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# Tax-Exempt Bonds: A Description of State and Local Government Debt

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## Summary

This report provides basic information about state and local government debt. State and local governments often issue debt instruments in exchange for the use of individuals' and businesses' savings. This debt obligates state and local governments to make interest payments for the use of these savings and to repay, at some time in the future, the amount borrowed. State and local governments finance capital facilities with debt rather than out of current tax revenue in order to match the time pattern of benefits from these capital facilities with the time pattern of tax payments.

The federal government subsidizes the cost of state and local debt by excluding the interest income from federal income taxation. This tax exemption of interest income is granted because it is believed that state and local capital facilities will be under provided if state and local taxpayers have to pay the full cost.

State and local debt is issued as bonds, to be repaid over a period of time greater than one year and perhaps exceeding 20 years, and as notes, to be repaid within one year. General obligation bonds are secured by the promise to repay with general tax revenue, and revenue bonds are secured with the promise to use the stream of revenue generated by the facility built with the bond proceeds. Most debt is issued to finance new capital facilities, but some is issued to refund a prior bond issue (usually to take advantage of lower interest rates). Tax-exempt bonds issued for some activities are classified as governmental bonds and can be issued without federal constraint because most of the benefits from the capital facilities are enjoyed by the general public. Many tax-exempt revenue bonds are issued for activities Congress has classified as private because most of the benefits from the activities appear to be enjoyed by private individuals and businesses rather than the general public. The annual volume of these tax-exempt private-activity bonds is capped.

Arbitrage bonds devote a substantial share of the proceeds to the purchase of assets with higher interest rates than that being paid on the tax-exempt bonds. Such arbitrage bonds are not tax exempt because Congress does not want state and local governments to issue tax-exempt bonds and use the proceeds to earn arbitrage profits. The arbitrage profits could substitute for state and local taxes.

The major policy issue in this area is the effort to use tax-exempt bonds to increase federal financial support for a variety of public facilities. Another policy issue is whether constraints should be relaxed on the types of activities for which state and local governments can issue tax-exempt debt. This is illustrated by the debate about whether governmental bonds should be used to finance sports facilities for professional sports teams. The extent to which the current arbitrage bond rules prohibit what some consider legitimate state and local financial behavior is a related area of dispute. The list of activities that classify tax-exempt private-activity bonds – and whether they should be included in the volume cap–is another area of controversy.

A list of readings is provided for the reader who wants to know more about tax-exempt bonds. This report will be updated as new data become available.

## Contents



## List of Tables

# Tax-Exempt Bonds: A Description of State and Local Government Debt

## What is Debt?

Individuals and businesses lend their accumulated savings to borrowers. In exchange, borrowers give lenders a debt instrument. These debt instruments, typically called bonds, represent a promise by borrowers to pay interest income to lenders on the principal (the amount of money borrowed) until the principal is repaid to the lenders. This principal, sometimes called the proceeds, generally is used to finance the construction of capital facilities.

## Why Do State and Local Governments Issue Debt?

Since public capital facilities provide services over a long period of time, it makes financial and economic sense to pay for the facilities over a similarly long period of time. This is particularly true for state and local governments. Their taxpayers lay claim to the benefits from these facilities by dint of residency and relinquish their claim to benefits when they move. Given the demands a market-oriented society places on labor mobility, taxpayers are reluctant to pay today for state and local capital services to be received in the future. The rational response of the state or local official concerned with satisfying the preferences of constituents is to match the timing of the payments to the flow of services, precisely the function served by long-term bond financing. An attempt to pay for capital facilities "up front" is likely to result in a less than optimal rate of public capital formation.

State and local governments are also faced with the necessity of planning their budget for the year (or in some cases for 2 years). This requires a balancing of revenue forecasts against forecasts of the demand for services and spending. Not infrequently, the inevitable unforeseen circumstances that undermine any forecast cause a revenue shortfall, which must be financed with short-term borrowing, or "notes." In addition, even when the forecasts are met, the timing of expenditures may precede the arrival of revenues, creating the necessity to borrow within an otherwise balanced fiscal year. Finally, temporarily high interest rates that prevail at the time bonds are issued to finance a capital project may induce short-term borrowing in anticipation of a drop in rates.

Thus, state and local governments have valid reasons to borrow funds. In fact, these reasons are so universally accepted that both taxpayers and the courts have ignored the nineteenth century legacy of unrealistically restrictive constitutional and statutory limitations on state and local borrowing.[1]

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[1] Dennis Zimmerman, "History of Municipal Bonds," in his *The Private Use of Tax-Exempt Bonds:*

(continued...)

## What Makes State and Local Debt Special?

The federal government has chosen to intervene in the public capital market by granting the debt instruments of state and local governments a unique privilege–the exemption of interest income earned on these bonds from federal income tax. The tax exemption lowers the cost of capital for state and local governments, which should then induce an increase in state and local capital formation. The lower cost of capital arises because investors would be indifferent between taxable bonds (e.g., corporate bonds) that yield a 10% rate of return before taxes and tax-exempt bonds of equivalent risk that yield a 6.5% return. The taxable bond interest earnings carry a tax liability (35% of the interest income in most cases) making the after tax return on the two bonds identical at 6.5%. Thus, state and local governments could raise capital from investors at an interest cost 3.5 percentage points lower than a borrower issuing taxable debt.

Generally, the degree to which tax-exempt debt is favored is measured in two ways. The yield spread is the difference between interest rate on corporate bonds and the interest rate on municipal bonds of equivalent risk. **Table 1** lists the average yield on high-grade municipal bonds and AAA-rated corporate bonds from 1980 to 2000, and the corresponding yield spread. The spread grew to a high of 3.43% in 1980 and dropped to a low of 1.41% in 1998. The greater the yield spread, the greater is the nominal savings to state and local governments as measured by the interest rates they would have to pay if they financed with taxable debt. As the spread approaches zero, state and local borrowing costs approach the level of taxable bond interest rates.

Another measure, the yield ratio (which is an average rate on tax-exempt bonds divided by an average rate on a corporate bond of like term and risk), adjusts the spread for the level of interest rates. The lower the ratio, the greater the savings to state and local governments relative to taxable debt. As the ratio approaches one, the cost of tax-exempt state and local borrowing approaches that of taxable borrowing. As shown in Table 1, the ratio was lowest in 1980 at 0.71 and reached a peak of 0.84 in 1982. For the last decade the ratio has been relatively stable, though drifting lower at the end of the period.

These variations in the cost of state and local borrowing relative to the cost of taxable borrowing depend upon the demand for and supply of both tax-exempt and taxable bonds. Demand for tax-exempt bonds depends upon the number of investors, their wealth, and alternative investment opportunities. Supply depends upon the desire of the state and local sector for capital facilities and their ability to engage in conduit financing (issuing state or local government bonds and passing the proceeds through to businesses or individuals for their private use). Almost all of the factors which influence demand and supply are affected by federal tax policy.

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[1] (...continued)
*Controlling the Public Subsidy of Private Activity* (Washington, The Urban Institute Press, 1991), pp. 17-27.

**Table 1. Yield on Tax-Exempt and Corporate Bonds of Equivalent Risk, the Yield Spread, and the Yield Ratio: 1980 to 2000**

| Year | High Grade Tax-exempt Yield (in percent) | AAA Corporate Yield (in percent) | Yield Spread (in percent) | Yield Ratio (tax-exempt/ corporate) |
|---|---|---|---|---|
| 1980 | 8.51 | 11.94 | 3.43 | 0.71 |
| 1981 | 11.23 | 14.17 | 2.94 | 0.79 |
| 1982 | 11.57 | 13.79 | 2.22 | 0.84 |
| 1983 | 9.47 | 12.04 | 2.57 | 0.79 |
| 1984 | 10.15 | 12.71 | 2.56 | 0.80 |
| 1985 | 9.18 | 11.37 | 2.19 | 0.81 |
| 1986 | 7.38 | 9.02 | 1.64 | 0.82 |
| 1987 | 7.73 | 9.38 | 1.65 | 0.82 |
| 1988 | 7.76 | 9.71 | 1.95 | 0.80 |
| 1989 | 7.24 | 9.26 | 2.02 | 0.78 |
| 1990 | 7.25 | 9.32 | 2.07 | 0.78 |
| 1991 | 6.89 | 8.77 | 1.88 | 0.79 |
| 1992 | 6.41 | 8.14 | 1.73 | 0.79 |
| 1993 | 5.63 | 7.22 | 1.59 | 0.78 |
| 1994 | 6.19 | 7.96 | 1.77 | 0.78 |
| 1995 | 5.95 | 7.59 | 1.64 | 0.78 |
| 1996 | 5.75 | 7.37 | 1.62 | 0.78 |
| 1997 | 5.55 | 7.26 | 1.71 | 0.76 |
| 1998 | 5.12 | 6.53 | 1.41 | 0.78 |
| 1999 | 5.43 | 7.04 | 1.61 | 0.77 |
| 2000 | 5.71 | 7.62 | 1.91 | 0.75 |

**Source:** Council of Economic Advisors, *Economic Report of the President*, February 2000, Table B-71; The Federal Reserve, "Table H. 15: Selected Interest Rates," *Federal Reserve Statistical Release*, http://www.federalreserve.gov/releases/H15/data.htm, visited September 24, 2001.

## What Does Tax Exemption Cost the Federal Government?

The direct cost to the federal government of this interest exclusion is the individual and corporate income tax revenue forgone. Consider a 35% marginal tax rate corporate investor who purchases a 6.5% tax-exempt bond with principal of $1,000 that is to be repaid after 20 years. Each year for 20 years this taxpayer receives $65 in tax-exempt interest income. Each year the federal government forgoes collecting $35 of revenue because the revenue loss is based upon the yield the taxpayer forgoes. For example, if the investor had purchased a taxable bond carrying a 10% interest rate, he would have received $100 in interest income and paid $35 in income taxes on that income.[2]

[2] The decision about preferred alternatives is critical to estimates of the revenue loss from tax-exempt bonds. An entire range of financial and real assets exists with different yields, risk, and degree of preferential taxation. It is not true that the municipal bond purchaser's preferred alternative is always a taxable bond.

The loss of federal revenue on the outstanding stock of tax-exempt bonds is estimated separately by the Treasury Department's Office of Tax Analysis and the Joint Committee on Taxation. The Treasury Department's estimates for the last 11 years are displayed in **Table 2**.[3] Because they are based upon the outstanding stock of tax-exempt bonds, it takes time for some legislative changes to show up in these data. The amount of forgone tax revenue from the exclusion of interest income on tax-exempt bonds is substantial, almost $23 billion in 2000.

**Table 2. Federal Revenue Loss on the Outstanding Stock of Tax-exempt Bonds: 1990 to 2000**

($ in billions)

| Year | Revenue Loss | Year | Revenue Loss |
|---|---|---|---|
| 1990 | 26.0 | 1996 | 24.6 |
| 1991 | 27.0 | 1997 | 24.9 |
| 1992 | 20.7 | 1998 | 24.6 |
| 1993 | 20.8 | 1999 | 24.8 |
| 1994 | 19.6 | 2000 | 22.6 |
| 1995 | 19.9 | | |

**Source:** Office of Management and Budget. *Special Analyses: Budget of the United States Government*, various years; and *Analytical Perspectives: Budget of the United States Government*, various years.

## Why Does the Federal Government Subsidize State and Local Debt?

When first introduced in 1913, the federal income tax excluded the interest income earned by holders of the debt obligations of states and their political subdivisions from taxable income. It was asserted by many that any taxation of this interest income would be unconstitutional because the exemption was protected by the Tenth Amendment and the doctrine of intergovernmental tax immunity. The U.S. Supreme Court rejected this claim of constitutional protection in 1988 in *South Carolina v. Baker* (485 U.S. 505, [1988]).

Although the legal basis for the subsidy is statutory rather than constitutional, the policy reason for the subsidy is economic. Economic theory suggests that certain types of goods and services will not be provided in the correct or "optimal" amounts by the private sector because some of the benefits are consumed collectively, a street light for example. The Nation's welfare can be increased by public provision of these goods and services, and some of these public goods and services are best provided by state or local governments. However, some of the goods and services provided by state or local governments benefit both residents, who pay taxes, and nonresidents, who pay minimal if any taxes. Since state and local taxpayers are likely to be unwilling to provide these services to nonresidents without compensation, it is

[3] These estimates are derived by summing the revenue loss estimates for each activity listed in the tax expenditures budget. Technically, this is incorrect because each activity's revenue loss is calculated in isolation, and there are interactive effects. Nonetheless, without an estimate of the interactive effects' impact on revenue loss, the summing employed here provides the best available order of magnitude.

probable that state and local services will be under provided. In theory, the cost reduction provided by the exemption of interest income compensates state and local taxpayers for benefits provided to nonresidents and encourages these governments to provide the optimal amount of public services.

# Classifying State and Local Debt Instruments

State and local debt can be classified based on 1) the *maturity* (or term), which is the length of time before the principal is repaid; 2) the *type of security*, which is the financial backing for the debt; 3) the *use of the proceeds* for either new facilities or to refinance previously-issued bonds; and 4) whether the *type of activity* being financed has a public or a private purpose. Another important factor is the level risk. Just about every bond issued by a state or local government is rated based on the probability of default. The privately managed rating agencies incorporate all of the above factors as well as the financial health of the entity issuing the bonds when arriving upon a bond rating. The higher the default risk, the lower the rating.

## Maturity: Short-Term vs. Long-Term

State and local governments must borrow money for long periods of time and for short periods of time. Long-term debt instruments are usually referred to as bonds, and carry maturities in excess of one year. Short-term debt instruments are usually referred to as notes, and carry maturities of 12 months or less. If the notes are to be paid from specific taxes due in the near future, they usually are called tax anticipation notes (TANs); if from anticipated intergovernmental revenue, they are called revenue anticipation notes (RANs). If the notes are to be paid from long-term borrowing (e.g., bonds), they are called bond anticipation notes (BANs). Tax anticipation notes and revenue anticipation notes are often grouped together and referred to as tax and revenue anticipation notes (TRANs). **Table 3** displays the volume of long-term and short-term borrowing since 1980. Long-term borrowing dominates state and local debt activity in most years, with the long-term share peaking in 1985 at over 90% of this market.

**Table 3. Volume of State and Local Tax-Exempt Debt: 1980 to 2000**

| Year | Short-term ($ millions) | Long-term ($ millions) | Long-term Share of Total |
|---|---|---|---|
| 1980 | $26,485 | $47,133 | 64.0% |
| 1981 | 34,443 | 46,134 | 57.3% |
| 1982 | 43,390 | 77,179 | 64.0% |
| 1983 | 35,849 | 83,348 | 69.9% |
| 1984 | 31,068 | 101,882 | 76.6% |
| 1985 | 20,809 | 206,991 | 90.9% |
| 1986 | 22,046 | 150,638 | 87.2% |
| 1987 | 20,518 | 105,027 | 83.7% |
| 1988 | 23,666 | 117,316 | 83.2% |
| 1989 | 29,596 | 125,005 | 80.9% |
| 1990 | 34,804 | 127,828 | 78.6% |
| 1991 | 44,800 | 172,443 | 79.4% |
| 1992 | 42,894 | 234,667 | 84.5% |
| 1993 | 47,354 | 292,249 | 86.1% |
| 1994 | 40,293 | 165,034 | 80.4% |
| 1995 | 38,346 | 159,983 | 80.7% |
| 1996 | 41,695 | 185,014 | 81.6% |
| 1997 | 46,271 | 220,622 | 82.7% |
| 1998 | 34,784 | 286,183 | 89.2% |
| 1999 | 36,647 | 227,348 | 86.1% |
| 2000 | 40,214 | 200,113 | 83.3% |

**Source:** *The Bond Buyer Yearbook*, 2001 and earlier editions.

## Security: General Obligation, Revenue, and Lease Rental Bonds

Another important characteristic of tax-exempt bonds is the security provided to the bondholder. General obligation (GO) bonds pledge the full faith and credit of the issuing government. The issuing government makes an unconditional pledge to use its powers of taxation to honor its liability for interest and principal repayment. Revenue bonds, or nonguaranteed debt, pledge only the earnings from revenue-producing activities, most often the earnings from the facilities being financed with the revenue bonds. Should these earnings prove to be inadequate to honor these commitments, the issuing government is under no obligation to use its taxing powers to finance the shortfall. Some revenue bonds are issued with credit enhancements provided by insurance or bank letters of credit that guarantee payment upon such a revenue shortfall.

The first two columns of **Table 4** display the breakdown between long-term GO and revenue bonds since 1980. The long-term market has been and continues to be dominated by revenue bonds, which are nonguaranteed debt instruments. During the 1960s (not shown in this table), revenue bonds constituted less than 40% of long-term bond volume; during the 1970s (also not shown) the revenue bond share crept into the 50% to 65% range; and beginning in 1979 this share settled into the high 60s and low 70s, achieving a high of 73.1% in 1988. The revenue bond share has remained below 70% from 1989 through 2000.

## Table 4. Volume of Long-term Tax-exempt Debt: General Obligation (GO), Revenue, and Refunding Bonds, 1980 to 2000

($ in millions)

| Year | Long-term Bond Volume | | | Refunding Bonds | |
|---|---|---|---|---|---|
| | General Obligation | Revenue | Revenue Share | Amount | Refunding Share |
| 1980 | $16,347 | $30,786 | 65.3% | $1,649 | 3.5% |
| 1981 | 13,988 | 32,146 | 69.7% | 1,192 | 2.6% |
| 1982 | 23,276 | 53,903 | 69.8% | 4,044 | 5.2% |
| 1983 | 22,584 | 60,764 | 72.9% | 13,048 | 15.7% |
| 1984 | 27,508 | 74,374 | 73.0% | 11,390 | 11.2% |
| 1985 | 55,287 | 148,994 | 72.9% | 57,867 | 28.3% |
| 1986 | 45,555 | 105,417 | 69.8% | 56,063 | 37.1% |
| 1987 | 30,867 | 74,656 | 70.7% | 38,490 | 36.5% |
| 1988 | 31,502 | 85,509 | 73.1% | 36,591 | 31.3% |
| 1989 | 38,501 | 86,504 | 69.2% | 28,842 | 23.1% |
| 1990 | 40,303 | 87,526 | 68.5% | 19,881 | 15.6% |
| 1991 | 57,110 | 115,334 | 66.9% | 41,444 | 24.0% |
| 1992 | 80,479 | 154,188 | 65.7% | 92,446 | 39.4% |
| 1993 | 91,555 | 200,694 | 68.7% | 150,152 | 51.4% |
| 1994 | 55,767 | 109,267 | 66.2% | 38,601 | 23.4% |
| 1995 | 60,367 | 99,615 | 62.3% | 33,850 | 21.2% |
| 1996 | 64,355 | 120,685 | 65.2% | 45,944 | 24.8% |
| 1997 | 72,301 | 148,340 | 67.2% | 60,153 | 27.3% |
| 1998 | 93,531 | 192,652 | 67.3% | 81,957 | 28.6% |
| 1999 | 70,207 | 156,418 | 69.0% | 37,800 | 16.7% |
| 2000 | 64,584 | 135,529 | 67.7% | 19,380 | 9.7% |

**Source:** *The Bond Buyer Yearbook*, 2001 and earlier editions.

All tax-exempt interest income attributable to state and local governments does not appear in the form of bonds. Governments may engage in installment purchase contracts and finance leases for which the portion of the installment or lease payment to a vendor is tax exempt. For example, computer equipment or road building equipment could be leased from a vendor using a rental agreement or an installment sales contract. Under this type of agreement, the monthly payments to the vendor are large enough to cover the vendor's interest expense on the funds borrowed to purchase the equipment which was leased to the government. This portion that is attributable to interest income is not included in the vendors taxable income. Such transactions are often referred to as municipal leasing.

Lease rental revenue bonds and certificates are variations on revenue bonds. An authority or nonprofit corporation issues bonds, builds a facility with the proceeds, and leases the facility to a municipality. Security for the bonds or certificates is based on the lease payments. When the bonds are retired, the facility belongs to the lessee (the municipality). An advantage to this type of arrangement is that many states' constitutional and statutory definitions do not consider this type of financing to be debt because the lease payments are annual operating expenses based upon appropriated monies.

The leasing technique has also been used to provide tax-exempt funds to nonprofit organizations. A municipality issues the bonds for the construction of a

facility that is leased to a nonprofit hospital or university. Again, security for the bonds is based on the lease payments.

## Use of the Proceeds: New-issue vs. Refunding Bonds

Long-term tax-exempt bond issues also can be characterized by their status as new issues or refunding issues. New issues represent bonds issued to finance new capital facilities. Refundings usually are made to replace outstanding bonds with bonds that carry lower interest rates or other favorable terms. As such, the refunding bonds usually do not add to the stock of outstanding bonds or the capital stock. The proceeds of the refunding bonds are used to pay off the remaining principal of the original bond issue, which is retired. Advance refunding bonds, however, do add to the outstanding stock of bonds without adding to the stock of capital. Advance refunding bonds are issued prior to the date on which the original bonds are refunded, so that for a period of time there are two bond issues outstanding to finance the same capital facilities.

The last two columns of **Table 4** show the dollar value of refunding issues and their share of total long-term bond volume. The share varies widely, depending to a great extent on changes in the relative magnitudes of taxable and tax-exempt interest rates. Since 1985 the refunding share has usually been in excess of 25%. Note that the 1993 increase in the top marginal individual income tax rates apparently increased the demand for tax-exempt bonds. Higher tax rates make tax-exempt bonds more attractive relative to taxable bonds, all other things being equal. The increased demand and accompanying lower interest rates may have prompted state and local governments to replace outstanding issues with refunding bonds that carried lower interest rates. In contrast, refundings dropped considerably in 1999 and 2000. The decline could have been in response to higher interest rates or to strong economic conditions in most states which minimized the need for debt finance generally.

## Public Purpose vs. Private Purpose

An important characteristic of tax-exempt bonds is the purpose or activity for which the bonds are issued. Most of the tax legislation pertaining to tax-exempt bonds over the last 30 years reflects an effort to restrict tax exemption to bonds issued for activities that satisfy some broadly defined "public" purpose, that is, for which federal taxpayers are likely to receive substantial benefits. Bonds are considered to be for a public purpose if they satisfy either of two criteria: less than 10% of the proceeds is used directly or indirectly by a non-governmental entity; or less than 10% of the bond proceeds is secured directly or indirectly by property used in a trade or business. Bonds that satisfy either of these tests are termed "governmental" bonds and can be issued without federal limit. Bonds that fail both of these tests are termed "private-activity" bonds because they provide significant benefits to private individuals or businesses. These projects are ineligible for tax-exempt financing.

Activities which fail the two tests but are considered to provide both public and private benefits have been termed eligible or *qualified* private-activity bonds. These selected activities can be financed with tax-exempt bonds. **Table 5** provides the dollar value of new issues of tax-exempt private-activity bonds and their share of total private-activity volume capacity for 2000. **Table 6** provides historical data on the portion of private-activity bond volume to total bond volume.

## Table 5. Private-Activity Bond Volume by Type of Activity in 2000

| Private Activity | Issued in 2000 ($ millions) | Portion of Total Volume Capacity Available in 2000 |
|---|---|---|
| Total Volume Capacity Available | $19,142.2 | 100.0% |
| 2000 New Volume Capacity | 15,375.7 | 80.3% |
| Carryforward from Previous Years | 3,766.5 | 19.7% |
| Single-family Mortgage Revenue | 3,636.0 | 19.0% |
| Multi-family Housing | 3,041.1 | 15.9% |
| Industrial Development | 3,008.3 | 15.7% |
| Housing not Classified | 1,594.0 | 8.3% |
| Student Loans | 1,562.4 | 8.2% |
| Exempt Facilities | 1,427.7 | 7.5% |
| Other Activities | 715.3 | 3.7% |
| Mortgage Credit Certificates | 436.2 | 2.3% |
| Abandon Capacity | 106.6 | 0.6% |
| Carry Forward (unused capacity) | 3,615.0 | 18.9% |

**Source:** "State Allocation of Private-Activity Bonds in 2000," *The Bond Buyer*, July 9, 2001, p. 34.

## Table 6. Long-Term Private Activity Bond Volume as Percent of Total Bond Volume, 1976 to 1995

| Year | Private Activity ($ billions) | Percent of Volume | Year | Private Activity ($ billions) | Percent of Volume |
|---|---|---|---|---|---|
| 1976 | $8.4 | 24.0% | 1986 | $17.2 | 20.0% |
| 1977 | 13.1 | 27.9 | 1987 | 16.7 | 28.2 |
| 1978 | 15.8 | 32.2 | 1988 | 29.4 | 25.1 |
| 1979 | 24.6 | 51.1 | 1989 | 27.7 | 22.3 |
| 1980 | 29.4 | 53.6 | 1990 | 31.4 | 24.6 |
| 1981 | 27.4 | 48.5 | 1991 | 27.8 | 16.1 |
| 1982 | 44.0 | 51.7 | 1992 | 26.9 | 11.5 |
| 1983 | 49.9 | 71.0 | 1993 | 21.2 | 7.3 |
| 1984 | 65.8 | 72.7 | 1994 | 25.0 | 15.1 |
| 1985 | 99.4 | 67.9 | 1995 | 27.9 | 17.4 |

**Source:** Private activity data, 1976-82 from Joint Committee on Taxation, *Trends in the Use of Tax-Exempt Bonds to Finance Private Activities, Including a Description of H.R. 1176 and H.R. 1635. June 13,1983.* Joint Committee Print; for 1983 to 1995, Internal Revenue Service Data. Long Term bond volume from various issues of the *Bond Buyer Yearbook.*

## Private Activities Eligible for Tax Exemption

All tax-exempt private-activity bonds are subject to restrictions that do not apply to governmental bonds, chief among them being no advance refundings and the inclusion of the interest income in the alternative minimum income tax base. In addition, the annual dollar value of all bonds issued for most of these activities by all governmental units within a state is limited to the greater of $62.50 per resident or $187.5 million in 2001. Beginning in 2002, the cap will be increased to the greater of $75 per resident or $225 million. The annual volume cap applies to the total of

bonds issued primarily for but not limited to: multi and single-family housing, industrial development, exempt facilities[4], student loans, and bond-financed takeovers of investor owned utilities (usually electric utilities).

Bonds issued for several activities classified as private are not subject to the volume cap if the facilities are governmentally owned.[5] These activities are airports, docks, and wharves; nonprofit organization facilities; high-speed inter-urban rail facilities; and solid waste disposal facilities that produce electric energy.

As part of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA), a new type of tax-exempt private activity bond was created beginning on January 1, 2002.[6] The Act expanded the definition of "an exempt facility bond" to include bonds issued for qualified public educational facilities. Bonds issued for qualified educational facilities are not counted against a state's private-activity volume cap. However, the qualified public educational facility bonds have their own volume capacity limit equal to the greater of $10 multiplied by the State population or $5 million. Since nearly all states would be better off with the $10 per capita limit, the potential new debt would have been approximately $2.8 billion in 2001 if the bonds were available in 2001.

## What Are Arbitrage Bonds?

Many individuals and businesses make money by engaging in arbitrage, borrowing money at one interest rate and lending that borrowed money to others at a higher interest rate. The difference between the rate at which one borrows and the rate at which one lends produces arbitrage earnings. At its most basic level, it is the primary activity of commercial banks — pay depositors an interest rate of "x" and use the deposits to make commercial, automobile, and home loans at "x + y" interest rate. In this context, arbitrage is a time-honored and appropriate financial market activity.

That is not the case in the tax-exempt bond market. State and local governments do not pay federal income tax, and absent federal constraint, have unlimited capacity to issue debt at low interest rates and reinvest the bond proceeds in higher-yielding taxable debt instruments, thereby earning arbitrage profits. Unchecked, state and local governments could substitute arbitrage earnings for a substantial portion of their own citizens' tax effort.

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[4] Exempt facilities subject to the volume cap are the following: mass commuting facilities, water furnishing, sewage treatment, solid waste disposal, residential rental projects, electric energy or gas furnishing, local district heating or cooling provision, and hazardous waste disposal and 75% of high-speed rail facility bonds. 26 I.R.C. Section 141(e) and Section 142(a).

[5] This does not mean governmental ownership in the conventional sense. It simply means that lease arrangements for private management and operation of bond-financed facilities must be structured to deny accelerated depreciation benefits to the private operator, lease length must conform to the facility's expected service life, and any sale of the facility to the private operator must be made at fair market value. 26 I.R.C. Section 146(g).

[6] For a more extensive explanation of the tax exempt bond provisions in EGTRRA, see CRS Report RS20932 *Tax-Exempt Bond Provisions in the "Economic Growth and Tax Relief Reconciliation Act of 2001,"* by Steven Maguire.

Congress has decided that such arbitrage should be limited, and that tax-exempt bond proceeds must be used as quickly as possible to pay contractors for the construction of the capital facilities for which the bonds were issued. Since it is impossible for bonds to be issued precisely when contractors must be paid for their expenses incurred in building public capital facilities, the tax law provides a 3-year period to spend an increasing share of the bond proceeds. Bond issues that have unspent proceeds in excess of the allowed amounts during this three-year spend-down schedule must rebate any arbitrage earnings to the Department of the Treasury. Bond issues are considered to be taxable arbitrage bonds if a governmental unit, in violation of the arbitrage restriction in the tax code, invested a substantial portion of the proceeds "to acquire higher yielding investments, or to replace funds which were used directly or indirectly to acquire higher yielding investments."[7]

## What Are Tax Credit Bonds?

The 1997 Taxpayer Relief Act created a new category of tax preferred state and local bonds, the qualified zone academy bond (QZAB) for renovating public school facilities. Congress authorized QZAB debt of $400 million a year for 1998 through 2001 or $1.6 billion over the four years. The annual limit is allocated among the states in proportion to their share of all individuals below the poverty line.[8]

The subsidy for these bonds is not provided in the form of the exemption of interest income from federal income tax, as is true for tax-exempt bonds, including bonds issued for public elementary and secondary education facilities. Rather, the subsidy for a QZAB is a credit taken by eligible financial institutions against the federal taxes they owe. The credit rate is calculated by the Treasury Department such that the bonds can be issued without discount and without any interest cost to the issuer.

One way to think of this alternative subsidy is that financial institutions can be induced to purchase these bonds if they receive the same after-tax return from the credit that they would from the tax exemption. The value of the credit must be included in taxable income, but is then used to reduce regular or alternative minimum tax liability. Assuming the taxpayer is subject to the regular corporate income tax, the credit rate should equal the ratio of the purchaser's forgone market interest rate on tax-exempt bonds divided by one minus the corporate tax rate. For example, if the tax-exempt interest rate is 6% and the corporate tax rate is 35%, the credit rate would be equal to 0.06/(1-0.35), or about 9.2%. Thus, a financial institution purchasing a $1,000 zone academy bond would receive a $92 tax credit for each year it holds the bond.

The implicit subsidy is much greater for zone academy bonds than for tax-exempt bonds. All of the interest costs for zone academy bonds are paid by the federal taxpayer. For tax-exempt bonds, the federal taxpayer absorbs only the difference between the taxable and tax-exempt interest rates. For example, if the taxable rate is 9.2% and the tax-exempt rate is 6%, the non-zone bond receives a

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[7] 26 I.R.C. Section 148(a).

[8] For a more detailed explanation of tax credit bonds or QZABs, see CRS Report RS20606, *Qualified Zone Academy Bonds: A Description of Tax Credit Bonds*, by Steven Maguire.

subsidy equal to 3.2 percentage points, the difference between 9.2% and 6%. The QZAB receives a subsidy equal to all 9.2 percentage points.

The relationship between three types of bonds, all with the same after-tax yield of 6%, is presented in **Table 7**. The most important column is the last, titled "Implicit Subsidy to Borrower," which is synonymous with the federal revenue *loss* presented in **Table 2** for all outstanding tax-exempt debt. The implicit subsidy is the amount the borrower saves because of favorable federal tax treatment. In the case of zone academy bonds, the subsidy is considerably greater than with traditional tax-exempt bonds.

### Table 7. Comparison of Three Types of Bonds with a 6% After-Tax Yield

Numbers are in Percentage of Bond Proceeds Assuming a Corporate Taxpayer is in the 35% Marginal Tax Bracket

| Type of Bond | Borrower Pays | Lender Receives | Taxes Paid by Lender | Federal Tax Revenue from Bond | Implicit Subsidy to Borrower |
|---|---|---|---|---|---|
| Taxable | 9.2 | 9.2 | 3.2 | +3.2 | 0.0 |
| Tax-exempt | 6.0 | 6.0 | 0.0 | 0.0 | 3.2 |
| Tax Credit | 0.0 | 9.2[a] | 3.2[b] | -6.0[b] | 9.2 |

**Notes:**

a. The lender is allowed to reduce its tax liability by the amount of the credit.

b. The federal government receives some additional tax revenue because the credit is included in taxable income. However, the loss in revenue from the credit exceeds the revenue gain producing the negative revenue effect.

## Legislative Issues

Current legislative interest focuses on altering the tax treatment of state and local debt to provide even greater financial support for a variety of public projects such as education infrastructure, healthcare facilities, and rapid transit. There are several ways the federal government can increase the federal subsidy to state and local governments that issue tax-exempt bonds for these targeted purposes. One, arbitrage rules could be loosened to allow the state or local government to earn more investment income on unused bond proceeds. Less stringent arbitrage rules may also reduce the compliance burden of some smaller government entities freeing more funds for the project. Two, the federal government can change the rules for private activities that qualify for tax-exempt financing. If more activities qualified to use tax-exempt debt finance by virtue of any proposed rules changes, previous congressional efforts to limit the use of tax-exempt debt for non-governmental projects would be mitigated. Third, Congress could introduce a new type of tax favored instrument, such as tax credit bonds, for a broader range of activities. Currently, the only tax credit bonds are those issued for school renovation and repair, the QZABs described earlier in this report.

In addition to the three options highlighted above, many other methods can be employed to enhance the federal subsidy for state and local government capital formation. The desire to subsidize state and local capital formation, which in many cases may be justified, must be weighed against the federal revenue loss and the potential for misallocation of federal tax revenue.

## Suggested Readings

Ballard, Frederic L., Jr., *ABCs of Arbitrage: Tax Rules for Investment of Bond Proceeds by Municipalities*, (Chicago: Urban, State, and Local Government Law Section, American Bar Association, 1992).

Describes and explains arbitrage and the arbitrage tax rules that control state and local investment practices.

Congressional Budget Office, *The Tax-Exempt Financing of Student Loans*, (Washington: GPO, August 1986).

Provides a legislative history of student loan bonds, describes the operation of student loan authorities, estimates the costs of student loan bonds, and discusses policy alternatives.

Congressional Budget Office, *Small Issue Industrial Development Bonds*, (Washington: GPO, September 1981).

Describes the growth, uses, and effects of small-issue IDBs, and discusses policy alternatives.

CRS Report 96-698, *Tax-Exempt Bond Legislation, 1968-1996: An Economic Perspective*, by Dennis Zimmerman.

Provides a history of tax-exempt bond law changes from 1968 through 1996. Places these legislative changes in the context of the economic incentives being created to affect the demand and supply of tax-exempt bonds.

CRS Report 96-460, *Tax-Exempt Bonds and the Economics of Professional Sports Stadiums*, by Dennis Zimmerman.

Discusses the history and economic rationale for tax-exempt bond financing of private investments, calculates the value of tax-exempt bond subsidies for 21 publicly owned stadiums used by professional sports teams, evaluates the economic benefits of these stadiums for state and federal taxpayers, and evaluates options for limiting the federal revenue loss from these subsidies.

U.S. General Accounting Office, *Home Ownership: Mortgage Bonds Are Costly and Provide Little Assistance to Those in Need*, GAO Report RCED-88-111, March 1988.

Discusses the structure and operation of mortgage revenue bonds and analyzes whether the bonds are successful in increasing home ownership for the target population of lower-income households.

Hilhouse, Albert M., *Municipal Bonds: A Century of Experience*, (New York: Prentice-Hall, 1936).

The classic history of the use and development of municipal bonds from their introduction in the 19th century.

Petersen, John E., and Ronald Forbes, *Innovative Capital Financing*, (Chicago: American Planning Association, 1985).

Provides discussion of the numerous variations on tax-exempt bonds that have been developed to raise capital for the state and local sector, such as sale-leasebacks, installment purchase contracts, etc.

Public Securities Association, *Fundamentals of Municipal Bonds*, (New York: Public Securities Association, 1987).

Describes the structure and functioning of the state and local debt markets.

U.S. Senate, Committee on the Budget, *Tax Expenditures: Compendium of Background Material on Individual Provisions*. S.Prt. 106-65, 106th Congress, 2d session, December 2000.

Provides description, revenue loss estimate, and economic analysis of the effects of governmental bonds and each major category of private-activity bond.

Zimmerman, Dennis, *The Private Use of Tax-Exempt Bonds: Controlling Public Subsidy of Private Activity*, (Washington: The Urban Institute Press. 1991).

Provides institutional background: history, legal framework, and industry characteristics. Provides discussion of tax-exempt bonds as an economic policy tool affecting: intergovernmental fiscal relations, the federal budget deficit, efficient resource allocation, and tax equity. Provides a history and economic analysis of tax-exempt bond legislation from 1968 to 1989.