jointly

---

<sup>11</sup>The foreign tax credit is subject to a "per country" limitation or to an "overall" limitation. Under the per country limitation, the credit as a proportion of the U. S. tax cannot exceed the ratio of taxable income from the foreign country to total taxable income. Under the overall limitation, the proportion of all foreign taxes paid to the U. S. tax cannot exceed the ratio of the bank's taxable income from all foreign sources to all taxable income. Certain carryover and carryback provisions also apply to the use of the two limitation methods to adjust for variations in tax years between the United States and other countries and differences in the timing of including income or deductions in calculating the tax base. Also, the 1963 law provides for "grossing up" income from developed countries by the amount of the taxes paid when a tax credit is claimed.

responsible for the more rapid growth of foreign tax credits than investment tax credits. As might be expected, though, the investment tax credit has been more important for smaller banks and the foreign tax credit more important for larger banks. Large banks initiated a significant expansion of their foreign operations in the mid-1960's when the Voluntary Foreign Credit Restraint (VFCR) program restricted loans to foreigners. By lending through foreign branches which were not subject to VFCR guidelines, these banks were able to meet the growing credit needs of multinational corporations whose overseas operations were expanding.

**Minimum Tax on Tax Preference Items.** One feature of the Tax Reform Act of 1969 which has resulted in greater equalization of tax burdens between large and small banks is the Minimum Tax on Tax Preference Items. A preference item is essentially a provision in the tax codes which allows a bank to reduce its tax liability. The "minimum tax" imposes an additional 10 per cent tax on some items of preference after an exemption of \$30,000 and applicable Federal income taxes. Preference items of major interest to banks are contributions to bad debt reserves in excess of experience, accelerated depreciation on certain assets, and long-term capital gains. In general only the largest banks pay this tax. If this tax were eliminated, the disparity between the tax burdens of large and small banks would be even greater.

#### **STATE AND LOCAL INCOME TAXATION OF BANKS**

While states govern the types of taxes imposed on state chartered banks, the states must follow Federal statutes regarding taxation of nationally chartered banks. Until recent years, states were quite restricted in imposing taxes on national banks; states could tax bank shares, the dividends of owners, or the bank's net income. Interest received on U. S. Government obligations was not taxable under a direct income tax, but net income from all sources could be taxed under an excise or franchise tax. Only one of these methods of taxation could be used, and a state could only tax national banks if the head office was within the state. In addition, states or localities were permitted to levy real prop-

erty taxes on national banks. Although states were free to impose any tax on state chartered banks, competition between national and state chartered banks and equity considerations prompted most states to treat the two groups of banks equally.

In December 1969, Congress liberalized the laws regarding state taxation of banks. States were allowed to levy any tax, except an intangible personal property tax, on a national bank having its main office in the state. States also were allowed to impose sales or use taxes, real property or occupancy taxes, documentary taxes, tangible personal property taxes, and license, registration, transfer, or other taxes on a national bank not having its main office in the state if those types of taxes were generally imposed on a nondiscriminatory basis. Subsequently a **permanent** amendment, passed in 1973, allowed states to treat national banks as state banks for tax purposes. The amendment further permitted the imposition of intangible taxes but retained limits on state taxation of nondomiciliary banks' income.

#### **Tax Burden**

Income taxes are the most important single tax levied by state and local governments.<sup>12</sup> Between 1961 and 1974, the burden of state and local income taxes nearly doubled at all U. S. banks, rising from 2.3 per cent of net income to 4.3 per cent. (See Table 3.) This rise reflects both the upward movement of tax rates over the period and the imposition of income taxes in some states which had previously not taxed bank profits. By comparison, the average burden of state income taxes for Tenth District banks rose only slightly over the period from 2.3 to 2.6 per cent. The lower effective tax rate for Tenth District banks than for banks in the nation reflects the smaller tax burden of District banks with deposits of \$100 million and over. These banks had a tax burden of 2.5 per cent in 1974, compared with 5.3 per cent for U. S. banks of sim-

---

<sup>12</sup>Banks also pay property taxes, sales taxes, documentary taxes, and other miscellaneous taxes to state and local governments. Although current data on the volume of these taxes are unavailable, a 1969 study by the Board of Governors of the Federal Reserve System revealed that these taxes accounted for 62 per cent of all taxes paid to state and local governments while income taxes accounted for 38 per cent.

**Income Taxation of Commercial Banks**

**Table 3**  
**STATE AND LOCAL INCOME TAX**  
**BURDENS OF BANKS**  
**UNITED STATES AND TENTH DISTRICT**  
**(In per cent)**

	Ratio of state and local income taxes paid to net income				Changes in effective tax rates
	1961	1965	1969	1974	1961-74
<b>All banks:</b>					
United States	2.3	2.6	3.4	4.3	+2.0
Tenth District	2.3	2.4	2.9	2.6	+0.3
<b>By deposit size:</b>					
<b>Less than \$10 million</b>					
United States	1.4	1.7	1.7	2.5	+1.1
Tenth District	1.6	2.2	2.1	2.5	+0.9
<b>\$10 to \$100 million</b>					
United States	1.5	1.5	1.9	2.4	+0.9
Tenth District	2.2	2.7	2.8	2.8'	+0.6
<b>\$100 million and over</b>					
United States	2.8	3.1	4.3	5.3	+2.5
Tenth District	3.1	2.2	3.5	2.5	-0.6

NOTE: Data for 1961-68 are not strictly comparable with data for 1969-74. SOURCE: Reports of Income, Federal Deposit Insurance Corporation.

ilar size. On the other hand, Tenth District<sup>13</sup> banks with deposits under \$100 million had effective tax rates equal to or above the national averages.

The slight change in the average tax burden for Tenth District banks between 1961 and 1974 tends to mask the underlying shifts that have occurred among the individual states. Over the period, banks in Colorado, Missouri, and Oklahoma generally experienced a reduced tax burden which was more than offset by the imposition of income taxes by Kansas (1964), Nebraska (1969), and New Mexico (1969). (See Table 4.) Wyoming remains the only Tenth District state which does not impose an income tax on banks.

Differences in income tax burdens among states tend to reflect in part alternative definitions of taxable income. In general, taxable income in most District states is based on the Federal definition, but with certain additions or subtractions. The most important differences result from the treatment of income from Federal and municipal government securities and the allowable deductions for bad debt reserves and Federal taxes paid. Among Tenth

<sup>13</sup>Colorado, Kansas, Nebraska, Wyoming, 43 western Missouri counties, northern New Mexico, and most of Oklahoma.

District states, Kansas, New Mexico, and Missouri require adjustments to Federal taxable income to include interest income from state and local obligations, while Colorado and Oklahoma include interest from out-of-state municipal securities. Colorado also allows banks to deduct interest income from Federal obligations from taxable income and Missouri allows a deduction for Federal income taxes paid. Missouri, however, permits banks to claim only actual net bad debt charge-offs as a deduction rather than additions to bad debt reserves as allowed on the Federal form.

Differences in income tax burdens among Tenth District states also reflect variations in tax rates among the states. Banks in Kansas and New Mexico, which reported the highest ratios of state and local income taxes to net income, have relatively high tax rates. Tax burdens for these two states were above the national average. Tax burdens for banks in Colorado and Missouri were close to the District average as adjustments to the tax base partly offset their comparatively high tax rates. For banks in Nebraska and Oklahoma, the ratios of state and local income taxes to net income were as low as 1.7 per cent and 1.9 per cent, respectively, in 1974, reflecting in part that these two states have two of the lowest income tax rates in the nation.

In Colorado, Kansas, and Missouri, small banks paid the lowest effective income tax rates. In Nebraska and Oklahoma, however, where only minor adjustments are made to the Federal tax base in computing taxable state income, large banks—i.e., with deposits over \$100 million—had the smallest tax burdens. The tax burden of the Federal income tax structure, it will be recalled, also was smallest for the largest size banks. In New Mexico, banks of all sizes had nearly equal state income tax burdens.

**CONCLUDING REMARKS**

Between 1961 and 1974 the effective Federal tax burden on commercial banks dropped about 60 per cent, with large banks generally realizing the sharpest declines. Reductions in tax rates account for a portion of the decline, but the largest share has resulted from bank utilization of legal tax shelters. The more important of these include invest-

<b>Table 4</b>			
<b>STATE AND LOCAL INCOME TAX BURDENS OF BANKS TENTH DISTRICT STATES BY DEPOSIT SIZE</b>			
States by deposit size	Ratio of state and local income taxes paid to net income (In per cent)		State tax rates applicable to banks' net income
	1961	1974	1974
Colorado	6.4	2.5	5%
Less than \$10 million	6.5	1.9	
\$10 to \$100 million	6.6	2.5	
\$100 million and over	6.2	2.8	
Kansas	—	4.4	} 5% on income < \$25,000 } 7.25% on income > \$25,000
Less than \$10 million	—	3.7	
\$10 to \$100 million	—	4.6	
\$100 million and over	—	5.0	
Missouri*	2.9	2.4	7%
Less than \$10 million	1.5	1.7	
\$10 to \$100 million	1.7	2.6	
\$100 million and over	4.1	2.3	
Nebraska	—	1.7	2.75%
Less than \$10 million	—	1.8	
\$10 to \$100 million	—	1.9	
\$100 million and over	—	1.1	
New Mexico'	—	5.1	6%
Less than \$10 million	—	5.3	
\$10 to \$100 million	—	5.1	
\$100 million and over	—	5.1	
Oklahoma*	2.7	1.9	4%
Less than \$10 million	3.1	2.5	
\$10 to \$100 million	2.6	2.0	
\$100 million and over	2.6	1.4	
Wyoming	—	—	0

\* Banks in Tenth District portion of state.  
SOURCE: Reports of Income, Federal Deposit Insurance Corporation.

ments in state and local government securities, creation of reserves for bad debts substantially in excess of actual losses, and the development of equipment leasing operations. Banks in the Tenth Federal Reserve District generally experienced similar trends, but over the period were subject to an effective Federal tax burden above the national average. In 1974, for example, the Federal tax

burden was 18.6 per cent for Tenth District banks, compared with 14.5 per cent for all banks in the nation. On the other hand, the state and local income tax burden of Tenth District banks was somewhat below the national average. On balance, Tenth District banks averaged a total income tax burden of 21.2 per cent, compared with 18.8 per cent for U. S. banks.

# Treasury Cash Balances

By Peggy Brockschmidt

On May 23, 1975, the Secretary of the Treasury formally requested Congress to provide the Treasury with authorization to invest its idle tax and loan account balances in short-term earning assets. These balances traditionally have been interest-free deposits at commercial banks and thus have provided no explicit return to the Treasury.

This article examines the rationale underlying the recent Treasury proposal. The first section of the article briefly discusses the Treasury's cash management system, with particular emphasis on the tax and loan account system. The next section reviews the major findings and recommendations of the Treasury's 1974 report dealing with tax and loan accounts.<sup>1</sup> The final section of the article examines the extent to which Treasury cash balances have changed in recent years and the implications of these changes for the conduct of monetary policy.

## TREASURY CASH MANAGEMENT SYSTEM

The Federal government must maintain a cash operating balance just like individuals and businesses. The purpose of such a balance is to provide a cushion for meeting current obligations because receipts never precisely match disbursements in timing and amount.

<sup>1/</sup> Report on a Study of Tax and Loan Accounts. Department of the Treasury, June 1974.

The government holds its cash balance in two types of accounts, in demand deposit balances at Federal Reserve Banks and in tax and loan accounts at commercial banks. Payments are made from balances at the Federal Reserve, while most receipts are deposited in tax and loan accounts and then transferred as needed to the account at the Federal Reserve.

Treasury balances at Federal Reserve Banks would probably be sufficient to handle the flow of government funds if these flows were not very large and subject to wide swings. The average balance of Treasury funds at commercial banks and Federal Reserve Banks in fiscal year (FY) 1975 was \$4.6 billion and weekly averages ranged from a high of \$13.5 billion to a low of \$0.5 billion. Given these large magnitudes, it is clear that fluctuations in the Treasury's operating balance could cause marked disturbances in the orderly flow of funds through the nation's financial markets. In recognition of this potential problem, the system of tax and loan accounts was developed.

## Tax and Loan Accounts

The principal purpose of tax and loan accounts is to promote the smooth functioning of the economy by reducing the impact of the government's financial operations on the nation's money market. Flows of funds between

the public and the Federal government could affect commercial bank reserves and cause undesirable fluctuations in money market interest rates. The payment of taxes to the Treasury could drain reserves from the banking system and place upward pressure on interest rates, while Treasury disbursements could augment bank reserves and tend to depress interest rates. Tax and loan accounts help prevent these flows of funds from affecting bank reserves and interest rates. When taxes are paid into tax and loan accounts, bank reserves are not affected because the funds are transferred on the bank's books from the taxpayer's account to the Treasury's tax and loan account. In this manner, funds are left in the banking system until they are required for **outpayments**. At that time, the Treasury can draw down its tax and loan balances as it needs to cover disbursements, thereby matching the flow of receipts from the public to the flow of disbursements to the public. In the absence of the tax and loan account system, the impact of these flows of funds on bank reserves and financial markets could be offset by the Federal Reserve through its open market operations. However, the required frequency and size of these offsetting operations would unduly complicate the Federal Reserve's conduct of monetary policy.

Another function of the system of tax and loan accounts is to facilitate the disbursement of Treasury securities by providing an incentive for banks to serve as "underwriters" and distributors of new Treasury securities. The incentive consists of allowing banks that subscribe to certain new issues of the Treasury to pay for them by crediting the Treasury's tax and loan account. After a few days, the Treasury transfers the payment to its account at a Federal Reserve Bank, thereby allowing banks to earn a yield on the funds during the interim. This incentive has served to build an underwriting network that has enabled the Treasury to market securities without commissions or

spreads of any kind. With the market for Treasury securities now more highly developed, the need for this method of distribution has diminished. It nevertheless continues to be a significant function of the tax and loan account system.

The system also provides an efficient mechanism for the collection of Treasury revenues, as most Treasury receipts flow through the tax and loan accounts. A business concern, for example, makes its tax payments through its own bank. The company's check for the taxes does not flow beyond that bank. The bank charges its customer's account and simultaneously credits the Treasury's tax and loan account. This facilitates check clearings and avoids the expense to the Treasury of handling large volumes of remittances, which entail not only detailed internal processing and depositing in banks but also burdens incident to returned **uncollectible** checks.

The Treasury maintains tax and loan accounts at almost all commercial banks. Any incorporated bank may be designated as a special depository for the Treasury. A bank makes application for qualification through the Federal Reserve Bank in its district and arranges for posting collateral to cover the balance of the tax and loan account. The bank then creates a balance in the account by persuading its customers to pay taxes through the account or to buy government securities, or by subscribing itself to government securities. Most deposits into tax and loan accounts arise from taxes due the Federal government. These taxes include withheld income taxes, FICA taxes, and corporate income taxes.

The Treasury makes use of tax and loan balances by transferring them to its account with a Federal Reserve Bank, from which all Treasury disbursements are made. In transferring funds from tax and loan accounts to Federal Reserve Banks, the Treasury has established a system whereby commercial banks are divided into three classes—A, B, and C banks.

## Treasury Cash Balances

As of the latest classification, A banks are those with credits of less than \$7.5 million during calendar year 1974. B banks had credits between \$7.5 million and \$80 million, or had credits over \$80 million but total bank deposits less than \$50 million. C banks had credits exceeding \$80 million and total bank deposits exceeding \$50 million. As of March 1975, there were 11,166 A banks, 2,226 B banks, and 330 C banks.

Withdrawals from tax and loan accounts are made in an identical manner for every bank within a class. An equal percentage of the balance as of a stated date is withdrawn, or "called," from each bank. Calls on A banks are generally issued twice a month with payment 7 days later, B bank calls twice a week with payment 3 days later, and C bank calls daily. The flow of funds through the accounts can be speeded in several ways. Calls can be issued more frequently, the number of days between the time of call and time of withdrawal can be shortened, and the percentage withdrawn can be increased.

Funds in tax and loan accounts are available for investment by commercial banks. The banks can thereby realize revenue from these deposits but pay no interest on them to the Treasury. However, banks do not necessarily realize a net profit on the tax and loan accounts because they perform services for the Treasury for which they are not directly compensated.

Among the services performed by banks for the Treasury, the most obvious is the actual maintenance of the tax and loan account itself, including handling debits and credits and processing Federal Tax Deposit forms. In addition, banks participate in the sale and redemption of savings bonds. They operate as issuing agents in over the counter sales and as managers of their own payroll savings plans. Banks also assist other businesses in setting up and maintaining savings plans. Furthermore, almost all redemptions of savings bonds

are made through commercial banks. Another service is the support of subscriptions to government securities. When banks purchase new Treasury issues, they serve as underwriters of the issue without cost to the Treasury. Other functions performed for the Treasury include the handling of large volumes of maturing public debt and the cashing of large numbers of government checks. Banks also report large or unusual currency transactions to the Treasury. In performing these services for the Treasury, banks experience costs for which they are not directly compensated. In assessing the net profitability to the banks of tax and loan accounts, bank costs must be compared with the revenues from the accounts.

### THE TREASURY'S 1974 REPORT ON TAX AND LOAN ACCOUNTS

To analyze the net profitability of tax and loan accounts to commercial banks, the Treasury has conducted three studies within the past 20 years. One study was published in 1960 and covered the year 1958; the second appeared in 1964 and was based on 1963 data; and the most recent study—based on 1972 data—was published in 1974.<sup>2</sup> The two earlier studies concluded that the tax and loan accounts were not a source of profit to the banking system. It was found that the costs to the banks of specific services performed for the Treasury exceeded the earning value of the tax and loan accounts. The 1974 report, however, found that the earning value of the accounts to banks was far in excess of the value of related services the banks provided the Treasury.

#### **The Value of the Accounts to the Value of Services**

The basic findings of the 1974 report pertaining to the aggregate cost and earning val-

---

<sup>2/</sup> *Report on Treasury Tax and Loan Accounts and Related Matters.* Treasury Department. December 21, 1964; and *Report on Treasury Tax and Loan Accounts. Services Rendered by Banks for the Federal Government and Other Related Matters.* Treasury Department. June 15, 1960.

ue of tax and loan accounts to banks is shown in Table 1. The findings of the 1964 study also are shown for comparison. For both studies, the data were obtained by surveying 600 banks, including all C banks and a sampling of the A and B banks. The sampling was designed to be representative of the total system, thereby permitting extrapolation of the data for a reasonable estimate for the banking system as a whole.

In comparison with previous studies, the 1974 report found that the earnings value of the accounts exceeded the cost of providing related services due to three major factors: (1) higher tax and loan account balances, (2) higher interest rate levels, and (3) fewer allowable expenses. As shown in Table 1, average daily balances increased nearly 40 per cent between 1963 and 1972—from \$4.9 billion to \$6.8 billion.<sup>3</sup> After deducting required reserves against these balances, the net balance was \$4.0 billion in 1963 and \$5.9 billion in 1972. To compute the earnings on these net balances, a Treasury bill rate was taken as a representative yield. For 1963, the rate used was 3.162 per cent, which was the average auction yield on 3-month Treasury bills during the year; and for 1972 the rate used was 5.50 per cent, which was the average auction rate on 3-month bills during the 5-year period ended December 1972. After applying these rates, the earning on net balance was \$126 million in 1963 and \$325 million in 1972.

Allowable bank expenses also differed in the two reports, although the costs of servicing the tax and loan account itself were deemed appropriate in both instances. Similarly, bank costs of issuing and redeeming savings bonds were considered an allowable expense. Be-

<sup>3/</sup> A portion of this increase was due to a change in the concept used for daily balances. The 1964 study used balances per the books of the Federal Reserve—which would always be lower than balances on the books of commercial banks by the amount of credits in transit. Correcting for this difference, 1963 balances would have averaged \$5.3 billion rather than \$4.9 billion, reducing the increase to about 30 per cent.

**Table 1**  
**SUMMARY OF INCOME AND EXPENSES**  
**ON TAX AND LOAN ACCOUNTS**  
**(In millions of dollars)**

Earnings		
	1963	1972
Average daily balance	\$4,864	\$6,845
Less reserves	828	934
Net balance	4,037	5,911
Treasury bill rate	<u>3.16%</u>	<u>5.50%</u>
Earning value on net balance	\$126	\$325
Expenses		
Servicing tax and loan accounts	\$16	\$18
Savings bonds: issuance and redemption	33	46
Handling of other U.S. securities	15	—
Handling of Treasury checks	40	—
Other	13	—
Mark-up of expenses (20 per cent)	<u>23</u>	<u>—</u>
Total expenses	\$139	\$64
Net earnings	-\$13	\$261

cause of altered banking practices, however, certain expenses allowed in the 1964 study were not deducted in the 1974 report. These were the costs of handling subscriptions for new issues of Treasury securities (other than savings bonds), handling matured Treasury securities, handling Treasury checks, and other miscellaneous bank services. These costs were disallowed on the basis that the service was not specifically related to maintaining the tax and loan account, but was primarily a customer service or marketing device for which the Treasury should not compensate the bank. Also, if the cost of a service was recovered in one way or another by the bank from its customers, it was disallowed in the 1974 report. An additional expense not explicitly allowed in the recent study was a profit mark-up over expenses of 20 per cent, although the study did recognize that a reasonable profit margin was necessary to make the system work efficiently.

In summary, total expenses were estimated at \$139 million in 1963 but only \$64 million in 1972.

## Treasury Cash Balances

The aggregate net earnings on the tax and loan accounts was estimated to be \$261 million in 1972 compared with a loss of \$13 million in 1963. The 1974 report stated, therefore, that "the implicit costs to the Treasury of holding interest-free tax and loan accounts has risen substantially beyond the value to the Treasury of those services provided by the banks...."

### **Ways the Treasury Could Increase Its Return**

Three potential methods by which the Treasury could realize a greater return on its tax and loan balances were examined in the 1974 report. One method, and the most direct, would be for commercial banks to pay interest directly on tax and loan balances. This method was originally authorized by Congress in 1917 when legislation was passed establishing the tax and loan system. In 1933, however, interest payments on demand deposits were prohibited by Congress out of concern that large banks might compete unfairly with small banks and thereby cause a ratcheting up of interest costs. For the Treasury to seek new legislation to remove the prohibition solely for Government deposits, therefore, would be in conflict with the intent of the 1933 law and also place the government in a privileged position vis-a-vis other bank depositors.

A second method would be for the Treasury to place some of its balances in interest bearing time deposits at commercial banks. Current Federal Reserve regulations, however, allow interest to be paid on deposits only if the maturity of the deposit is 30 days or longer. This rules out the Treasury's use of time deposits as an effective means of capturing earnings because the average life of a tax and loan deposit is only about 10 days.

A third way for the Treasury to realize earnings on tax and loan balances would be to invest its unneeded balances in short-term money market instruments, preferably with banks holding tax and loan balances. For in-

stance, the Treasury might make loans on a secured basis to each bank having a tax and loan account. In practice, the Treasury would make a short-term investment with a bank by drawing down its tax and loan account held at that bank. By so doing, funds would not leave the banking system and would not disrupt money market rates, even though the magnitude of such investments might be large. A difficulty with this method, though, is that the Treasury does not have the authority at the present time to invest its idle funds in short-term earning assets.

### **Conclusions of the Report**

The report concluded that tax and loan accounts should be retained because they are useful for money management purposes, but that a method should be developed to provide added returns to the Treasury on its idle balances. The preferred method was the direct investment technique because it is simple, direct, and consistent with cash management practices in industry and state and local governments. Accordingly, it was recommended the Treasury be given authorization to invest in money market instruments.

In recognition that Congressional action would be necessary to provide investment authority, the report indicated the Treasury would continue its recent efforts to decrease balances in tax and loan accounts. Conversely, the Treasury would intensify its efforts to increase balances at Federal Reserve Banks. This meant, in effect, the Treasury would manage its cash position in a way designed to capture greater earnings on its operating balances. Earnings would be increased because as the Treasury transferred funds to its Federal Reserve account, the Federal Reserve would tend to enlarge its portfolio of government securities to prevent a drop in bank reserves. In turn, the larger portfolio of the Federal Reserve would yield increased earnings, a major portion of which would be transferred back to

the Treasury under current practices. Another implication is that the Federal Reserve would have to compensate for greater swings in Treasury balances at Federal Reserve Banks through existing techniques such as open market operations.

CHANGES IN  
TREASURY OPERATING BALANCES

In the past few years, there have been marked changes in the Treasury's operating balances. These changes have occurred primarily because the Treasury has set out to reduce the proportion of its total operating balances held in tax and loan accounts and increase the proportion held at Federal Reserve Banks. As seen in Chart I, during the fiscal years 1963 to 1971 the proportion of the total balance held in tax and loan accounts ranged from about 80 to 90 per cent. Beginning in FY 1972, the proportion began a steady decline, falling from 84 per cent in 1971 to 75 per cent in 1972 and to 40 per cent in 1975. Due to a larger total balance, the dollar amounts in tax and loan accounts in 1972 and 1973 were somewhat higher than in prior years. However, the dollar amounts declined thereafter—from \$5.6 billion in 1973 to \$3.9 billion in

Chart 1  
TREASURY TAX AND LOAN ACCOUNT  
BALANCE

Level and Per Cent of Total Treasury Balance

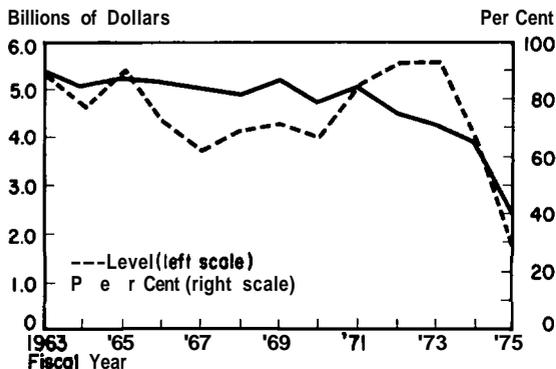
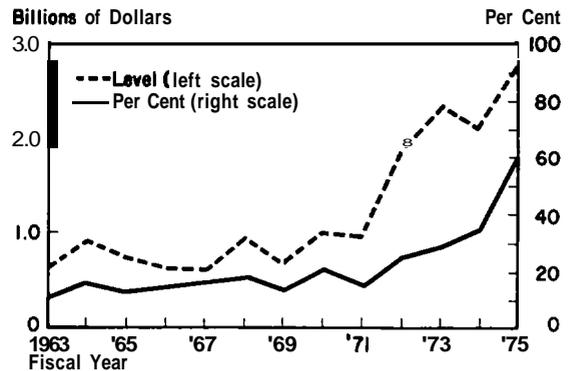


Chart 2  
TREASURY BALANCE AT FEDERAL RESERVE  
Level and Per Cent of Total Treasury Balance

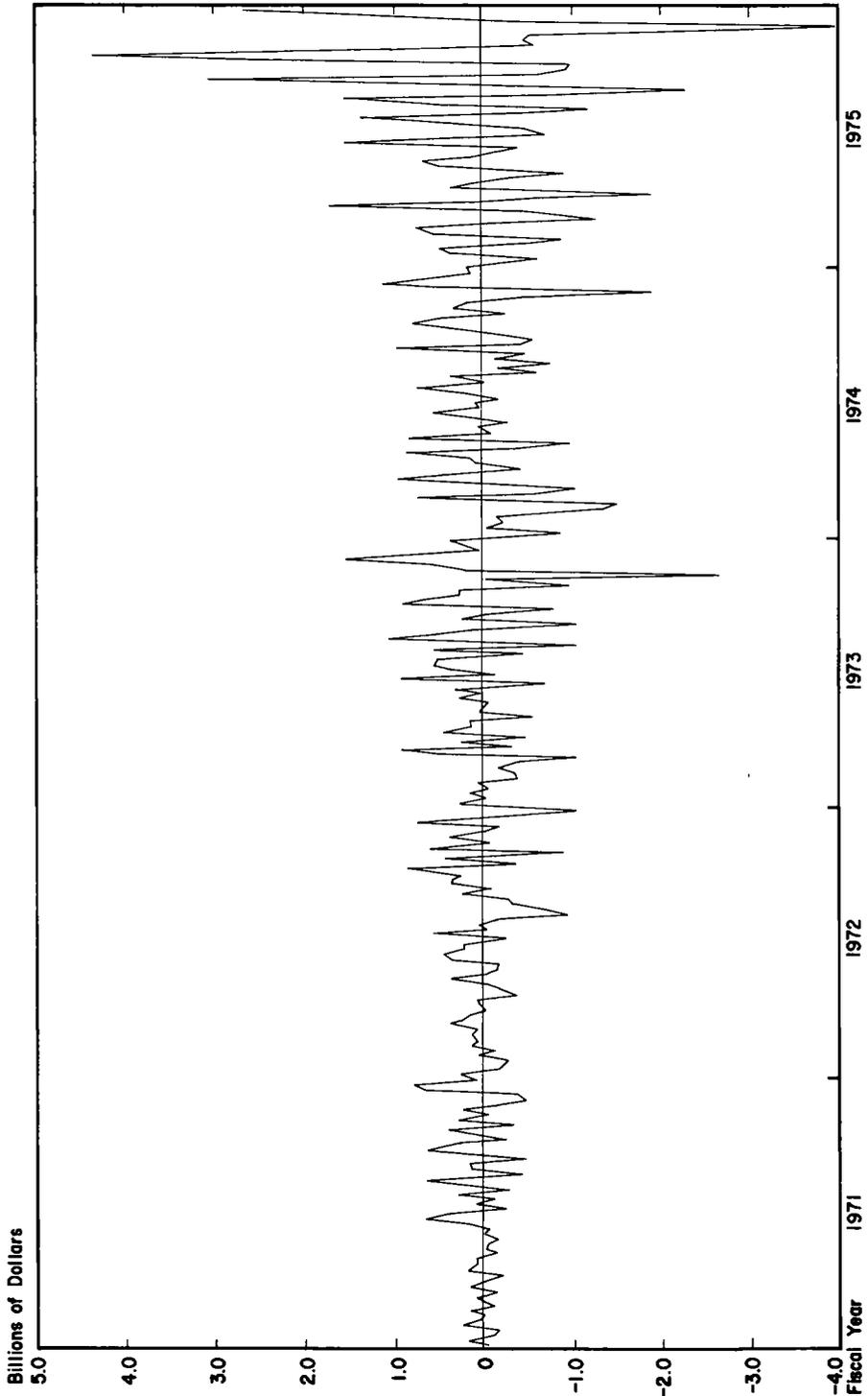


1974. A further sharp decline to \$1.9 billion occurred in FY 1975.

The decline in the proportion of the total balance held in tax and loan accounts has been accompanied by an increase in both the proportion and the dollar amounts held in balances at Federal Reserve Banks. (See Chart 2.) Prior to FY 1972, balances at Federal Reserve Banks averaged between \$700 million and \$1 billion. These balances rose in 1972 and 1973, fell somewhat in 1974, but jumped sharply to \$2.8 billion in 1975.

The Treasury has thus been successful in reducing the amounts held in tax and loan accounts and increasing the amounts held at Federal Reserve Banks. In this way, the Treasury has been able to realize a greater return on its idle balances and reduce the interest expense burden to the taxpayer. However, by keeping a lower level in the tax and loan accounts, the normally wide fluctuations in total operating balances have been reflected in greater volatility in balances at Federal Reserve Banks. The increased volatility in these balances, in turn, has created potential difficulties for the Federal Reserve System in its conduct of monetary policy. As seen in Chart 3, which shows weekly changes in Treasury balances at Federal Reserve Banks, the vola-

**Chart 3**  
**CHANGES IN AVERAGE WEEKLY BALANCES OF**  
**TREASURY ACCOUNTS AT**  
**FEDERAL RESERVE BANKS**



tility of these balances has increased steadily since FY 1971. The trend toward increased volatility also is confirmed by other statistical measures. For example, for the two fiscal years 1971 and 1972, the absolute average weekly change in balances at Federal Reserve Banks was \$226 million. For 1973 and 1974, this figure increased to \$482 million and rose further to \$940 million during FY 1975.<sup>4</sup>

Volatility in Treasury balances at Federal Reserve Banks creates potential difficulties for the conduct of monetary policy because changes in these balances cause changes in the reserves of the banking system. In conducting monetary policy, the Federal Reserve attempts, among other things, to keep bank reserves within certain limits by providing or absorbing reserves mainly through buying and selling U. S. Government securities. Before deciding on the volume of reserves to provide or absorb, the Federal Reserve must first estimate the volume of reserves that will be provided or absorbed by factors other than Federal Reserve operations. These factors include float, flows of currency to and from the public, and changes in Treasury balances at Federal Reserve Banks.

In each planning period, therefore, the manager of the Federal Reserve's open market operations must estimate the amount that Treasury balances will change. If the balances are expected to rise, the manager would plan to offset the resulting reserve drain by providing reserves. If Treasury balances are expected to decline, the manager would plan to absorb reserves. To the extent the estimate of changes in Treasury balances is inaccurate,

4/ The absolute average change is the average of changes when computed by ignoring the direction of the changes. For example, while the simple average of an increase of 100 and a decline of 100 is zero, the absolute average would be 100. A more sophisticated measure of volatility is the standard deviation, which is the square root of the average of the squared deviations from the mean. The standard deviation of weekly Treasury balances at the Federal Reserve Banks confirms the trend toward increased volatility. For the two fiscal years 1971 and 1972, the standard deviation of these balances was \$663 million. For 1973 and 1974, it rose to \$1,018 million, and increased further to \$2,068 million during FY 1975.

the manager will provide or absorb more or less reserves than he considers desirable. Consequently, when changes in Treasury balances are small, the amount by which the manager might potentially err in providing or absorbing reserves would be small. Similarly, when changes in Treasury balances are large, the amount of the potential error would be large. In this way, an increase in the volatility of Treasury balances at the Federal Reserve Banks can reduce the precision of the manager's control over bank reserves.

### SUMMARY AND CONCLUSION

Several legislative proposals have been introduced recently in Congress to allow the Treasury to realize a return on its tax and loan balances. These proposals are based essentially on the principal finding of the Treasury's 1974 report that the earning value of tax and loan accounts to banks is in excess of the cost to banks of those services directly attributable to handling the accounts. At the present time, no formal legislative action has yet been taken on any of these proposals.

One of these proposals would require the payment of interest on Treasury funds held on demand deposit in commercial banks. Such interest would be paid at a rate not less than 1 percentage point below the Federal funds rate. In effect, this proposal would amend the 1933 law, which has prohibited the payment of interest on demand deposits. The proposal also would authorize the Treasury to reimburse commercial banks for services performed for the government.<sup>5</sup>

Another proposal, put forward by the Secretary of the Treasury, closely follows the recommendation of the Treasury's 1974 report. This proposal would authorize the Treasury to

5/ The above proposal was introduced in the House of Representatives as H.R. 3035. A Senate bill, S. 547, is similar but does not consider the question of compensation for services. Another House bill, H.R. 3353, would terminate the FDIC insurance of any bank which failed to pay interest at the Federal funds rate on tax and loan accounts. In the latter bill, compensation for banking services to the government would be authorized.

## Treasury Cash Balances

invest tax and loan balances for periods up to 90 days in obligations of depositaries maintaining tax and loan accounts and in obligations of the U. S. Government and agencies thereof. Loans to depositaries would be secured by a pledge of collateral and would bear interest at rates related to the Treasury's short-term borrowing costs. By lending excess balances to banks maintaining tax and loan accounts, it is felt, the Treasury would not actually be entering the money market and the impact on short-term interest rates would be negligible. The proposal also would allow the Treasury to compensate banks for services rendered. For handling the tax and loan account and related tax deposits, banks would be compensated through the earnings value of the account itself. Compensation for other services, such as the issuance and redemption of savings bonds, would be accomplished by the payment of direct fees from appropriated funds.

Pending Congressional action on measures to allow the Treasury to realize earnings on tax and loan money, the Treasury has

sought to minimize the size of its idle tax and loan balances. By the same token, the Treasury has sought to increase its balances at Federal Reserve Banks. By reducing the level of tax and loan balances, however, the normally wide fluctuations in the flow of total government funds has led to greater swings in Treasury balances at the Federal Reserve.

The volatility of Treasury balances at Federal Reserve Banks has increased substantially in recent years, and particularly during the past 2 years. This, in turn, has created potential difficulties for the Federal Reserve in its conduct of monetary policy. In practice, the larger the volatility of these balances the more difficult it is for the Federal Reserve to exert precise control over the reserves available to the banking system. It is recommended, therefore, that while there may be adequate grounds for the Treasury to seek methods to capture earnings on its tax and loan balances, these methods should be consistent with the maintenance of money market stability and should not unduly complicate the conduct of monetary policy.