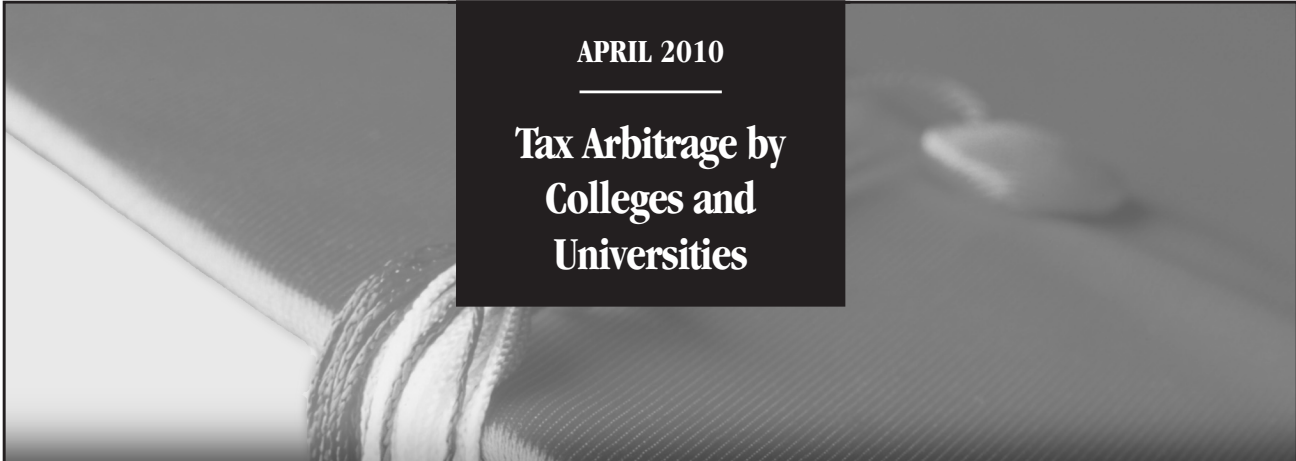


A
CBO
STUDY

APRIL 2010

**Tax Arbitrage by
Colleges and
Universities**



Form **8038** Information Return for Tax-Exempt Private Activity Bond Issues
Department of the Treasury Internal Revenue Service
(Under Internal Revenue Code section 149(e))
▶ See separate instructions.

Part I Reporting Authority Check if Amended Return

1 Issuer's name

2 Issuer's employer identification number

3 Number and street (or P.O. box if mail is not delivered to street address) Room/suite

4 Report number 1

5 City, town, or post office, state, and ZIP code

6 Date of issue

7 Name of issue

9 Name and title of officer or legal representative whom the IRS may call for more information

8038-T Department of the Treasury Internal Revenue Service
Part I Reporting Authority Check box if Amended Return

1 Issuer's name

2 Issuer's employer identification number

3 Number and street (or P.O. box no. if mail is not delivered to street address) Room/suite

4 Report number 7

5 City, town, or post office, state, and ZIP code

6 Date of issue

7 Name of issue

8 CUSIP number

9 Name and title of officer or legal representative whom the IRS may call for more information

10 Telephone number of officer or legal representative

11 Issue price \$

13 \$

14 \$

15 \$

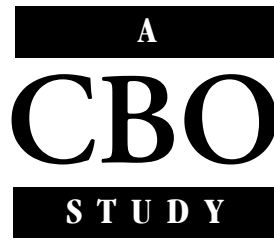
Arbitrage Rebate, Yield Reduction and Penalty in Lieu of Arbitrage Rebate
Under Sections 143(g)(3) and 148(f) and Sections 103(c)(6)(D) and 103A(j)(4) of the Internal Revenue Code of 1954

Issue price ▶ 11 \$

13 \$

14 \$

15 \$



Tax Arbitrage by Colleges and Universities

April 2010

The Congress of the United States ■ Congressional Budget Office

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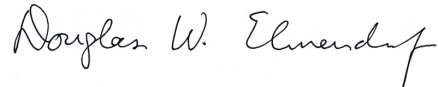
Preface

Because colleges and universities serve a public purpose—advancing higher education and promoting myriad forms of research—they enjoy a variety of tax preferences. In addition to being exempt from paying federal income taxes, institutions of higher learning can accept tax-deductible charitable contributions and use tax-exempt debt to finance capital expenditures. It is the latter preference that the Congressional Budget Office (CBO) focuses on in this study, which was prepared at the request of the Ranking Member of the Senate Finance Committee. The law explicitly prohibits the use of tax-exempt-bond proceeds for the purchase of investment assets, a practice known as tax arbitrage; however, issuers of tax-exempt bonds may use the proceeds for the purchase of operating assets while they simultaneously hold investment assets that provide a higher rate of return. To the extent that colleges and universities earn an untaxed return on investments that exceeds the interest they pay on tax-exempt debt, they are benefiting from a form of indirect tax arbitrage.

Using data from information returns filed with the Internal Revenue Service by institutions of higher learning and by issuers of tax-exempt debt, CBO created several measures of tax arbitrage under a broader definition of the term that includes indirect tax arbitrage. Over time, if legislators were to expand the definition of tax arbitrage, nonprofit institutions would most likely respond by reducing their issues of tax-exempt debt. That response, in turn, could decrease the cost to the federal government of granting such tax preferences. In accordance with CBO's mandate to provide objective, nonpartisan analysis, the paper makes no recommendations.

Kristy Piccinini of CBO's Tax Analysis Division wrote the study, under the supervision of Frank Sammartino and G. Thomas Woodward (formerly of CBO). Nabeel Alsalam, Robert Dennis, Mark Hadley, and Deborah Lucas provided helpful comments. In addition, Thomas Pollack of the National Center for Charitable Statistics provided assistance with the data, and William Gentry of Williams College, Thomas Holtmann of the Joint Committee on Taxation, Kim Reuben of the Urban Institute, and Dennis Zimmerman of the American Tax Policy Center commented on earlier drafts. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO).

Loretta Lettner edited the study, and Kate Kelly proofread it. Maureen Costantino designed the cover, and Jeanine Rees prepared the report for publication. Lenny Skutnik printed the initial copies, Linda Schimmel coordinated the print distribution, and Simone Thomas prepared the electronic version for CBO's Web site (www.cbo.gov).



Douglas W. Elmendorf
Director



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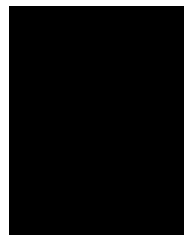
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Tax Arbitrage by Colleges and Universities

Summary and Introduction

Colleges and universities enjoy a variety of federal tax preferences that are designed to support a broader public purpose—the advancement of higher education and research. Not only are institutions of higher learning exempt from paying federal income taxes, they also are eligible to receive tax-deductible charitable contributions and allowed to use tax-exempt debt to finance capital expenditures.

This Congressional Budget Office (CBO) study focuses on one of those tax advantages, the ability of colleges and universities to borrow funds by issuing tax-exempt debt. According to the staff of the Joint Committee on Taxation (JCT), the cost of allowing institutions of higher learning to borrow using such debt—measured in terms of the revenues that could have been collected if those institutions had borrowed using taxable debt—will be about \$5.5 billion in 2010. The use of proceeds from lower-cost tax-exempt bonds to directly finance the purchase of higher-yield securities—a practice known as tax arbitrage—is prohibited by law. Nevertheless, the law as currently implemented allows many colleges and universities to use tax-exempt debt to finance investments in operating assets (buildings and equipment) while, at the same time, they hold investment assets that earn a higher return. (Investment assets are publicly traded and privately held securities, as well as land or buildings held for investment purposes.) To the extent that colleges and universities can earn untaxed returns on investments that are higher than the interest they pay on tax-exempt debt, they are benefiting from a form of “indirect” tax arbitrage.

Rules in the Internal Revenue Code (IRC) and regulations established by the Department of the Treasury limit tax arbitrage by restricting the yield on any investments held by the bond issuer that are deemed to be directly related to the tax-exempt bond issue (for example, an

asset pledged as collateral).¹ Other investment assets are not yield-restricted even though they contribute indirectly to securing the bonds and are considered by rating agencies when rating the tax-exempt debt. A broader definition of tax arbitrage would include most or all investment assets held by an institution borrowing with tax-exempt debt.

Using data from information returns filed with the Internal Revenue Service (IRS) by institutions of higher learning and by issuers of tax-exempt debt, CBO developed measures of tax arbitrage as practiced by colleges and universities under a broader definition of the term that encompasses both direct and indirect tax arbitrage. Under one such definition, nearly all of the tax-exempt bonds that 251 institutions issued in 2003 would be classified as earning profits from tax arbitrage. If some investment assets were set aside in a reserve, which would be excluded from the arbitrage measure under an alternative expanded definition, the amount of debt earning returns from arbitrage would be lower; even so, about 75 percent of bonds issued in 2003 would still be classified as earning arbitrage profits under that expanded definition. By either measure, the amount of debt issued by colleges and universities that earns arbitrage profit would be considerably larger than that issued by nonprofit hospitals (which was the subject of a previous CBO study on broadening the definition of tax arbitrage).² Over time, if legislators were to expand the definition of tax arbitrage and thereby eliminate some of the benefits of tax-exempt financing,

1. Internal Revenue Code, 26 U.S.C. 148(b)(3)(A). The terms “debt” and “bond” are used interchangeably to refer to debt with maturities in excess of a year. The dollar figures for such debt cited in this analysis also include any leasing arrangements that are tax-exempt.
2. Congressional Budget Office, *Nonprofit Hospitals and Tax Arbitrage*, letter to the Honorable William M. Thomas (December 6, 2006).

nonprofit institutions would probably respond by reducing the issuance of tax-exempt debt. That response, in turn, would decrease the cost to the federal government of the tax preference.

Tax Preferences for Higher Education

Institutions of higher learning, both public and private, benefit from several types of preferential tax treatment. Like other nonprofit organizations defined in section 501(c)(3) of the IRC, nonprofit private schools are exempt from the federal income tax, eligible to receive charitable contributions that donors may deduct from their taxable income, and allowed to use tax-exempt debt to finance capital expenditures.³ As state or local government entities, public colleges and universities receive broadly similar tax preferences: they are exempt from federal income taxation, eligible for donations that are tax-deductible, and may have access to tax-exempt debt. Although there are no estimates of the cost to the federal government of exempting contributions made specifically to colleges and universities, the deduction of charitable contributions to educational institutions at all levels is expected to cost about \$6.6 billion in forgone tax revenues in 2010; charitable contributions to colleges and universities account for about 70 percent of all contributions to educational institutions.⁴ JCT estimates that allowing institutions of higher learning to borrow using tax-exempt debt will cost the federal government—in the form of forgone tax revenues—about \$5.5 billion in 2010.⁵

As is the case with other nonprofit organizations, colleges and universities receive preferential tax treatment because they are viewed as serving a public purpose. Institutions of higher learning perform two activities that are typically considered to serve the needs of society: providing education and conducting research. Education is associated with a wide range of favorable outcomes. Investment in

human capital through education confers considerable private benefits on an individual, in the form of higher income and better health.⁶ Education probably also yields benefits for the community as a whole, including a more productive workforce, which leads to faster economic growth, as well as lower crime, a more informed electorate, and increased social mobility.⁷ How much education an individual prefers to invest in depends solely on the private benefit he or she might expect from that investment; in the absence of government intervention, that decision will yield fewer public benefits than is socially desirable.⁸

Some colleges and universities also perform research that may have large spillover effects that benefit the rest of the economy.⁹ Although businesses make substantial investments in research and development, private investors cannot retain all of the benefits from that spending because the knowledge produced by such research can be used by others. As is the case with individuals who must decide how much to invest in their own education, the private sector chooses the amount of research and development it is willing to fund on the basis of private, rather than social, benefit.

3. Section 501(c)(3) of the Internal Revenue Code defines a qualified nonprofit as any entity “organized and operated exclusively for religious, charitable, scientific, testing for public safety, literary, or educational purposes, or to foster national or international amateur sports competition...or for the prevention of cruelty to children or animals.” A nonprofit may not engage in political activity, and none of its earnings may benefit any private shareholder or individual.

4. Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2008–2012*, JCS-2-08 (October 31, 2008), p. 53.

5. Estimates of tax expenditures are not intended to capture all of the ways in which taxpayers might respond to a change in law. In particular, the estimate discussed here assumes that if investors did not hold tax-exempt bonds, they would hold taxable bonds instead. In one study, researchers examined some of the other ways in which investors might change their portfolios in response to limits on tax-exempt bonds. That study found that because taxable bonds are one of the most heavily taxed types of asset, investors would probably seek alternatives that are less heavily taxed and, therefore, the revenue loss to the federal government would probably be smaller than the tax-expenditure cost discussed here. See James Poterba and Arturo Verdugo, *Portfolio Substitution and the Revenue Cost of Exempting State and Local Government Interest Payments from Federal Income Tax*, Working Paper No. 14439 (Cambridge, Mass.: National Bureau of Economic Research, October 2008), available at www.nber.org/papers/w14439.

6. See David Card, “The Causal Effect of Education on Earnings,” in Orley Ashenfelter and David Card, eds., *Handbook of Labor Economics*, vol. 3 (Amsterdam: Elsevier Press, 1999), pp. 1801–1863. Researchers in another study discuss the evidence for a positive relationship between education and health outcomes, paying particular attention to the mechanisms through which education may lead to better health. See David M. Cutler and Adriana Lleras Muney, “Education and Health: Evaluating Theories and Evidence,” in Robert F. Schoeni and others, eds., *Making Americans Healthier: Social and Economic Policy as Health Policy* (New York: Russell Sage Foundation, January 2008).

Granting favorable tax treatment to postsecondary educational institutions is just one way in which policymakers may be able to increase investment in human capital and research. Other ways that the federal government currently subsidizes educational institutions include direct grants to states and localities for elementary and secondary education, tax preferences for private institutions that provide elementary and secondary education, direct grants to schools for research, and subsidies and loan programs for individuals pursuing undergraduate and graduate degrees.

Tax-Exempt Bonds and Tax Arbitrage

State and local governments use tax-exempt bonds to finance their own capital projects and to provide the means for other entities, including nonprofit and state-supported colleges and universities, to use tax-exempt

debt. The tax code contains provisions that are designed to prevent that tax preference from becoming an unlimited subsidy for all types of spending and to restrict its use to financing capital investment in operating assets (such as the construction or renovation of buildings and the purchase or repair of equipment). Tax arbitrage—the use of proceeds from lower-cost tax-exempt bonds to finance the purchase of higher-yield securities—is specifically prohibited both by the IRC and by Treasury regulations.¹⁰ However, in most situations, the law does not prevent tax-exempt borrowers from engaging in what is essentially indirect tax arbitrage.

Indirect tax arbitrage occurs when a borrower with tax-exempt status earns interest on investment assets not directly financed with bond proceeds that exceeds the interest cost incurred from contemporaneous tax-exempt borrowing. A borrower could sell those assets to finance the capital expenditure instead of borrowing with tax-exempt debt. Holding those assets while borrowing on a tax-exempt basis is, in effect, equivalent to using tax-exempt proceeds to invest in those higher-yielding securities.

The Use of Tax-Exempt Bonds

About \$290 billion in tax-exempt bonds was issued in 2007, the most recent year for which aggregate data are available—up from about \$100 billion in 1990 (see Figure 1). About 70 percent of those were governmental bonds, which are typically issued by state and local governments for public projects such as the construction of highways or public schools. The payment of interest on those obligations is generally funded through tax revenues.

The remaining tax-exempt bonds were “qualified private-activity bonds”—tax-exempt bonds issued by state and local governments on behalf of certain private entities or for designated activities.¹¹ Eligible activities include financing student loans or mortgages for owner-occupied

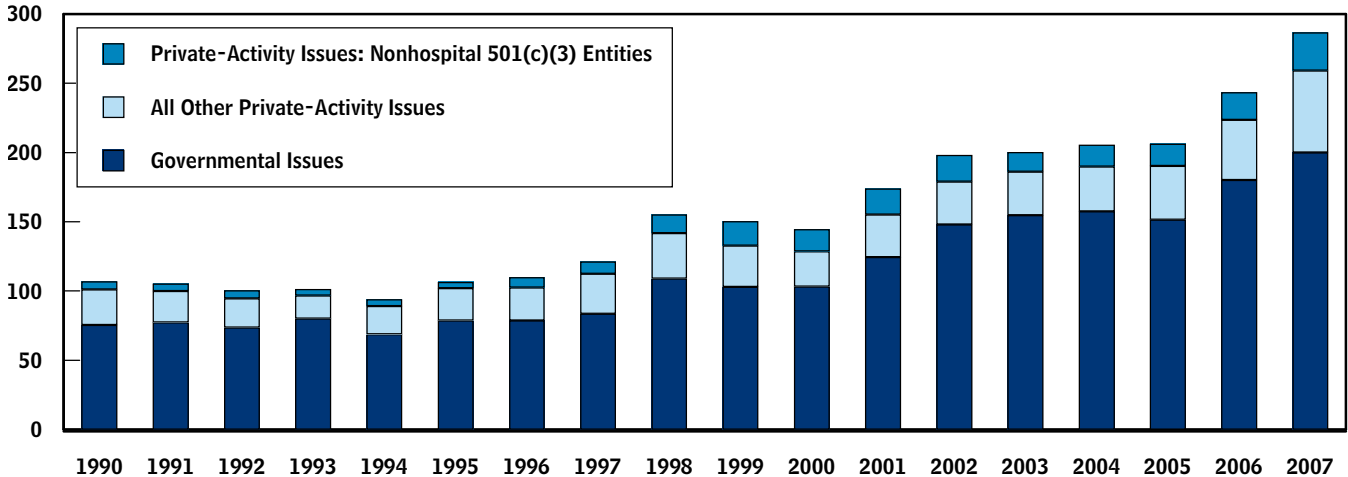
7. See Enrico Moretti, “Estimating the Social Return to Higher Education: Evidence from Longitudinal and Repeated Cross-Sectional Data,” *Journal of Econometrics*, vol. 121, no. 1–2 (July–August 2004), pp. 175–212. In his analysis, Moretti found that college education creates positive spillovers in productivity and wages. See also Eric Hanushek and Ludger Woessmann, *Do Better Schools Lead to More Growth? Cognitive Skills, Economic Outcomes, and Causation*, Working Paper No. 14633 (Cambridge, Mass.: National Bureau of Economic Research, January 2009). In their analysis, the authors found empirical evidence of a causal relationship between educational attainment and growth rates across countries. Other research has found that educational attainment is associated with a decreased likelihood of incarceration or arrest. See Lance Lochner and Enrico Moretti, “The Effect of Education on Crime: Evidence from Prison Inmates, Arrests, and Self-Reports,” *American Economic Review*, vol. 94, no. 1 (March 2004), pp. 155–189. Still other research suggests a positive correlation between educational attainment and the likelihood of electoral participation. See Kevin Milligan, Enrico Moretti, and Philip Oreopoulos, “Does Education Improve Citizenship? Evidence from the United States and the United Kingdom,” *Journal of Public Economics*, vol. 88, no. 9–10 (August 2004), pp. 1667–1695. For a discussion of the relationship between postsecondary education and social mobility, see Robert Haveman and Timothy Smeeding, “The Role of Higher Education in Social Mobility,” *Future of Children: Opportunity in America*, vol. 16, no. 2 (Fall 2006), pp. 125–150.
8. Individuals who face financial constraints may invest in less education than is either privately or socially desirable. Federal student loan programs are one way to reduce the impact of such constraints. See Congressional Budget Office, *Costs and Policy Options for Federal Student Loan Programs* (March 2010).
9. For a more detailed discussion of federal subsidies for research and development, see Congressional Budget Office, *Federal Support for Research and Development* (June 2007).

10. Internal Revenue Code, 26 U.S.C. 148; Treas. Reg., 26 C.F.R. 1.148-0.

11. Such bonds can be issued on behalf of a private entity if more than 10 percent of the proceeds is used for any private business purpose and if more than 10 percent of the payment of principal or interest is secured by an interest in property used for a private business purpose or is derived from payments for property used for a private business purpose. Private-activity bonds are taxable unless they are issued for a qualified purpose or entity.

Figure 1.**The Value of New Issues of Tax-Exempt Bonds, 1990 to 2007**

(Billions of dollars)



Source: Congressional Budget Office.

Notes: Private-activity bonds are issued on behalf of private entities by state and local governments. Unless they are issued for specific tax-exempt activities or entities, interest paid on such bonds is taxable. Activities that are eligible for tax-exempt status include the financing of student loans or mortgages for owner-occupied housing. Entities that qualify for tax-exempt status include nonprofit hospitals, schools, and other qualified 501(c)(3) organizations. Aside from nonprofit hospitals, the Internal Revenue Service does not separate out data on bond issues for any other type of 501(c)(3) organization.

The category "all other private-activity issues" consists primarily of bonds issued on behalf of hospitals, mortgage bonds, and residential rental bonds.

Governmental bonds are typically issued by state and local governments for public projects such as the construction of schools or highways.

housing; eligible entities include nonprofit hospitals, nonprofit schools, and other qualified 501(c)(3) organizations. The interest on tax-exempt private-activity bonds is typically paid with revenue generated by the project that was financed with the bond proceeds rather than by state and local taxpayers. The volume of most eligible types of tax-exempt private-activity bonds that can be issued in a given year by a given state is limited by the Internal Revenue Code, as amended in 1986, but those caps do not apply to bonds issued on behalf of qualified 501(c)(3) organizations. The only cap that applied to tax-exempt bonds issued on behalf of qualified 501(c)(3) organizations—previously \$150 million for the benefit of any single organization—was lifted in 1997.

New issues of tax-exempt private-activity bonds totaled \$87 billion in 2007. Of that amount, about \$27 billion was issued on behalf of qualified nonhospital 501(c)(3) organizations and \$17 billion was issued on behalf of qualified 501(c)(3) hospitals. The IRS does not separate out data on bond issues for any other type of 501(c)(3)

organization. Of the remaining tax-exempt private-activity bonds, qualified mortgage bonds and qualified residential rental bonds were the largest categories by volume; \$14 billion of the former and \$7 billion of the latter were issued that year.

To estimate the amount of new bonds issued specifically for colleges and universities, CBO analyzed all information returns submitted to the IRS for bonds issued on behalf of 501(c)(3) organizations in 2003.¹² That year, bonds issued on behalf of institutions of higher learning accounted for just under \$6 billion of the \$14 billion in new issues for nonhospital 501(c)(3) organizations. Including hospitals, total issues for all 501(c)(3) organizations were about \$24 billion that year, while all tax-exempt private-activity issues totaled \$46 billion.

12. Although data from more recent years are now available, the most current data available when CBO undertook this analysis were for 2003.

Table 1.
Uses of Proceeds from Tax-Exempt Bonds Issued on Behalf of Colleges and Universities, 2003

	Number of Issues	Percentage of Issues
Construction and/or Expansion of Buildings		
Academic buildings	42	40
Residence halls	34	32
Student centers	8	8
Athletic facilities	11	11
Equipment	10	10
Maintenance/Safety	45	43
Total	105	n.a.

Source: Congressional Budget Office based on data provided by issuing authorities in nine states.

Notes: The number of issues in the various categories adds to more than 105 and the percentage of issues in each category adds to more than 100 percent because many projects span multiple categories.

n.a. = not applicable.

Since those data were collected, the market for tax-exempt bonds issued by institutions of higher learning and the value of the assets that those institutions hold have been greatly affected by the financial crisis that began in 2007. Interest rates for tax-exempt debt rose sharply during that period, and issues by colleges and universities have probably declined since the crisis began. However, there are signs that the pressures created by the financial crisis are beginning to ease. In particular, the difference between interest rates on tax-exempt debt and those on short-term Treasury bonds—a standard measure of the risk premium that investors require in order to hold the bonds—has fallen. The liquidity problems that some borrowers face may decrease the use of certain types of short-term debt, but that decrease seems unlikely to have a permanent effect on the availability of credit for long-term capital needs. Because of widespread declines in asset prices, educational endowments have fallen in value considerably from their peak, but they retain some of the benefit from previous years of growth. This analysis is intended to capture the effect of broadening the

definition of tax arbitrage in the long term rather than the effects of the recent disruptions in financial markets.

CBO also collected data on projects that were financed by tax-exempt bonds issued on behalf of institutions of higher learning from issuing authorities in nine states in 2003, covering \$2.3 billion in issues (about 40 percent of all issues in that year). The most common use of proceeds from tax-exempt bonds issued on behalf of colleges and universities in 2003 was for maintenance projects, such as improved heating and cooling systems, and safety enhancements, such as sprinkler systems. About 43 percent of all bond issues involved such projects. (Proceeds from a single issue may be used for projects in multiple categories; see Table 1.) About the same number of bond issues (40 percent) involved the construction and/or expansion of academic buildings; the next most common use (nearly 30 percent) was for the construction and/or expansion of residence halls. The use of bond proceeds for athletic facilities, student centers, or the purchase of equipment was considerably less common.

Advantages and Disadvantages of Tax-Exempt Bonds

Compared with other ways the federal government could choose to subsidize colleges and universities, tax-exempt bonds have both advantages and disadvantages. Because nonprofit institutions of higher learning are exempt from the income tax, any further subsidy through the tax code must be indirect, which leads to one disadvantage. The tax-exempt-bond subsidy is routed through investors, who are willing to accept a rate of return on a tax-exempt bond that is lower than the return on a taxable bond by the amount they would have to pay in taxes on income from the taxable bond. As long as the supply of tax-exempt bonds exceeds the demand from taxpayers in the highest income tax bracket, the market interest rate on such bonds needs to fall below the rate on taxable bonds only by enough to induce taxpayers in a lower tax bracket to also hold the bonds; that rate is higher than what would be necessary to attract investors in the highest tax bracket. Therefore, investors in the highest bracket receive the interest tax-free at their higher marginal tax rate, retaining some of the value of the subsidy rather than passing it on to the issuer of the bonds.

Another disadvantage is that, in contrast with federal spending programs, tax expenditures—including foregone revenues on tax-exempt bonds—are not explicitly

identified in the budget.¹³ Also, unlike discretionary spending programs, they are not governed by the annual appropriation process. Thus, the federal government does directly control the issuance of tax-exempt bonds, which is determined by state and local issuers in accordance with federal rules on the total volume and type of issue. Though state and local governments may be better equipped to identify beneficial capital investments by their local institutions, delegating decisionmaking power away from the federal government increases the probability that bond issues will be evaluated on the basis of their benefit to the locality, rather than to the federal taxpayers who finance the subsidy.

One advantage to using tax-exempt bonds as the means for offering a subsidy is that they provide a standard framework through which educational institutions can access capital markets. Access to the tax-exempt-bond market may increase the availability of bond financing for some educational institutions, although the schools most likely to be affected by the expanded definition of arbitrage discussed in this study have investment-grade credit ratings and therefore probably would be able to obtain funding in the taxable-bond market.

The use of tax-exempt bonds also affects the allocation of resources. The lower cost of financing for projects funded by tax-exempt bonds diverts resources toward those projects and away from other activities. Whether that is an advantage or a disadvantage depends in part on whether the subsidized investment would have been undertaken even in the absence of the subsidy. On the one hand, if colleges and universities use tax-exempt financing for projects that they would complete even without the subsidy, resources are just reallocated from taxpayers to the schools with no additional social benefit. On the other hand, if the subsidy finances capital projects that would not otherwise have been undertaken and that create a social benefit in addition to the benefit to the institution, it could improve the nation's overall welfare.

13. The Administration provides estimates of tax expenditures in the *Analytical Perspectives* volume of the budget. See Office of Management and Budget, *Analytical Perspectives, Budget of the U.S. Government, Fiscal Year 2011*, Chapter 16. The Joint Committee on Taxation also reports annually on tax expenditures. See Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2009–2013*, JCS-1-10 (January 11, 2010).

Direct and Indirect Tax Arbitrage

Because the purchasers of tax-exempt bonds do not pay income tax on the interest those bonds earn, they are willing to accept a lower rate of interest than they would otherwise earn on taxable bonds of comparable risk and maturity. That yield differential presents an opportunity for some issuers of tax-exempt debt to engage in tax arbitrage—borrowing with tax-exempt debt and investing the proceeds in higher-yielding taxable assets. Those who meet the criteria for borrowing using tax-exempt bonds—whether qualified 501(c)(3) organizations or state and local government entities—have an added incentive because they do not pay tax on their net income, regardless of whether it is from an operating surplus (the excess of revenue over cost) or from investment income. The higher return on those taxable assets not only finances the lower interest cost of the tax-exempt debt but also provides untaxed earnings to be used for other purposes.

To restrict such activity, the tax code specifies that “arbitrage bonds” are not tax-exempt. Section 148 of the IRC defines an arbitrage bond as “any bond whose proceeds are reasonably expected to be used directly or indirectly to acquire higher-yielding investment assets or to replace funds which were used directly or indirectly to acquire higher-yielding securities.”¹⁴ The tax code has provisions that prevent the direct diversion of bond proceeds away from investment in physical capital to the earning of investment income. In general, those provisions allow earnings from tax arbitrage only for temporary periods before the proceeds are needed to fund the project for which they were designated or for specific types of investments such as reserve funds. (Such funds typically contain a portion of the proceeds from a bond issue that is set aside to pay debt service in case the expected sources of funds for that purpose are not available). Outside of those limited exceptions, however, any earnings from tax arbitrage must be rebated to the Treasury.

The Treasury regulates arbitrage using a “replacement proceeds rule” that requires the yield to be restricted on any investment assets or other amounts that have a connection (nexus) to a tax-exempt-bond issue that is sufficiently direct for one to conclude that, in the absence of proceeds from tax-exempt borrowing, the assets or

14. Internal Revenue Code, 26 U.S.C. 148(a).

amounts would have been used to finance the project.¹⁵ For example, if a school uses securities as collateral for its debt-service obligation on a tax-exempt bond, the securities are treated as replacement proceeds subject to yield restriction. The Treasury restricts the yield on investment assets in one of two ways. Under one method, the borrower may be required to return to the federal government any excess yields earned on an amount of assets that is equal to the value of the tax-exempt bonds issued.¹⁶ (Excess yields are defined as earnings that exceed the interest paid on the bond.) Under a second method, the borrower may be required to sell an amount of assets that is equal in value to the bonds issued and to invest that money in a specially designed Treasury debt instrument that earns a discounted return to offset the federal government's implicit contribution to the return on the tax-exempt bonds.

Those provisions do not eliminate all opportunities for tax arbitrage, however. Because financial statements typically do not report the use of particular assets as collateral, the replacement proceeds rule is difficult to enforce. In addition, if assets are not specifically pledged to pay the debt service on a tax-exempt bond or if the assets have no other direct connection to the bonds, the arbitrage restrictions do not apply. However, it is widely recognized that assets and their earnings can be used to pay the interest on debt or to cover other expenses to free up funds for interest payments, regardless of whether they are directly pledged to do so.¹⁷ Such use of higher-yielding assets to finance tax-exempt debt constitutes indirect tax arbitrage.

The limited scope of the tax code's restrictions on arbitrage is not unique to colleges and universities. It applies equally to other nonprofit institutions, such as nonprofit hospitals, which have sizable financial assets. For all such institutions, the current tax arbitrage rules ensure that a bond issue is associated with the acquisition of new capital, and they reduce its cost. Nonetheless, a change in the rules that broadened the definition of tax arbitrage would

identify bonds earning arbitrage profits on the basis of the total assets that were implicitly available as collateral rather than requiring a direct relationship between proceeds from tax-exempt bonds and investment assets explicitly pledged as collateral. That expanded definition, which would encompass indirect tax arbitrage, would decrease the value of the federal subsidy that is currently available to institutions of higher learning through tax-exempt-bond issues and reduce the net cost of the tax exemption to the federal government.

Approaches to Measuring the Extent of Indirect Tax Arbitrage

Determining the degree to which colleges and universities benefit from the practice of indirect tax arbitrage requires data on the volume of new and outstanding issues of tax-exempt bonds and on the value of investment assets held by those institutions of higher learning. CBO collected data on assets and liabilities from IRS information returns (specifically, Forms 990 and 8038), adjusting the data to account both for the misreporting of tax-exempt liabilities and for the presence of assets held by other organizations for the use of colleges and universities (see Box 1). To estimate the extent to which indirect tax arbitrage occurs, CBO compared an institution's outstanding bond issues (bonds that have not been completely retired) or new bond issues with the value of its existing investment assets. If an institution held assets that were greater in value than its holdings of either outstanding or new bond issues, those bond issues were classified as earning returns from tax arbitrage. Presumably, the school chose to use tax-exempt debt to finance capital projects rather than selling investment assets because it could earn a rate of return on those assets that was higher than the interest it was obligated to pay on the bonds. If the dollar value of investment assets was less than that of outstanding or new bond issues, only the portion of capital spending that could have been financed with the assets was considered to be earning arbitrage profit. CBO also calculated estimates of tax arbitrage allowing some investment assets to be set aside in a reserve that would be exempt from the broader definition of arbitrage.

Investment Assets and Tax-Exempt Debt

Colleges and universities in aggregate hold investment assets that are significantly higher in value than the stock of outstanding tax-exempt bonds, although the distribution of both is highly skewed. That relationship holds both for amounts reported on IRS Form 990 returns and

15. Treas. Reg., 26 C.F.R. 1.148-1(c).

16. Such payments must be made every five years during the life of the issue, with the first payment made no later than five years after the issue date of a bond. If the computation in later years shows no arbitrage profit because the yield on restricted assets has declined, previous payments are refunded to the issuer.

17. It is also standard practice for rating agencies to base credit ratings for a particular debt issue on all available assets, not just on those directly pledged to that debt issue.

Box 1.**Estimating the Extent of Indirect Arbitrage Practiced by Colleges and Universities**

As nonprofit entities, institutions of higher learning must file Form 990 information returns with the Internal Revenue Service (IRS) on an annual basis that provide data from their balance sheets on revenues, expenses, liabilities, and assets. The Congressional Budget Office (CBO) used information from a sample of those returns, which are available from the IRS, to calculate the investment assets and outstanding stock of tax-exempt debt—weighted to be representative of all schools that filed Form 990 returns in 2003. CBO also used Form 990 returns from the IRS sample, supplemented by additional Form 990 returns from the National Center for Charitable Statistics (NCCS) at the Urban Institute, to calculate the investment assets and outstanding stock of tax-exempt bonds for each institution that issued new tax-exempt debt in 2003. To identify the latter group, CBO used information from Form 8038 information returns, which all issuers of tax-exempt debt are required to file annually. Those returns were then used to estimate the volume of tax-exempt borrowing by institutions of higher learning in 2003.

CBO found that Form 8038 returns were filed for 324 bond issues made on behalf of colleges and universities. Of those, 58 were classified as “refunding” bonds that refinanced debt already issued in previous years. Proceeds from the remaining 266 bond issues, which amounted to about \$6 billion, were distributed to 274 institutions (some bonds were issued on behalf of more than one organization). Of those 274 institutions, CBO was able to identify and match 251 with information culled from Form 990 returns (obtained either from the IRS sample or from the NCCS). Those 251 institutions received \$5.7 billion, or 94 percent, of all proceeds from tax-exempt bonds issued on behalf of higher education in 2003.

One difficulty with measuring tax-exempt debt is that, when filing Form 990 returns, institutions often misallocate balance-sheet information on tax-exempt liabilities. In an earlier study of tax-exempt bonds issued on behalf of nonprofit hospitals, CBO found

that the majority of tax-exempt-bond liabilities were misreported as “mortgages and other notes payable” on Form 990 returns.¹ Issuers of tax-exempt bonds for educational institutions confirmed that such misreporting is present in returns for colleges and universities as well. In many cases, schools consider the proceeds of an issue as a loan from the issuing authority rather than as a tax-exempt liability. CBO therefore adjusted the stock of tax-exempt bonds reported on Form 990 returns to account for that misreporting using the factors estimated in CBO’s earlier study of hospitals.²

In some cases, the value of investment assets reported on Form 990 returns for institutions listed as the receiver of bond proceeds underestimated the true value of investment assets available to the institution. For public universities, particularly those with large endowments, the majority of investment assets are held not by the university, but by a foundation dedicated to the support of the institution and separately incorporated as a public charity. That separation allows state-supported institutions to exercise greater control over their endowment assets. Of the group of 251 borrowers, CBO was able to identify 27 institutions that held assets in other 501(c)(3) organizations. CBO adjusted their stock of investment assets and tax-exempt liabilities to reflect the assets and liabilities of those related organizations.

1. See Congressional Budget Office, *Nonprofit Hospitals and Tax Arbitrage*, letter to the Honorable William M. Thomas (December 6, 2006). In its analysis, CBO found that for those institutions reporting no tax-exempt liabilities, 99.6 percent of their reported mortgage liabilities were tax-exempt liabilities. When an institution reported both tax-exempt liabilities and mortgages, on average, 84 percent of mortgage liability was actually tax-exempt-bond liability.
2. When an institution reported no tax-exempt liabilities, CBO reclassified all mortgage liabilities as tax-exempt liabilities. When an institution reported both tax-exempt liabilities and mortgages, CBO reclassified 84 percent of mortgage liability as tax-exempt-bond liability. Such adjustment results are presented in the appendix.

Table 2.**Selected Assets and Liabilities Held by Colleges and Universities, 2003**

(Millions of dollars)

	All Institutions		Institutions that Borrowed in 2003	
	Total	Median	Total	Median
Net Investment Assets (Unadjusted)	262,151	4	151,053	37
Net Investment Assets (Adjusted)	a	a	152,324	39
Outstanding Tax-Exempt Debt (Reported)	44,326	0	16,901	10
Mortgage Debt (Reported)	17,524	1	5,935	3
Outstanding Tax-Exempt Debt (Adjusted)	60,442	2	22,199	22
Memorandum:				
New Bond Issues	n.a.	n.a.	5,703	10
Number of Institutions	913	n.a.	251	n.a.

Source: Congressional Budget Office based on data from information returns (Forms 8038 and 990) filed with the Internal Revenue Service.

Notes: Investment assets include publicly and privately held securities as well as land and buildings held for investment purposes, net of accumulated depreciation.

Tax-exempt debt is frequently misreported as "mortgages and other notes payable." If no tax-exempt debt is reported, the adjusted stock of tax-exempt debt includes all mortgages reported by the institution. If both tax-exempt debt and mortgages are reported, the adjusted stock of tax-exempt debt includes 84 percent of mortgages reported.

The value of investment assets reported on a school's Form 990 return does not include any assets in related organizations dedicated to the support of the institution and separately incorporated as a public charity. Of the group of 251 borrowers, CBO was able to identify 27 institutions that held assets in other 501(c)(3) organizations and adjusted their stock of investment assets and tax-exempt liabilities to reflect the assets and liabilities of those related organizations.

n.a. = not applicable.

a. CBO identified related organizations just for new borrowers in 2003.

for those amounts adjusted to correct for misreporting (see Box 1). Colleges and universities reported about \$260 billion in total investment assets and about \$45 billion in liabilities for tax-exempt bonds in 2003 (see Table 2). After adjusting for misreporting, CBO estimated that the outstanding stock of tax-exempt debt was about \$60 billion. The median amount of investment assets reported on Form 990 returns for 2003 was about \$4 million (that is, half of the institutions had more than \$4 million in assets and half had less), and the median amount of tax-exempt debt was zero. With adjustments for misreporting, the median stock of tax-exempt debt increased to about \$2 million.

The subset of schools that borrowed using tax-exempt debt in 2003 also had total investment assets that far exceeded tax-exempt liabilities. Those schools' total investment assets, at about \$150 billion, were nine times larger than the total reported stock of outstanding tax-exempt bonds and seven times larger than the total

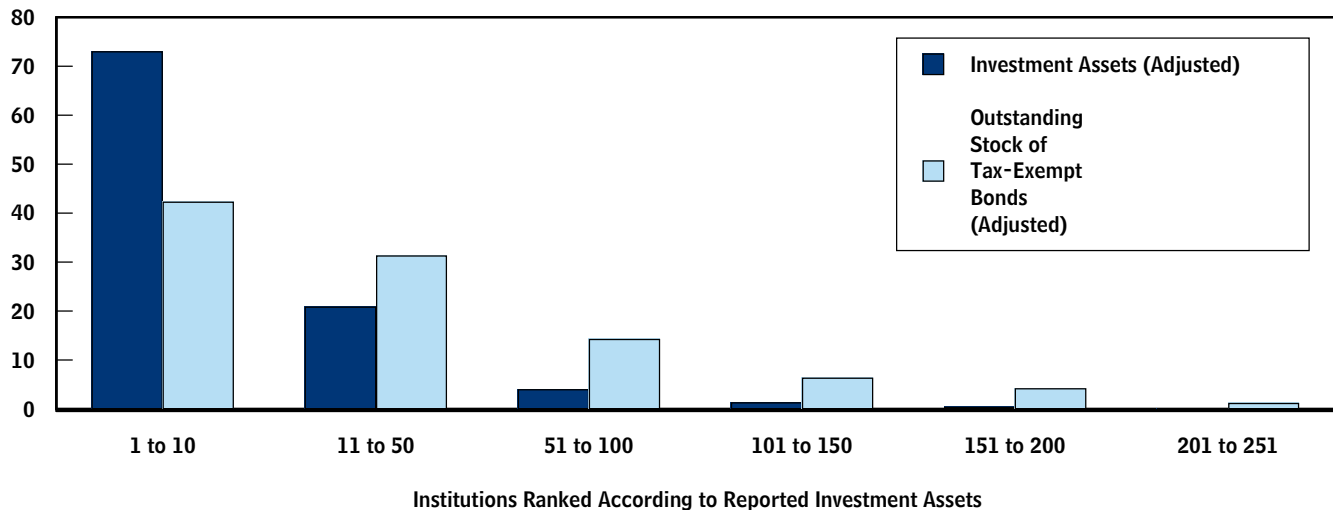
adjusted stock of outstanding tax-exempt bonds. The median school that borrowed in 2003 had an estimated \$39 million in investment assets. The median stock of tax-exempt liabilities was about \$22 million for schools that borrowed in 2003, about 40 percent less than the median amount of investment assets.

Within the group of 2003 borrowers, the distributions of investment assets and tax-exempt bonds were highly skewed (see Figure 2). The top 10 schools that borrowed in 2003, ranked by investment assets, made up about 4 percent of the sample but held almost 75 percent of the total amount of investment assets held by the entire group. The top 50 schools that borrowed in 2003, ranked by investment assets, made up about 20 percent of the sample but held about 95 percent of total investment assets. The group of institutions with the largest share of investment assets had also issued a substantial share of the tax-exempt bonds, but the distribution of the bond issuances was less skewed. The top 10 schools that borrowed

Figure 2.

The Distribution of Investment Assets and Outstanding Tax-Exempt Bonds Held by 251 Colleges and Universities in 2003

(Percent)



Source: Congressional Budget Office.

Notes: In an earlier study of tax-exempt-bond issues made on behalf of nonprofit hospitals, CBO found that the majority of tax-exempt-bond liabilities were misreported as “mortgages and other notes payable” on Form 990 returns (see Congressional Budget Office, *Nonprofit Hospitals and Tax Arbitrage*, letter to the Honorable William M. Thomas, December 6, 2006). Issuers of tax-exempt bonds for educational institutions confirmed that such misreporting is present in returns for colleges and universities as well. CBO therefore adjusted the stock of tax-exempt bonds reported on Form 990 returns to account for that misreporting using the factors estimated in the earlier study.

Some public schools hold assets in separate 501(c)(3) foundations dedicated to the support of the institution. CBO adjusted the amount of investment assets held by 27 institutions to reflect such assets held by foundations.

in 2003 accounted for about 40 percent of the outstanding value of such bonds, and the top 50 accounted for almost 75 percent of the outstanding value.

The majority of outstanding tax-exempt bonds were held by schools with substantial investment assets, which would probably allow them to borrow even if tax-exempt borrowing was not an option. This suggests that, as currently implemented, the subsidy is not used primarily to ease access to financial markets for schools that would otherwise have difficulty undertaking capital projects.

Possible Approaches to Expanding the Definition of Tax Arbitrage

Any specification of the investment assets that would be covered under an expanded definition of tax arbitrage should account for the legitimate role that such assets play in the operation of colleges and universities. Those institutions accumulate investment assets for a variety of

reasons: to earn income to fulfill the purposes that qualify them for tax-exempt status; to protect against uncertainty; to obtain a stronger credit rating; to enhance their reputation; and to honor gift restrictions. Some of those reasons suggest that certain investment assets should not be counted when measuring earnings from tax arbitrage.

The need to maintain an operating reserve is one rationale for allowing an institution to hold some investment assets while issuing tax-exempt bonds. One possible reason for accumulating substantial operating reserves is to maintain spending levels as income from endowments and other sources of revenue fluctuate; but, in practice, most schools follow self-imposed spending rules that limit such “smoothing” and mandate spending reductions when income falls. Another possible reason is that rating agencies offer higher credit ratings as the ratio of expendable financial resources (which include operating reserves) to yearly expenses increases, and those higher

ratings lead to lower costs for borrowing.¹⁸ A comparison of investment assets and annual expenses shows that, by rating agencies' standards, many schools that borrowed in 2003 appear to have substantial operating reserves. For instance, the median ratio of investment assets to annual expenses was 1 for schools that borrowed in 2003; that is, investment assets were equal to about a year's worth of expenses. (That ratio ranged from a high of 89.5 to zero.)

Some investment assets held by colleges and universities are subject to restrictions by the donor. Because educational institutions cannot use such assets for purposes other than those specified by the donor, it could be argued that those assets should not be included when measuring earnings from tax arbitrage. It might be possible, however, to implement a broader measure of tax arbitrage without forcing schools to violate most of those restrictions. For instance, if a donor restricted a gift to an academic institution's endowment—that is, specified that the gift be used to generate future earnings rather than to help pay for current operating expenses—the requirement, under a broader measure of arbitrage, that earnings on the gift be rebated if they exceeded the interest paid on a tax-exempt bond would not necessarily violate the donor's restriction. The gift itself would not be used to purchase the asset financed by the bonds; only the earnings on the gift would be affected.¹⁹ In cases where the donor directed that a gift (but not the earnings on that gift) be used for a specific purpose, similar reasoning would apply. Even in cases where the donor directed that both the gift and its earnings be used for a specific purpose, many restricted purposes—research, certain types of academic support, athletics—would be consistent with using earnings on that gift to finance the construction of academic and athletic buildings, laboratory facilities, and libraries.²⁰

Another consideration is that exempting restricted gifts from an expanded definition of tax arbitrage would strengthen the incentive for schools to pursue restricted gifts. Colleges and universities frequently cite restrictions

on gifts as one reason they require federal subsidies for other types of spending that are less preferred by donors or to justify their tax-exempt endowments' freedom from federally mandated spending requirements such as those that apply to charitable foundations. Currently, schools must weigh the support that additional restricted gifts lend to those arguments against the fact that unrestricted gifts allow the institution more flexibility in setting budgetary priorities and eliminate the possibility of later disagreement between donor and institution regarding the use of a gift.²¹ Explicitly exempting restricted gifts from the calculation of tax arbitrage under an expanded definition would increase the attractiveness of restrictions to schools, but encouraging such restrictions could reduce the social benefit of charitable giving—for instance, individual donors may impose restrictions on gifts that diminish the public benefits that a school provides.²²

To reflect schools' legitimate need for investment assets, CBO calculated measures of tax arbitrage that would allow some investment assets to be set aside in a reserve that, by definition, could not earn returns from tax arbitrage. In calculating those measures, the value of investment assets considered in the arbitrage calculation was reduced by an amount equaling one year's operating expenses—the median amount of investment assets held by schools issuing debt in 2003. CBO did not separately adjust the arbitrage estimates for investment assets subject to restricted uses; reliable data on the type and strength of

18. According to Moody's Investors Service, the median ratio of unrestricted net resources to expenses was 0.9 in 2006. See *Private College and University Medians 2007* (New York: Moody's Investors Service, May 2007).

19. According to a survey conducted by the National Association of College and University Business Officers, about 60 percent of the assets in college and university endowments in 2003 were restricted to income-generating purposes.

20. Although no data exist that detail the exact purposes of accumulated restricted endowment assets, the Council on Aid to Education collects information on the restricted purposes of current gifts to school endowments. In 2008, the most common restriction for endowment gifts was for student financial aid, accounting for 34 percent of restricted giving. Athletics and academic departments each accounted for about 20 percent of restricted gifts to endowments.

21. Disagreements about such restrictions have increasingly resulted in costly legal battles between schools and donors. (See John Hechinger, "New Unrest on Campus as Donors Rebel," *Wall Street Journal*, April 23, 2009). In the most prominent example of such a dispute, a donor's heirs filed a lawsuit against Princeton University's Woodrow Wilson School of Public and International Affairs, alleging that the school was not using a large donation dating to 1961 in accordance with the donor's intent. Princeton paid a settlement of \$100 million to end the litigation, which had stretched on for six years.

22. See Burton A. Weisbrod, Jeffrey P. Ballou, and Evelyn D. Asch, *Mission and Money: Understanding the University* (New York: Cambridge University Press, September 2008), p. 121.

restrictions that apply to existing endowments are not available.²³

Measuring the Volume of Arbitrage Bonds Under a Broader Definition of the Term

CBO used two main measures to determine how much of the value of outstanding bonds issued by colleges and universities and their new tax-exempt borrowing could be considered to earn returns from tax arbitrage under a broader definition of the term. Each approach compared an institution's investment assets with a measure of its tax-exempt-bond liability. With the "historical" measure, CBO considered only the outstanding stock (in 2003) of previously issued bonds. According to that backward-looking measure, if the value of a college's or university's investment assets exceeded the value of the institution's outstanding stock of tax-exempt bonds, all the bonds were classified as earning returns from tax arbitrage. If the value of the stock of tax-exempt bonds exceeded the value of the investment assets, the volume of bonds equal to the value of the investment assets was classified as earning arbitrage profit.

The second, more forward-looking, measure of tax arbitrage considered the position of colleges and universities in the years immediately following an expansion of the definition of arbitrage. That "first-year" measure compared an institution's new issues of tax-exempt bonds in 2003 with its stock of investment assets that year. Under the first-year measure, if the value of investment assets exceeded the value of the new bond issues, all of the bonds were classified as earning arbitrage profit. If the value of the new issues of bonds exceeded the value of the institution's investment assets, the amount of the new issues that was equal in value to the investment assets was considered to be earning profit from tax arbitrage. In the first few years after the implementation of such a policy, a relatively large share of new issues would probably be considered arbitrage bonds because the amount of investment assets newly available for yield restriction would be large compared with new issues in any single year. Analogous to an estimate of tax expenditures, the first-year measure is not meant to capture all of the ways in which issuers might respond to a change in the definition

23. Of the 251 schools that borrowed in 2003, 238 provided information on temporary and permanent restrictions on their total net assets. About 55 percent of all net assets were under permanent restriction and 24 percent were under temporary restriction. No information is available on the nature of the restrictions.

of tax arbitrage. It does, however, capture the immediate effect of broadening that definition.²⁴

Estimated Volume of Arbitrage Bonds Under a Broader Definition of the Term

A substantial portion of the tax-exempt debt issued by colleges and universities is outstanding at the same time those institutions hold higher-yielding investment assets. Such debt would earn profit from tax arbitrage under an expanded definition of the term that considered all investment assets, not just those directly related to the tax-exempt debt. CBO's analysis indicates the following:

- If no reserve was allowed, close to 100 percent of the outstanding tax-exempt debt would be classified as earning full or partial returns from arbitrage under the broader definition. If schools were allowed to exempt investment assets equal to one year's operating expenses as a reserve, 72 percent of the currently outstanding debt would be earning full or partial returns from arbitrage.
- Considering only new issues, the share of debt with full or partial arbitrage profit would be about 99 percent if no assets were set aside in a reserve and about 75 percent if a reserve equal to one year's expenses was allowed.

24. CBO also calculated a related measure of arbitrage bonds, not reported in the tables, based on both outstanding bonds and new issues. If schools continued to use tax-exempt debt to finance capital projects and accumulate investment assets as they have in the past, their new bond issues would tend to exhaust the assets subject to yield restriction, lowering the share of new issues that would be earning arbitrage profits in later years. If that was the case, the current balance between the stock of investment assets and the outstanding stock of tax-exempt bonds would remain the relationship between the two. Under that assumption, another way to estimate the amount of 2003 issues that would be considered arbitrage bonds would be to measure the new bond issues against the investment assets that remained after the outstanding stock of previously issued bonds was applied to those assets. By that measure, if the value of a new bond issue was less than the difference between investment assets and the outstanding stock of tax-exempt debt, the issue was classified as earning tax arbitrage. If a new issue was greater than the residual investment assets, the amount of the issue equal to residual investment assets was classified as earning returns from arbitrage. By this definition, the proportion of debt that would be earning tax arbitrage was lower than that under the first year measure, by about 10 percentage points.

Table 3.

Tax-Exempt Debt Classified as Earning Profits from Arbitrage in 2003 Under a Broader Definition of the Term

(Percent)

	No Assets Set Aside as a Reserve		Assets Set Aside as a Reserve	
	Historical Measure ^a	First-Year Measure ^b	Historical Measure ^a	First-Year Measure ^b
Debt Classified as Earning Arbitrage Profits Under a Broader Definition	100	99	72	75
Full Arbitrage	90	84	60	56
Partial Arbitrage ^c	10	14	12	19
Debt Not Classified as Earning Arbitrage Profits Under a Broader Definition	*	1	28	25
Memorandum: Total Tax-Exempt Debt (Millions of dollars)	22,199	5,703	22,199	5,703

Source: Congressional Budget Office based on information returns (Forms 8038 and 990) filed with the Internal Revenue Service by institutions that borrowed in 2003.

Note: * = less than 0.1 percent.

- The total volume of tax-exempt bonds issued as a percentage of net investment assets (adjusted for misreporting).
- Estimated volume of tax-exempt bonds in the first year under a broader definition of tax arbitrage (approximated by the volume in 2003) as a percentage of net investment assets (adjusted for misreporting).
- Issues held contemporaneously with investment assets lower in value than the total issue.

Most of the debt that would be classified as earning returns from arbitrage is held by the schools that have the largest stocks of investment assets. Compared with CBO's previous estimates of the volume of arbitrage bonds held by nonprofit hospitals, institutions of higher learning hold considerably more debt that would be classified as earning returns from arbitrage under a broader definition.

Estimated Amount of Arbitrage Debt

The historical measure applies the broader definition of arbitrage to already outstanding tax-exempt debt. Although the measure does not directly address the effect of a policy change—because such a change would affect only future issues—it provides a useful starting point for comparing the outstanding stock of tax-exempt debt with investment assets. Using data corrected both for misclassified tax-exempt debt and for underestimates of investment assets owned by institutions that hold assets in foundations, CBO found that in 2003 close to 100 percent of the \$22 billion in previously issued tax-

exempt debt would be classified as earning returns from arbitrage under the broader definition (see Table 3).²⁵ In other words, almost all of the outstanding debt was issued by schools that also held higher-yielding investment assets. Furthermore, the majority of the debt that would be classified as arbitrage debt was fully arbitrated—that is, almost all of it was issued by schools that held investment assets greater in value than their outstanding stock of bonds. In the first years after an expansion of the definition of arbitrage, a high proportion of new issues would be subject to yield restriction because accumulated investment assets are large relative to any single year's issues. In 2003, about 99 percent of new bond issues would have been considered to be earning profit from tax arbitrage under a broader definition.

25. The appendix presents alternative calculations of bond holdings that would earn profits from tax arbitrage under a broader definition using no adjustments for misreporting tax-exempt-bond liability or for assets held by supporting organizations.

Table 4.

Colleges and Universities Conducting Tax Arbitrage in 2003 Under a Broader Definition of the Term

(Percent)

	No Assets Set Aside as a Reserve		Assets Set Aside as a Reserve	
	Historical Measure ^a	First-Year Measure ^b	Historical Measure ^a	First-Year Measure ^b
Institutions Conducting Arbitrage				
Under a Broader Definition	89	98	44	52
Full arbitrage	66	82	31	37
Partial arbitrage ^c	23	16	14	15
Institutions Not Conducting Arbitrage				
Under a Broader Definition	11	2	56	48
Memorandum:				
Total Institutions	251	251	251	251

Source: Congressional Budget Office based on information returns (Forms 8038 and 990) filed with the Internal Revenue Service by institutions that borrowed in 2003.

- Total volume of tax-exempt bonds issued as a percentage of net investment assets (adjusted for misreporting).
- Estimated volume of tax-exempt bonds in the first year under a broader definition of tax arbitrage (approximated by the volume in 2003) as a percentage of net investment assets (adjusted for misreporting).
- Issues held contemporaneously with investment assets lower in value than the total issue.

The amount of debt that earns returns from arbitrage falls when some assets are set aside as an exempt reserve. Using the historical measure (which compares the outstanding stock of tax-exempt bonds to investment assets not set aside for a reserve), the amount of debt earning arbitrage profits in 2003 fell to about \$16 billion, or about 72 percent of the stock of outstanding tax-exempt debt. For issues in 2003, about 75 percent of new tax-exempt-bond issues would be classified as earning returns from tax arbitrage under a broader definition that allowed an exempt reserve equal to one year's expenses.²⁶

The Distribution of Arbitrage Debt

The percentage of institutions engaging in the practice of tax arbitrage is generally lower than the percentage of debt that generates arbitrage profits because the 50 institutions with the most investment assets account for a large share of that debt. If the expanded definition of arbitrage was applied to the already outstanding stock of tax-exempt debt, about 90 percent of institutions would be characterized as profiting from the practice of tax arbitrage (see Table 4). According to the first-year measure, nearly all of the institutions issuing new debt in 2003 would be classified as earning arbitrage profits if a broader definition had been in effect that year.

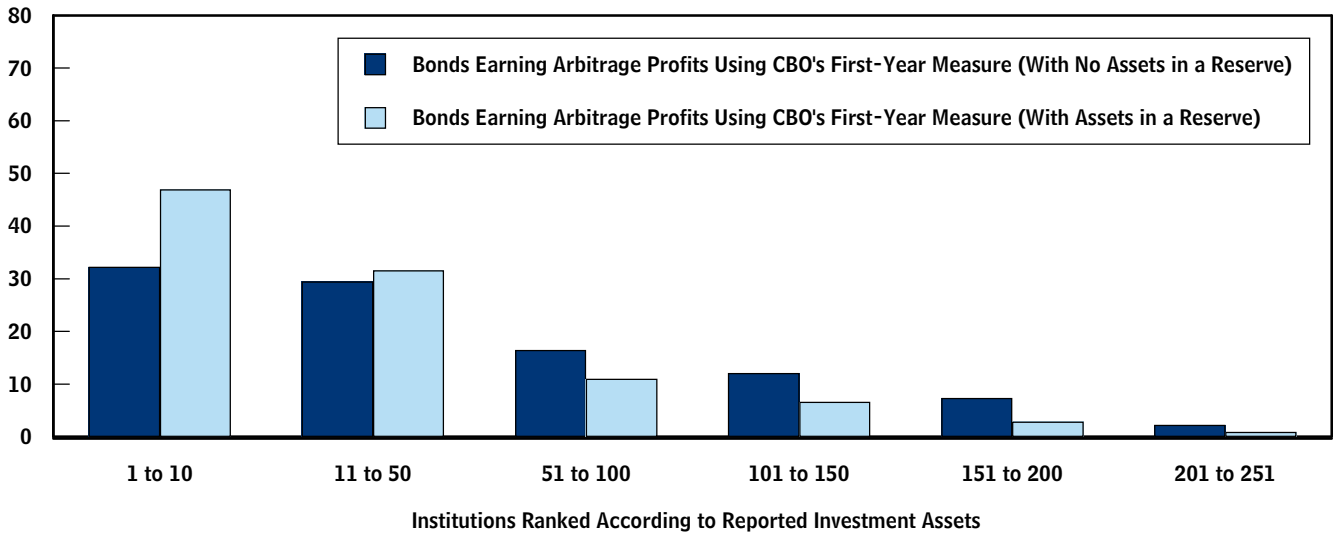
Even if the broader definition of arbitrage allowed colleges and universities to set aside substantial investment assets in a reserve, the majority of tax-exempt debt held by those institutions would be classified as earning returns from tax arbitrage, regardless of the measure used. Because the distribution of arbitrage earnings is not uniform, however, if a reserve was allowed, only about half of the tax-exempt colleges and universities that borrowed in 2003 would be viewed as conducting arbitrage at all, under either measure. Under the historical measure, the number of institutions conducting arbitrage would fall

26. By that measure, the total amount of debt that would be classified as earning returns from arbitrage under a broader definition is about the same if the exempt reserve is calculated as 70 percent of investment assets rather than as one year of operating expenses. However, the distribution of arbitrage debt among the schools would differ. Defining the exempt reserve on the basis of assets rather than expenses lowers the amount of arbitrage debt for schools with assets that are large in relation to expenses and increases it for schools with assets that are small in relation to expenses. In other words, defining an exempt reserve on the basis of assets favors schools that have better access to taxable borrowing.

Figure 3.

The Distribution of Tax-Exempt Debt Held by 251 Colleges and Universities in 2003 That Would Be Classified as Earning Profits from Arbitrage Under a Broader Definition of the Term

(Percent)



Source: Congressional Budget Office.

Notes: CBO used two main measures to determine how much of the outstanding stock of bonds held by colleges and universities and their new tax-exempt borrowing could be classified as earning profits from tax arbitrage under a broader definition of the term. With the "historical" measure, CBO considered only the historical (outstanding) stock of previously issued bonds. The second, more forward-looking measure considered the position of colleges and universities in the years immediately following an expansion of the definition of arbitrage.

Allowing some assets to escape the broader definition of arbitrage lowers the share of debt considered to be earning arbitrage profits by schools with lower amounts of investment assets.

from 223 to 111, or to about 44 percent of all 2003 borrowers, if some assets were set aside in an exempt reserve. Using the first-year measure, based on the volume of new issues, 52 percent of institutions would have been classified as engaging in arbitrage with new issues in 2003 after accounting for an exempt reserve.

Broadening the definition of tax arbitrage would affect institutions with large holdings of investment assets more than institutions with fewer holdings. The majority of bonds that would be classified as earning arbitrage profit using the first-year measure were issued by the institutions with the largest investment assets. The 50 borrowers with the largest investment asset balances (which comprised about 20 percent of all schools that issued new tax-exempt debt in 2003) accounted for just over 60 percent of the bonds earning tax arbitrage (see Figure 3). If assets equal in value to one year's operating expenses were set aside, about 80 percent of the bonds earning returns from

arbitrage would be on behalf of the 50 borrowers with the largest holdings of investment assets.

Comparison with Arbitrage Debt for Nonprofit Hospitals

In a previous study, CBO used similar methods to estimate the percentage of nonprofit hospitals and their debt that would be classified as earning returns from tax arbitrage under an expanded definition.²⁷ By every measure, a much larger percentage of schools than nonprofit hospitals would be conducting arbitrage under an expanded definition, and a larger share of debt issued by colleges and universities than debt issued by nonprofit hospitals would be classified as earning arbitrage profits.

Using data adjusted for misreporting, CBO found that about 60 percent of the outstanding stock of tax-exempt

27. Congressional Budget Office, *Nonprofit Hospitals and Tax Arbitrage*.



bonds issued by nonprofit hospitals in 2002 had been issued by hospitals that contemporaneously held higher-yielding investment assets. Using the first-year measure, 64 percent of bonds issued by nonprofit hospitals in that year would be classified as earning arbitrage profits under a broader definition. For colleges and universities, those figures were close to 100 percent.

Because different criteria are used to rate hospital bonds and those issued on behalf of colleges and universities, CBO used a different method in its previous study to calculate the amount of assets that might reasonably be set aside as a reserve.²⁸ According to those estimates, if an exempt reserve had been allowed under an expanded definition of tax arbitrage in 2002, about 33 percent of the outstanding stock of bonds issued by nonprofit hospitals would be earning arbitrage profits in that year. Under the first-year measure, and assuming that an exempt reserve for hospitals would be allowed, CBO determined that 32 percent of new issues of tax-exempt bonds would be classified as earning arbitrage profits under a broader definition. The corresponding figures for colleges and universities were over 70 percent.

Institutional Response to an Expanded Definition of Tax Arbitrage

Schools could adjust to a broadened definition of arbitrage in several different ways. They could issue fewer bonds and reduce their capital spending. They could sell or reduce their stock of investment assets in order to finance capital spending, rather than issuing tax-exempt debt and rebating the yield on investment assets to the federal government. They could also replace borrowing that would result in yield restriction with taxable debt. In all cases, the net cost of the tax preference to the federal government would be reduced.

Another possibility is that decreasing the attractiveness of tax-exempt private-activity bonds might encourage institutions of higher learning to pursue tax-exempt financing through other channels. For example, when the Tax Reform Act of 1986 limited the use of private-activity bonds for the financing of sports stadiums, agreements between local governments and sports teams led to the issuance of bonds specifically designed for stadium financing but legally considered general revenue bonds because they were backed by revenue from general sources. In those cases, the requirement that debt service

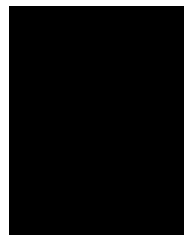
be paid from revenues not generated by the stadium essentially ensured that local governments would offer teams very favorable lease terms and that the tax burden of such facilities would be shared by all local taxpayers rather than the users of the facility, who most benefited from it.²⁹

Local governments could allow both public and private universities to circumvent expanded tax arbitrage rules for private-activity bonds in a similar fashion. Although colleges and universities do not enjoy the monopoly power of major sports teams, many institutions of higher learning are large landowners and employers at the local level, giving them substantial negotiating power with local governments. Local governments could also designate public schools as separate units of government for the purpose of issuing bonds, allowing those schools to issue general revenue bonds on their own. Although careful regulation could in theory circumvent that problem, it is likely that at least some issuance of tax-exempt private-activity bonds would simply shift to the issuance of tax-exempt revenue bonds, limiting the revenue gain to the federal government.

Broadening the rule would reduce the tax preference for schools with large asset portfolios to a greater degree than it would for schools with fewer resources. Because the new rule would be more likely to apply to the few schools with very large portfolios, those schools would effectively face an increase in interest costs relative to schools with smaller portfolios. However, those schools with significant investment assets already tend to have investment-grade credit ratings, suggesting that limiting their ability to issue tax-exempt debt would probably not prevent them from accessing financial markets. Whether diverting the tax-exempt-bond subsidy away from schools with larger endowments would be a more efficient use of scarce resources would depend on the marginal social benefit of subsidies to such schools. If the marginal social benefit of the subsidy decreased as endowments rose, a reduction in the subsidy to schools with large endowments could improve the allocation of the nation's resources. If the marginal social benefit of the subsidy increased as endowments rose, a reduction in the subsidy to schools with large endowments would worsen resource allocation.

28. The reserve was set equal to 100 days of operating expenses; the median hospital in the sample had 117 days of cash on hand.

29. Dennis Zimmerman, "Subsidizing Stadiums: Who Benefits, Who Pays," in Roger G. Noll and Andrew S. Zimbalist, eds., *Sports, Jobs, and Taxes: the Economic Impact of Sports Teams and Stadiums*, (Washington, DC: Brookings Institution Press, 1997), pp. 119-145.



Appendix: Alternative Calculations of Tax Arbitrage as Practiced by Colleges and Universities

In the main text of this report, the Congressional Budget Office (CBO) calculated the extent of tax arbitrage that colleges and universities would be practicing under an expanded definition of the term. To do so, CBO adjusted the outstanding stock of tax-exempt bonds held by those institutions to reflect the fact that they often misreported such debt as mortgages and expanded their measured investment assets to include assets held by related organizations. In this appendix, CBO presents estimates based on the same data—taken directly from information returns (specifically, Form 990 returns) filed with the Internal Revenue Service (IRS)—but without making such adjustments.

According to unadjusted data from Form 990 returns, which nonprofit entities are required to submit to the IRS on an annual basis, the percentage of previously issued outstanding debt that would be classified as earning returns from arbitrage under a broader definition would be similar to the percentage produced using adjusted data. (In determining those percentages, CBO used the historical stock of previously issued bonds, which it terms the “historical” measure). However, 148 institutions—slightly less than 60 percent of the 251 schools that borrowed in 2003—had investment assets with a value that exceeded the reported stock of

tax-exempt liabilities, a considerably smaller percentage than was the case when adjusted data were used. Most of the additional stock of debt added by the adjustment was for institutions that reported no tax-exempt debt at all on Form 990 returns; but the additional stock of bonds attributable to the adjustment would be small relative to the total stock of bonds.

Estimates that were produced using what CBO terms the “first-year” measure—which considers the position of colleges and universities in the years immediately following an expansion of the definition of arbitrage—do not include information on the outstanding stock of tax-exempt bonds, so they are affected only by the adjustment to investment assets. Using that measure and unadjusted data, CBO determined that the share of debt earning returns from arbitrage would be slightly lower, by about 1 percentage point, than when adjusted data were used. Using that measure and unadjusted data, the number of institutions conducting arbitrage would be slightly lower as well, by about 2 percentage points. Again, both the adjusted and unadjusted data show that a majority of the new issues of tax-exempt bonds for institutions of higher learning would be classified as earning arbitrage profits after an expansion of the definition of tax arbitrage.