

Subsidizing Infrastructure Investment with Tax-Preferred Bonds

The public and private sectors in the United States together spend over \$500 billion a year on infrastructure projects, including highways and airports, water and energy utilities, dams, waste-disposal sites and other environmental facilities, schools, and hospitals. The federal government makes a significant contribution to that investment through its direct expenditures and the subsidies it provides indirectly through the tax system, which are sometimes referred to as **tax expenditures**. Direct expenditures comprise what the federal government spends on infrastructure (for example, by funding construction of dams and other water resources by the Army Corps of Engineers) and what it provides as grants and loan subsidies to states and localities (primarily for transportation projects). Those expenditures and grants account for a bit more than one-eighth of the roughly half-trillion dollars in total capital expenditures on infrastructure in the United States. However, for specific types of projects—for example, transportation and environmental facilities—those outlays represent about one-half or more of the total investment.

The Importance of Tax Preferences in Financing Infrastructure

Most federal tax expenditures for infrastructure are the result of tax preferences granted for bonds that state and local governments issue to finance capital spending on infrastructure. For fiscal years 2008 to 2012, federal revenues forgone through the tax-exempt bond financing of infrastructure—both for new investments and for the refinancing of existing debt—are estimated to exceed \$26 billion annually.

Tax preferences for bonds reduce borrowing costs. Because infrastructure facilities typically provide a stream of benefits (and, in some cases, revenues) well into the

future, their construction is often financed by borrowing. The amount of tax-preferred debt issued to finance new infrastructure projects undertaken by the public and private sectors totaled \$1.7 trillion from 1991 to 2007. About three-quarters of those bond proceeds, or roughly \$1.3 trillion, was for capital spending on infrastructure by states and localities, and the remainder was used to fund private capital investment for projects that serve a public purpose, such as schools and hospitals. That \$1.3 trillion amounted to over one-half of the \$2.3 trillion in capital spending on infrastructure by state and local governments (that is, net of federal grants and loan subsidies). Since 1991, tax-exempt bonds have become a more important source of financing, particularly for public investment in transportation facilities, such as highways, and for private investment in schools.

Tax preferences for debt are also attractive to states and localities because they generally allow those governments to exercise broad discretion over the types of projects they finance and the amount of debt they issue. But unlike direct expenditures, tax expenditures—including tax preferences for state and local bonds (also known as municipal bonds)—are not subject to the annual appropriation process that determines federal outlays for infrastructure and other discretionary programs. As a result, the cost of tax subsidies for infrastructure is not readily apparent, making the design of cost-effective tax preferences all the more important.

That history and the projected demand for investment in the nation's infrastructure draw attention to the question of how to make the most effective use of the range of policy options available to support investment in infrastructure. Understanding the advantages and disadvantages of the various types of tax preferences and their role in financing infrastructure investment is an important issue in that regard.

The Types of Tax-Preferred Bonds and Their Characteristics

The Internal Revenue Code provides for three forms of tax-preferred state and local bonds:

- **Tax-exempt bonds** pay interest to the bondholder that is not subject to federal income tax.
- **Tax-credit bonds**, by contrast, generally provide a credit against the bondholder's overall federal income tax liability.
- **Direct-pay tax-credit bonds**, in effect, require the federal government to make cash payments to the issuer of the bond in an amount equal to a portion of each of the interest payments the issuer makes to the bondholder.

Tax-exempt bonds are the most well established type of tax-preferred debt (tax exemption dates to the beginning of the federal income tax in 1913) and are issued to finance either the general functions of state and local governments or certain projects undertaken by the private sector. Tax-exempt bonds reduce the issuer's borrowing costs because purchasers of such debt are willing to accept a lower rate of interest than that of taxable debt of comparable risk and maturity.¹ However, tax-exempt bonds are a relatively costly mechanism for delivering a subsidy to the issuer of the bonds, because the revenue forgone by the federal government in connection with the tax exemption is not limited to the issuer's subsidy; a portion of the federal subsidy is captured by holders of tax-exempt bonds whose tax rates exceed the rate of tax on the marginal (or market-clearing) buyers of the tax-exempt bonds.²

In contrast to tax-exempt bonds, **tax-credit bonds** are much more recent in origin. Authority for the first tax-credit bonds, known as Qualified Zone Academy Bonds, was added to the Internal Revenue Code in 1997, effective for 1998. Although the outstanding amount of tax-

credit bonds currently is minuscule in comparison with that of tax-exempt bonds, tax-credit bonds potentially offer two advantages for economic efficiency. First, tax-credit bonds can be a more cost-effective means of subsidizing borrowing, because every dollar of federal revenue forgone through the tax credit is transferred to borrowers rather than accruing to individuals whose marginal tax rate is high. Second, although tax-credit bonds have tended to provide a subsidy that is close to 100 percent of interest costs, the amount of the tax credit can be adjusted, depending on the purpose for which the bonds are issued. By adjusting the credit amount, the Congress effectively can exempt more or less of each dollar of interest income on a bond and tailor the federal subsidy to the public benefit the Congress expects to derive from the project being subsidized.

Nevertheless, tax-credit bond programs have not been particularly well received by the market for a number of reasons, including the limited size and temporary nature of tax-credit bond programs and the absence of rules for separating tax credits from the associated bonds and reselling them. That situation is likely to change, however, as a result of the American Recovery and Reinvestment Act of 2009 (ARRA, Public Law 111-5), which greatly expanded the size and range of tax-credit bond programs. As those new programs are implemented, it will be possible to gauge more accurately the practical advantages and disadvantages of tax-credit bonds.

ARRA also created a third type of tax-preferred debt—the **direct-pay tax-credit bond**. With that type of bond, the federal government makes a payment to the issuer in lieu of providing a tax credit to the holder of the bond. For example, issuers of the new Build America Bonds (also authorized by ARRA) can elect to issue direct-pay bonds provided that 100 percent of the available proceeds from the bond are to be used for capital expenditures. The issuer of those bonds receives a payment from the federal government equal to 35 percent of the taxable

1. The excess of tax-exempt yields over taxable Treasury yields in 2008 reflected an extreme "flight to quality" that has rarely been seen in U.S. debt markets. Uncertainty in the markets caused investors to move away from investments they believed to be riskier, including tax-exempt municipal bonds, and into those perceived as safer—Treasury securities in particular. As a result, yields on some Treasury bonds fell to levels below yields on tax-exempt municipal bonds that have the same maturity.

2. As the issuers of tax-exempt debt expand the pool of bond purchasers until it is sufficiently large to exhaust the amount of debt they are bringing to market, they draw in bond buyers from ever-lower income tax brackets by raising the interest rate enough so that the yield on tax-exempt bonds is competitive with the after-tax rate of return on taxable instruments for investors in those lower brackets. As a result, the marginal buyer of tax-exempt bonds will typically demand a tax-exempt yield that exceeds what an individual in a higher income tax bracket requires to purchase those bonds.

interest paid to the holder of the bond. In part because the direct payment to the issuer represents a “deeper” subsidy to the issuer than the provision of a tax credit represents to the bondholder, the direct-pay option of qualifying Build America Bonds has been particularly well received by issuers. In addition, fully taxable Build America Bonds must offer yields comparable with those of other taxable securities. Those yields may make the bonds an attractive investment for tax-exempt and foreign persons, who do not invest in traditional tax-exempt bonds.

Conclusions

The estimated \$26 billion in annual federal revenue forgone through tax-exempt bond financing of infrastruc-

ture is greater than the associated reduction in borrowing costs for state and local governments. Some analysts have estimated the magnitude of that differential and conclude that several billion dollars each year may simply accrue to bondholders in higher income-tax brackets without providing any cost savings to borrowers.

Replacing tax-exempt interest with tax credits could, in principle, increase the efficiency of financing infrastructure with tax-preferred debt. Tax-credit bonds transfer to issuers all of the federal revenues forgone through the tax preference; in addition, the amount of the tax credit can be varied across types of infrastructure projects, thus bringing the federal revenue loss in line with the benefits expected from the investment.

