BROADENING THE DEFINITION OF ARBITRAGE BONDS: THE CASE OF NONPROFIT HOSPITALS*

Dennis Zimmerman and *Kurt Seibert,* Congressional Budget Office

INTRODUCTION

Nonprofit hospitals receive a variety of federal tax preferences. They are exempt from paying federal income tax on their surplus; donations are encouraged by allowing donors to deduct their gifts from taxable income; and operating assets can be financed with tax-exempt debt.

Congress has been concerned that some nonprofit hospitals are not providing social benefits adequate to compensate federal taxpayers for the revenue losses generated by their tax preferences. Nonprofit hospitals received $4.3 billion of tax savings in 2002 from their income tax exemption and use of tax-exempt bonds. In addition, those two tax preferences reduced the cost of capital for a nonprofit hospital (based on 2006 financial conditions) by 2.1 cents per dollar of investment compared to 12.9 cents for a for-profit hospital. If nonprofit hospitals are induced by that cost reduction to invest in projects that generate up to 2.1 cents less of national income per dollar of investment, there may be real economic losses included in those transfers.

As a result, Congress is considering ways to control nonprofit hospital use of those tax preferences. The exemption of the interest income on tax-exempt debt causes its interest rate to be lower than the interest rate on taxable debt of comparable risk and maturity. An arbitrage bond is defined as one where the bond proceeds are invested in higher-yielding taxable securities rather than being used to finance the construction of operating assets. The current arbitrage rules prevent the direct use of bond proceeds to purchase taxable securities, but indirect arbitrage earnings occur when hospitals borrow using tax-exempt debt at the same time they have substantial investment assets on their balance sheets. One possibility for limiting nonprofit hospital use of tax-exempt debt is to broaden the definition of arbitrage bonds to include indirect arbitrage.

This paper estimates the reduction in tax-exempt bond issues that would occur if the definition of arbitrage bonds was broadened to include indirect arbitrage, specifically tax-exempt bonds issued when a nonprofit hospital has substantial investment assets. The next section discusses the definition of arbitrage bonds in the Internal Revenue Code (the Code) and Treasury regulations, and a proposal to broaden that definition. A discussion of the data used to estimate arbitrage bonds under that broader definition follows. The estimates of arbitrage bonds are presented, and conclusions are drawn.

ARBITRAGE BONDS

Purchasers of tax-exempt bonds do not pay income tax on their interest income and therefore are willing to accept a lower interest rate than they can earn on taxable debt of equivalent risk and maturity. That yield differential presents an opportunity for some issuers of tax-exempt debt and a difficult administrative problem for the federal government. Nonprofit organizations (as well as state and local governments) do not pay tax on net income, whether that income comes from an operating surplus or their investment earnings. They thus have an incentive to borrow with tax-exempt debt and invest the proceeds in higher-yielding taxable securities. Any higher return on the taxable securities covers the lower interest cost of the tax-exempt debt and, in addition, provides untaxed earnings, or tax arbitrage. That incentive would not exist if the entity using the tax-exempt debt was subject to the federal income tax because the potential tax arbitrage would be paid to the federal government as income tax. The tax arbitrage of an entity engaging in this practice is effectively a transfer from the federal government to the entity.

To restrict such activity, the Code provides that arbitrage bonds are not tax-exempt. Section 148 (Arbitrage) of the Code defines arbitrage bonds as:

> … any bond [whose] proceeds are reasonably expected to be used directly or indirectly – (1)

*The views expressed do not represent those of the Congressional Budget Office.

> to acquire higher yielding investments, or (2) to replace funds which were used directly or indirectly to acquire higher yielding investments.

The intent of those restrictions is to ensure that bond proceeds are used to increase investment in operating assets (structures and equipment) and are not diverted to the purchase of higher-yielding assets to earn untaxed investment income. The Code has provisions to prevent the direct diversion of bond proceeds away from investment in physical capital to the earning of investment income In general, tax arbitrage may be earned only during specified (temporary) periods before the proceeds are needed for the purpose of the borrowing or on specified types of investments (such as reserve funds). With limited exceptions, any such tax arbitrage must be rebated to the Treasury.[1]

However, the Code does not prevent all opportunities to borrow at tax-exempt rates while earning higher taxable yields. If an entity's assets are not pledged to pay debt service on its tax-exempt bonds or if the assets have no other direct nexus (connection) to its tax-exempt bonds (within the meaning of Treasury's regulations), the arbitrage restrictions do not apply. For example, consider a nonprofit that has $75 million of investment assets from gifts and accumulated surpluses, all of which are invested in taxable securities earning a return higher than the interest cost of tax-exempt debt. In an economic sense, that institution would earn tax arbitrage if it finances $25 million of plant and equipment with tax-exempt bonds rather than internal funds. Although the bond proceeds are being used "directly" to finance the construction of capital facilities, the effect is indistinguishable from using investment assets and replacing those assets with proceeds from private-activity bonds. In effect, using bonds rather than their own assets to pay for plant and equipment indirectly uses those bonds to finance higher-yielding investments. The institution gains by the amount by which its earnings on $25 million of securities exceed its tax-exempt bond interest payments.

Treasury regulations include a "replacement proceeds rule" (section 1.148-1(c)) that requires the yield to be restricted on any investment assets or other amounts that have a sufficiently direct nexus to a tax-exempt bond issue to conclude that such assets or amounts would have been used to finance the operating assets in the absence of the proceeds from the tax-exempt borrowing. For example, if a hospital pledges securities as collateral for its obligation to repay the debt service on tax-exempt bonds, the securities are treated as replacement proceeds subject to yield restriction under the arbitrage rules. Yield restriction means that the return on the investment assets cannot be materially higher than the interest cost on the tax-exempt bonds; it reduces the potential to earn tax arbitrage on those assets. That rule would preclude the institution from using its financial assets as collateral for the bonds and then earning a higher rate of return on its assets.

As discussed, the replacement proceeds rule applies where there is a connection between the entity's assets and the tax-exempt bonds, such as where an entity pledges assets as payment for the debt service. The rule is intended to address indirect arrangements that provide tax arbitrage, but administering the rule is difficult in practice. The replacement proceeds rule is arguably ineffective because accounting reports typically do not reveal such relationships. The need to establish a direct connection (such as a pledge) between investment assets and debt service is inconsistent with typical bond market practices. Bond rating agencies offer a better credit rating (and investors require a lower interest rate) for institutions with more investment assets and cash on hand, even in the absence of a direct pledge of those assets to debt service payments, because those assets and their earnings can ultimately be used to pay debt service, or can be used to cover expenses to free up other funds to pay for debt service.

That attribute of the tax code is not unique to nonprofit hospitals. It applies equally to other nonprofit institutions such as colleges and universities, which have sizeable financial assets invested in financial securities. Nor does the feature necessarily constitute a "loophole." The current tax arbitrage rules do ensure that a bond issue is associated with the acquisition of new capital, and they do reduce its cost. Nonetheless, a change in the rules to include such indirect replacement of assets would serve to decrease the tax benefits going to nonprofit hospitals.

The federal government has two enforcement mechanisms that could be used to restrict yields on the investment assets of bond issuers. The hospital's investment portfolio could be left undisturbed, but the borrower could be required to rebate to the federal government the excess yield earned on assets equal in amount to the bond proceeds.

Alternatively, the borrower could be required to sell an amount of assets equal to the value of the bonds and invest the sale proceeds in a specially created Treasury debt instrument (State and Local Government Series). Those Treasury bonds, called SLUGS, are designed to provide a yield that offsets the interest cost on the tax-exempt bonds.

DATA

The matching of data from two information returns filed by nonprofit hospitals provides the information necessary to estimate the shares of both the outstanding stock of tax-exempt debt and new issues of tax-exempt debt that are arbitrage bonds.[2] The Form 990 information return details their income, revenue, assets, and liabilities. IRS provides a sample of those hospitals that can be used to make estimates of the population of hospitals. The assets are sufficiently detailed to estimate the hospital's portfolio of investment assets, both financial (bonds, stocks, cash) and physical (such as a doctors' office building that provides rental income). The liabilities include an entry for the outstanding stock of tax-exempt debt.

Information return Form 8038 provides detailed information about every new bond issue. Those information returns are used to provide estimates of the volume of hospital bonds issued in 2002. The Form 8038 data set for 2002 includes 384 hospitals that had tax-exempt debt issued on their behalf, of which 310 were new (not refunding) issues. Some of those returns represent multiple hospitals (state issuing authorities and parents of hospital groups), which increases the number of hospitals to 434. After identifying all the individual hospitals and deleting those that did not receive any proceeds, 348 hospitals were included in the data set. Accounting procedures between parent and hospital or an inability to match the Form 8038 with a Form 990 return eliminated 38 hospitals, leaving 310 hospitals. Those 310 hospitals accounted for about 90 percent of the new bond issue proceeds reported on the Form 8038 returns. Matching those returns to the Form 990 returns in order to obtain estimates of the stock of investment assets and tax-exempt debt was not complete, and in some cases the match was accomplished by using the National Center on Charitable Statistics (2006) data set maintained by the Urban Institute. In all instances, the Form 990 information return chosen represented the last filing year prior to the date on which the 2002 bonds were issued.

Matching the Form 8038 data on new bond issues with the Form 990 information on the stock of outstanding tax-exempt debt indicates that some new tax-exempt borrowing is not reported as tax-exempt debt. The National Council of Health Facilities Finance Authorities compared the Form 990 returns and accompanying supporting statements to the audited financial statements for all hospitals in two states in the Form 8038 data set for 2002. That analysis indicated that almost all mortgages reported on the Form 990 returns as taxable debt were actually tax-exempt debt. Based on that information, the Form 990 returns and their supporting statements for a sample of those hospitals with new bond issues in 2002 (in other words, those hospitals that appear in the Form 8038 data set) were examined.

In every instance that a hospital reported no tax-exempt debt and positive mortgage liabilities, those mortgage liabilities were almost entirely tax-exempt liabilities. The tax-exempt share was slightly smaller for hospitals that reported both tax-exempt liabilities and mortgages. Based on that analysis, the tax-exempt debt used in the arbitrage estimates has been adjusted for the misclassification. That adjustment increases the outstanding stock of tax-exempt debt for all hospitals in 2002 by 32 percent (from $93.7 billion to $123.8 billion) and the outstanding stock of tax-exempt debt for all hospitals that borrowed using tax-exempt debt in 2002 by 22 percent (from $17.9 billion to $21.9 billion). The problem seems to arise when a parent borrows for a group of hospitals and makes loans to the individual hospitals, and those hospitals (or those filling out the 990 information return) misclassify the loan as a taxable liability.

Policy makers contemplating a broader definition of tax arbitrage might also want to make an allowance for precautionary savings by setting aside some portion of a hospital's assets that would not be subject to yield restriction. Precautionary savings seem to be an important factor in the bond rating agencies' deliberations, as they provide more favorable credit ratings for hospitals that have higher days of cash on hand (investment assets plus cash), expressed as average days of operating expenses. The sensitivity of the arbitrage estimates to precautionary savings is explored.[3]

ESTIMATES[4]

One approach to measuring arbitrage bonds is to focus only on the outstanding stock of tax-exempt debt. If the hospital's investment assets exceed its outstanding bonds, the analysis considers those bonds to be arbitrage bonds since the hospital has presumably chosen to use bonds because the investment assets earn a greater return than the interest paid on the bonds. If the hospital's outstanding bond issues exceed its investment assets, only that portion of the bonds that could be replaced by assets generate tax arbitrage and thus qualify as arbitrage bonds. The accompanying tables refer to that approach as the "historical measure" because it is based on the outstanding stock of tax-exempt debt, which reflects the history of all bond issues that have not been completely retired. All of the data for this measure come from the Form 990 information returns.

Implementing a broader definition of tax arbitrage, however, would of course be forward looking. It would not look back to past issues and require rebate of tax arbitrage earned on those bonds that could have been replaced with financing from investment assets. It would focus on new bond issues that violated the expanded definition of tax arbitrage. At first, almost all new bond issues would appear to be arbitrage since they would be compared to the entire stock of investment assets. As the years progress and a larger share of investment assets would be yield restricted to cover prior years' new issues, fewer new issues would be classified as arbitrage bonds. Assuming hospitals do not alter their asset accumulation or tax-exempt borrowing in response to the change in definition, the existing balance between the stock of investment assets and the outstanding stock of tax-exempt bonds can be viewed as a possible post-definition equilibrium that would be established between the accumulation of investment assets and tax-exempt borrowing.

Thus, if a new bond issue is less than the difference between investment assets and the outstanding stock of tax-exempt bonds (that difference is the relationship observed in the historical measure), arbitrage bonds would be equal to the new issue. If a new bond issue is greater than that difference, arbitrage would be equal to the difference. Thus, arbitrage bonds would be equal to the lesser of new issues of tax-exempt bonds or the difference between investment assets and the outstanding stock of tax-exempt bonds. In essence, the measure assumes that the historical measure of arbitrage bonds has already been applied and new bond issues are measured against any residual assets not applied to previously issued bonds.

In the tables, that measurement approach is called the "steady-state measure" because it measures the effect of the definition change when it is fully phased in. It uses investment asset data and outstanding stock of tax-exempt bond data from the Form 990 information returns and annual bond issue data from the Form 8038 information returns.

As a check on the 2002 data, the arbitrage estimates in Table 1 compare the 2002 population of hospitals with an earlier estimate done by Gentry (2002) for 1996 (all data from the 990 returns). These estimates do not correct for the misclassification of tax-exempt debt as taxable mortgages. The total number of hospitals in 2002 is higher by about 20 percent and the outstanding stock of tax-exempt bonds is higher by almost 80 percent. But the percentage of hospitals with arbitrage bonds (about 90 percent) and the percentage of tax-exempt bond volume satisfying the broader definition of tax arbitrage (about 58 percent) are very similar between 1996 and 2002. Nonprofit hospital behavior does

Table 1

Arbitrage Bonds for All Nonprofit Hospitals in 2002 and 1996: Historical Measure, Bond Stock Adjusted ($ millions)

	2002		*1996 (Gentry)*	
	Count	*Percent*	*Count*	*Percent*
Number of Hospitals	1,276	100	1,043	100
With arbitrage	1,149	90.1	918	88.0
Value of tax-exempt bonds	93,655		55,900	
Value of arbitrage bonds	54,136	57.8	32,600	58.3

Table 2
Arbitrage Bonds for All 310 Nonprofit Hospitals That Borrowed in 2002: Bond Stock Adjusted ($ millions)

	Outstanding Stock of Bonds		*Bonds Issued in 2002*	
	Hisorical Measure		*Steady-state Measure*	
	Count	*Percent*	*Count*	*Percent*
No precautionary savings				
Number of Hospitals	310	100	310	100
With arbitrage	249	80.3	116	37.4
Value of tax-exempt bonds	21,851		8,384	
Value of arbitrage bonds	13,171	60.3	2,360	28.2
Precautionary Savings				
Number of Hospitals	310	100	310	100
With arbitrage	109	35.2	47	15.2
Value of tax-exempt bonds	21,851		8,384	
Value of arbitrage bonds	7,218	33.0	761	9.1

not seem to have changed much over that period of time. The relationship between hospitals' accumulation of investment assets and use of tax-exempt debt appears to be stable.

The historical and steady-state measures in Table 2 are based on all 310 hospitals that borrowed using tax-exempt debt in 2002, which is the population of all new hospital bond issues in that year (minus the 38 returns that were discarded). The estimates use the adjusted stock of tax-exempt debt and include variants with and without an allowance for precautionary savings.

Making no allowance for precautionary savings (meaning all investment assets are subject to yield restriction), 80 percent of the 310 hospitals had arbitrage bonds, and 60 percent of the outstanding stock of bonds would be classified as arbitrage. If an allowance is made to protect investment assets equal to 100 days of operating expenses from yield restriction, the percent of hospitals with arbitrage bonds falls to 35 and the share of the outstanding stock of bonds classified as arbitrage declines to 33 percent.

As discussed earlier, policy makers are more likely to want to know what the steady state might look like once the policy was in place for a long enough period to reach some equilibrium. The steady-state estimates with no precautionary savings show that the arbitrage estimates decline. The share of hospitals with arbitrage bonds declines to 37 percent (from 80 percent) and the share of bonds classified as arbitrage declines to 28 percent (from 60 percent). If an allowance is made for precautionary savings equal to 100 days of operating expenses, the share of hospitals with arbitrage bonds declines to 15 percent (from 35 percent) and the share of bonds classified as arbitrage bonds declines to 9 percent (from 33 percent).

CONCLUSION

Implementing a broader definition of tax arbitrage would reduce nonprofit hospital use of tax-exempt bonds. The amount of that reduction would depend upon whether an allowance is made for precautionary savings that would not subject some share of investment assets to yield restriction. Hospitals would have to reduce their new issues of tax-exempt bonds (either reducing investment in operating assets or switching to taxable debt) by 28 percent (or by 9 percent if the policy accommodated precautionary savings). Using the Joint Committee on Taxation's 2002 tax expenditure estimate of $1.8 billion from nonprofit hospital use of tax-exempt debt as an illustrative base, over time the broadened definition of tax arbitrage would save $504 million per year (or $162 million if allowance is made for precautionary savings).

If hospitals chose instead to yield restrict their investment assets, tax expenditures would not change but the government would save an equivalent amount in increased earnings or reduced

borrowing costs. Assume a $1,000 taxable bond yields 8 percent and a tax-exempt bond yields 6 percent. A hospital that chose not to use that $1,000 tax-exempt bond would decrease the government's tax expenditure by $20, calculated as the $1,000 bond times the 8 percent taxable bond rate times the .25 income tax rate of the bondholder. A hospital that chose to yield restrict could rebate the tax arbitrage or invest in SLUGS. If it chose to rebate its tax arbitrage and it was investing in taxable debt, it would rebate $20, calculated as the taxable bond principal of $1,000 times the difference between the 8 percent taxable bond rate and the 6 percent tax-exempt bond rate. If it chose to buy SLUGS, the federal government's borrowing costs would decline by $20, calculated as the difference between financing $1,000 of borrowing at 6 percent rather than 8 percent. Of course, hospitals might earn more or less than the taxable bond rate on their investment portfolios, but that only means that the government shares the risk premium on equity investments when a hospital chooses the rebate option.

Nonprofit hospitals would likely change their behavior in response to a broadened definition of tax arbitrage. Those institutions with large enough portfolios would see an effective increase in the cost of capital. The decrease in tax benefits and the increase in the cost of capital would lead them to reduce their investment in plant and equipment. That change in behavior would have several implications.

First, the hospitals would borrow less so the actual quantity of tax arbitrage bonds under the expanded definition would be smaller than implied by the steady-state measure above. As with any tax increase, the volume of the activity being taxed tends to decrease in consequence.

Second, broadening the rule would result in two different costs of capital for nonprofit hospitals. Nonprofits with larger portfolios of investment assets would be more likely subject to the arbitrage rules and thus effectively face higher interest costs associated with taxable debt finance. Hospitals with smaller amounts of such assets would more likely continue to receive the benefit of tax-exempt financing. Both would still face lower costs of capital than for-profit hospitals. But the different borrowing costs of the two groups of nonprofit hospitals could engender inefficiencies by creating a new differential in capital costs.

The ultimate outcome for efficient allocation of resources would be uncertain, depending on which dominates, the potentially efficiency-enhancing effect of narrowing the cost of capital differential between large nonprofits and for-profit hospitals, or the potentially efficiency-damaging effect of creating a capital cost differential between large and small hospitals.

Notes

1 Generally, rebate is not required if all of the proceeds are spent for the purpose of the borrowing within certain prescribed time periods. The rebate requirement also does not apply to small general purpose governmental units, generally defined as units that issue no more than $5 million of tax-exempt governmental bonds in a year.

2 Additional detail on all data sources is available in Congressional Budget Office, *Nonprofit Hospitals and Tax Arbitrage*, November 2006.

3 Some argue that many donations come with restrictions that must be honored. It seems that a yield restriction policy would not violate those restrictions. For example, a $1 million gift to finance a cancer center would not be violated by yield restricting it in order to issue tax-exempt debt for purchase of a magnetic resonance imaging machine (MRI). The gift is not being spent on the MRI; only the earnings of the gift are affected. Furthermore, not including such restricted gifts in the calculation of tax arbitrage would induce hospital management to ask donors to restrict their gifts so the hospitals could earn tax arbitrage profits. That response might impose substantial costs on the provision of social benefits: restrictions on gifts increase the share of benefits appropriable to the donor while simultaneously decreasing the expected value of the social benefits the hospital can generate with the gift.

4 More detailed estimates of arbitrage bonds are available in Congressional Budget Office, *Nonprofit Hospitals and Tax Arbitrage* (December 2006).