

TAX EXEMPT MUNICIPAL BONDS

The Case for an Efficient, Low-Cost,
Job-Creating Tax Expenditure

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BERNARDI SECURITIES, INC. and its senior principals have specialized in the municipal securities investment business for more than 30 years. During that time, we have come to appreciate the wide ranging benefits of tax-exempt municipal financing. Obviously, one of those benefits - the tax exemption on interest - accrues to individual investors who find municipal bonds to be a safe haven for a portion of their investment funds.

Introduction

Less apparent perhaps, but no less important, are the effects that municipal financings have on the lives and pocketbooks of nearly every US citizen. Local governments and authorities – the entities most in touch with local needs – participate in the municipal bond market to finance important projects for their communities: schools, courts, jails, and water/sewer facilities to name a few. In so doing, they take advantage of the lower costs and greater stability offered by the municipal market to build infrastructure and spur the creation of associated jobs.

It is this latter set of benefits that motivated this study defending the tax-exempt municipal bond. For in the face of a chorus of influential voices suggesting repeal of the exemption as a federal revenue producer, we realized that policy-makers might not have as clear an understanding of the totality of these benefits as those of us working on the front lines of the market.

This realization was exacerbated when proposed alternatives called for direct federal subsidies and/or tax credits. At best, we felt that the alternatives would result in unprecedented federal intervention in state and local affairs; at worst, we could see a set of unintended financial consequences to rival those of the sub-prime mortgage era. Our suspicions were further magnified with the release of supporting documentation from the federal

government that badly miscalculated both the revenue impact and the market reaction.

Our examination took us on a trip into the 117-year history of tax-exempt municipal financing, trying to enlighten today's debate with historical perspective. To help us organize our thinking and arrive at our conclusions, we relied heavily on our own accumulated market data to complement our experience with municipal issuers and investors over the past three decades. We also consulted the research of market experts and respected academicians to round out our views.

We owe gratitude to our staff for their willing participation in this project. Without the advantage of their experience and the deep knowledge of the municipal marketplace, our study would not have yielded results nearly as insightful.

Summary Conclusions

Proposals to reduce federal debt have largely missed the mark. That is certainly the case when it comes to suggestions to replace tax-exempt municipal bonds with taxable alternatives or federally subsidized tax credit options. These alternatives not only produce much less in revenue for the US Treasury than most assume, they also result in a loss of local control, diminish access to job-producing capital, and put taxpayers on the hook with debt "guarantees" reminiscent of the subprime mortgage era.

That's the conclusion that our team reached after an extensive study of the municipal bond market, whose history reveals an unusually robust set of returns for government initiated projects and whose future has been clouded by an epidemic of shortsightedness when it comes to federal tax and budget policy. We worry, in fact, that proposed structural changes in the municipal bond market are another case of a heavy-handed government opting for simplistic solutions to highly complex problems, a path that inevitably leads to perilous unintended consequences.

The concern arises in response to plans put forward by three prominent groups seeking to advise Congress on debt reduction. The Bowles – Simpson, Domenici – Rivlin and Wyden – Coats plans each call for the elimination of many so-called tax expenditures, i.e. those for which the federal government foregoes tax revenue to incent or reward "investment" behaviors on the part of individuals, companies and institutions.

The home mortgage interest deduction is one such target. At \$100 billion a year, it is one of the largest tax expenditures for individual taxpayers; and so is the tax-exemption for individual holders of municipal bonds, which the Joint Committee of Taxation (JCT) asserts could be worth up to approximately \$30 billion a year to the US Treasury.

Using popular political calculus, i.e. small (relatively) dollar number + great complexity = less public resistance, repeal of the tax-exemption on municipal bonds figures to be much less controversial than the loss of the mortgage deduction. Yet, if Congress is serious about job creation and infrastructure repair, we think taxpayers would be better served if Congress would abandon expediency and tread more cautiously before tampering with a highly efficient and remarkably productive capital market.

Relying on Bernardi Securities, Inc. data from nearly three decades of participation in the municipal market along with the work of respected scholars, we looked at what might be in store if Congress eliminates tax-exempt bonds and substitutes taxable alternatives and federal subsidies paid to issuers (or investors) in the form of Treasury rebates. The review is much more notable for the risks it reveals than for the revenue opportunities it suggests.

First, subsidy provisions imperil local autonomy by stepping on a century of legal precedents affirming intergovernmental sovereignty. By subsidizing local infrastructure projects, a distant federal bureaucracy would necessarily gain sway over project and financing decisions more aptly left to state and local authorities with vested interests in the associated public policy objectives.

Next, subsidizing taxable securities has the practical effect of shifting local debt obligations to an already burdened US Treasury by “guaranteeing” repayment. With the scent of the mortgage meltdown still lingering, this outcome not only seems antithetical to federal debt reduction objectives, but it also portends a federal guarantee program on the order of FNMA and FREDDIE MAC, whose draw requests on the US Treasury have topped tens of billions of dollars annually since 2008 ... with no end in sight.

Another question that is left unexplored by the current set of proposals for repeal is whether the tax-exempt securities market is doing its job. Here the evidence seems clear. For almost one hundred years, tax-exemptions have provided state and local governments with a subsidy – some might say a market-based incentive – to finance projects deemed essential by constituents within defined taxing localities.

By leveling the competitive playing field for municipal issuers, the tax-exempt bond tends to allocate capital with great efficiency. Indeed, when all the benefits are considered – policy accomplishments, jobs creation, reduced costs of capital, distributions of risk, dividends to investors, etc. – we conclude that taxpayers realize far greater benefits than the price they pay for the subsidy.

In addition, no matter how you calculate it, the mature municipal bond marketplace offers very low borrowing costs for most issuers. On November 29th, 2011 Thomson – Reuters Municipal Market Data index shows a 10-year AAA-rated municipal bond yield of 2.22 percent and 3.21 percent for an A-rated municipal bond, bargain borrowing rates by any estimate. Moreover, using more transparent methods than those offered by JCT and CBO, the non-partisan Urban Institute calculates Treasury revenue “losses” from tax exemption to be about 50 percent less than JCT and CBO estimates.

Last, with the unemployment rate hovering at a seemingly intractable 9 percent and real unemployment at 16 percent, lawmakers need to be cognizant of the jobs impact afforded by a healthy and robust municipal debt

IF THE TAX exemption is repealed, certain projects will be scaled back - or eliminated entirely - and an important employment engine will sputter, adversely affecting a wide swath of our citizenry.

market. Though neither JCT nor CBO calculates the jobs effect of projects financed using tax-exempt securities, one need only drive through their own community and take note of people working on administrative facilities, courts, jails, schools, sanitation facilities, and the like to gain a sense of inherent jobs production. If tax-exemption is repealed, the market will lose certain investor appeal and the costs for infrastructure projects will increase as municipalities issue higher cost taxable bonds to finance projects. Certain projects will be scaled back or eliminated entirely and an important employment engine will sputter, adversely affecting a wide swath of our citizenry.

Its benefits notwithstanding, we did find places for improvement – changes that could be made to help bolster liquidity, further reduce borrower costs for important future infrastructure projects and add another level of stability to the market.

For one thing, Congress and the Administration need to answer the core question: Does the country want local control and responsibility of debt decision-making to prevail...or not?

If they do, then they need to make it clear to issuers and investors that the tax-exempt status of these securities is sacrosanct. Though the municipal market has been more stable than most, this clarification would subject it to even less volatility. In the meantime, the uncertainty only serves to elevate issuer borrowing costs and market volatility, a result that is exacerbated when government officials circulate legislation challenging or limiting tax-exemption.

We also think that the market would be well served by narrowing the definition of "public purpose infrastructure." The universe of valid tax-exempt projects is much too broad. Constraining that universe to municipal facilities only, for example, would reduce new-issue supply and thus lower borrowing costs as the nation grapples with its deteriorating infrastructure.

We also would like to see a concerted effort to standardize reporting requirements for issuers to include adequate and current credit information. We realize that state and local governments prefer Tower Amendment protections, but the fact is this information shortfall contributes somewhat to elevated issuer borrowing costs in today's market.

Finally, to comprehend a future without tax-exempt municipal bonds, we think legislators and policy makers need to understand the history of the market and have an appreciation for the efficiency, equity and effectiveness it has offered borrowers and investors for more than a century. In so doing, we believe policy makers and legislators will reach the same conclusions we did that:

- these instruments have been a critical source of capital for states and municipalities and, as a readily available financing vehicle, supports one of the nation's most consistent and reliable sources of job creation; and
- the tax-exempt municipal market does not need to be restructured or, in parlance du jour, "occupied." Instead, its status needs to be reaffirmed so that it can keep on doing its job without forcing new and unnecessary burdens on issuers, investors and taxpayers.

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I. “The Power to Tax Involves the Power to Destroy”¹

The origin of tax-exempt municipal bonds is not rooted in tax policy designed as a subsidy for state and local governments. Instead, it traces its origins the doctrine of reciprocal immunity.

The United States Constitution introduced the foundation of federalism and governmental sovereignty with the Tenth Amendment. The Amendment provides that “[t]he powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.”² The clause advocates that powers not given strictly to the Federal government are powers entitled to the States. This Amendment helped form the framework for the separation of power that protects both the federal and state governments from establishing authority over one another.

Court Cases

Beginning with the landmark *McCulloch vs. Maryland* decision in 1819, the Supreme Court specifically utilized the Constitution as a means to limit the ability of state governments to intrude on the sovereignty of the Federal government. The case was brought against the State of Maryland as a result of levying a tax on the Second Bank of the United States, which was located in Baltimore. In the majority opinion, Chief Justice John Marshall declared, “The power to tax involves the power to destroy.”

In the Court’s opinion, States and, by inference, local governments “have no power, by taxation or otherwise, to retard, impede, burden or in any manner control the operations of the constitutional laws enacted by Congress.”³ The decision was important because it began to define and separate the Powers delegated to Congress by the Constitution.

The first federal income tax was instituted during the Civil War, but in the *Collector V. Day* (1871) decision the Supreme Court ruled that applying the tax to the salary of a state judge was unconstitutional. This decision established the doctrine of reciprocal immunity: federal, state and local governments were now protected from the taxing powers of the other.

The Supreme Court upheld that decision in the *Pollock vs. Farmers Loan Trust* (1894). The Court ruled that income taxes on interest and dividends were unconstitutional and could not be taxed by the Federal government. This court case further established the doctrine of “intergovernmental tax immunity” whereby state and local governments are protected from federal interference with their respective borrowing power. In effect, *Pollock* affirmed the notion that taxation by the federal government could potentially oppress and ultimately destroy sub-national municipal governments. The *Pollock* decision was later the basis for legislation that would eventually become the 16th Amendment (1913) which gave Congress the “power to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several States, and without regard to any census or enumeration.”⁴

Unlike other deductions (mortgage interest and charitable deductions), the exclusion for municipal interest was codified into law by the Revenue Act of 1913.⁵ This is an important factor to bear in mind particularly given present day challenges to the exemption.

The tax exemption of municipal bond interest did not come into serious question until after the Great Depression when multiple attempts to impose a federal tax on the interest of municipal bonds failed. The only significant effort came with the Tax Reformation Act of 1969 where a section “limiting deductions, a minimum tax on certain sources including interest on municipals, and an optional subsidy to state and local governments provided they voluntarily issue taxable municipals”⁶ was later revoked due to strong opposition.

Following the Tax Reform Act of 1969, many bills were passed affecting the municipal bond market. The Tax Reform Act of 1986 imposed new restrictions on certain aspects of the municipal bond market including restricting private activity bond issuance only to issues deemed “qualified.” It also placed limits on arbitrage and rebate earning resulting from tax-exempt issuance. The Act, however, did not alter the basic tax exemption for municipal bond interest.

The most important recent event affecting the tax-exempt status of municipal bonds occurred with the 1988 Supreme Court ruling of South Carolina vs. Baker. The case was brought by the State of South Carolina challenging the registration provision of the Tax Equity and Fiscal Responsibility Act of 1982. The provision required that tax-exempt securities be issued in registered rather than bearer form in order to retain tax-exempt status. South

SOUTH CAROLINA VS. BAKER **(1988) left municipal securities constitutionally defenseless against federal intrusion.**

Carolina claimed this requirement was unconstitutional under the 10th Amendment and violated the doctrine of intergovernmental tax immunity. The Court ruled in favor of Baker (7-1) and surprised many by going beyond the registration question and also opining that the federal government’s decision to exempt certain municipal bond interest from taxation was in reality an explicit choice to subsidize those securities and not a constitutional right. The Court’s decision removed the “intergovernmental tax immunity” constitutional protection established in the Pollock v Farmers Loan and Trust case of 1894.

The upshot was that the decision left municipal securities constitutionally defenseless against federal intrusion. Interesting to us, the ruling stated the Federal government could tax interest earned from state debt, but was silent on the issue of whether state governments could tax interest earned on federal debt.

II. Current Proposals to Balance America's Budget

This paper delves into three specific proposals for deficit and debt reduction: Bowles – Simpson, Domenici – Rivlin, and Wyden – Coats. They have garnered a tremendous amount of attention, so much so that several of the Congressional leaders that worked on them were selected to be part of Congress' now-failed Deficit Reduction Super Committee. Indeed, many of the Super Committee's proposed solutions were drawn from the following plans.

Bowles – Simpson Proposal

The Bowles – Simpson (National Commission) proposal, *The Moment of Truth*, proposed to significantly decrease the deficit over the next 30 years. This graph from the proposal serves as an illustration.

The proposal outlines several steps that should be taken to reduce the Federal deficit and help economic recovery.

The Bowles – Simpson plan has six components:

- Discretionary Spending Cuts
- Comprehensive Tax Reform
- Health Care Cost Containment
- Mandatory Savings
- Process Changes
- Social Security Reforms

The report's Comprehensive Tax Reform section calls for eliminating all tax expenditures. The Congressional Budget Act of 1974 defines tax expenditures as "revenue losses attributable to provisions of the Federal tax laws which allow a special exclusion, exemption, or deduction from gross income or which provide a special credit, a preferential rate of tax, or a deferral of liability".⁷

According to this definition, tax-exempt municipal bonds would fall under the category of tax expenditures and therefore would be eliminated. The Bowles – Simpson proposal recommends replacing the tax-exempt municipal bond market with taxable bond market alternative.

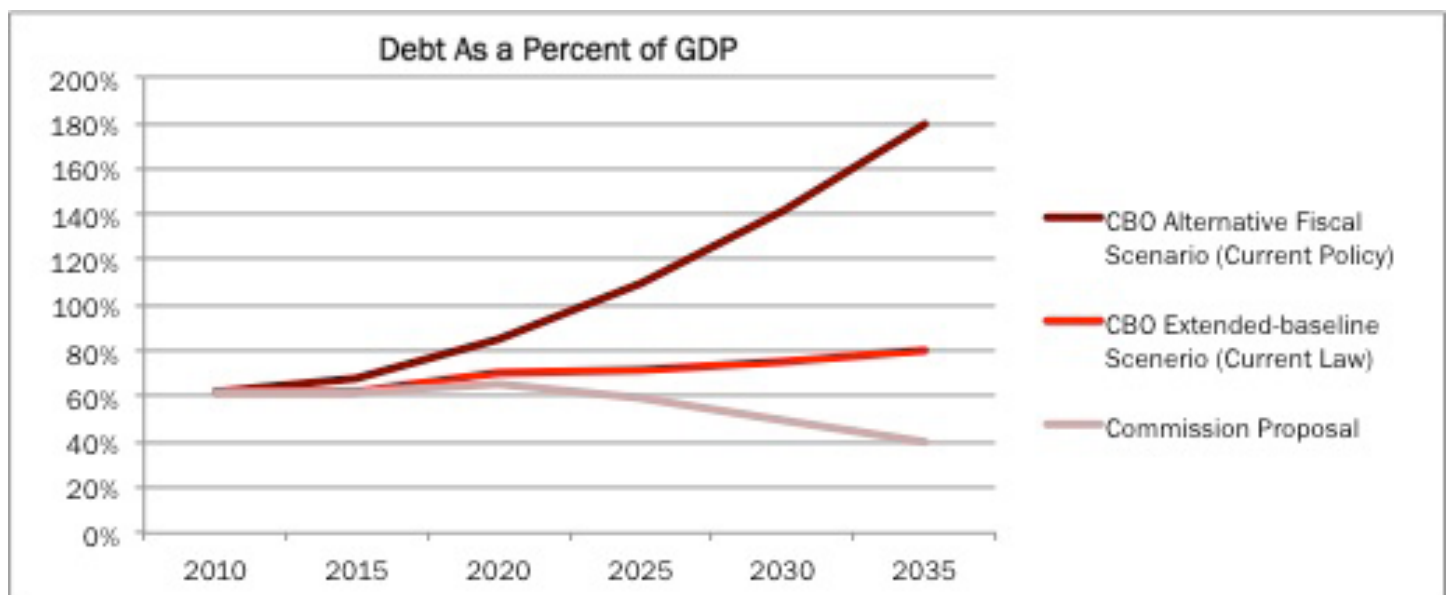


Table 1. Source: *The Moment of Truth*

Domenici – Rivlin Proposal

Restoring America's Future, the title of the report issued by the deficit reduction panel co-chaired by Senator Pete Domenici and Dr. Alice Rivlin and sponsored by the Bipartisan Committee, calls for implementation in 2012. The goal of the plan, like Bowles – Simpson, is to spur economic growth while reducing the current high level of federal debt. The proposal agrees with Bowles – Simpson that drastic measures have to be taken in order to achieve this goal.

The Domenici – Rivlin proposal contains several recommendations, including:

- Enacting a "Payroll Tax Holiday"
- Reducing Federal Spending
- Cutting Tax Rates
- Broadening the Tax Base
- Eliminating Tax Deductions and Loopholes
- Restraining Healthcare Costs
- Strengthening Social Security
- Freezing Domestic and Defense Spending

The authors believe that these specific changes could decrease the federal debt to below 60 percent of GDP by 2020 (see chart below).

Under the section "Eliminating Tax Deductions and Loopholes", the Domenici – Rivlin proposal replaces tax-exempt municipal bonds with taxable bonds.

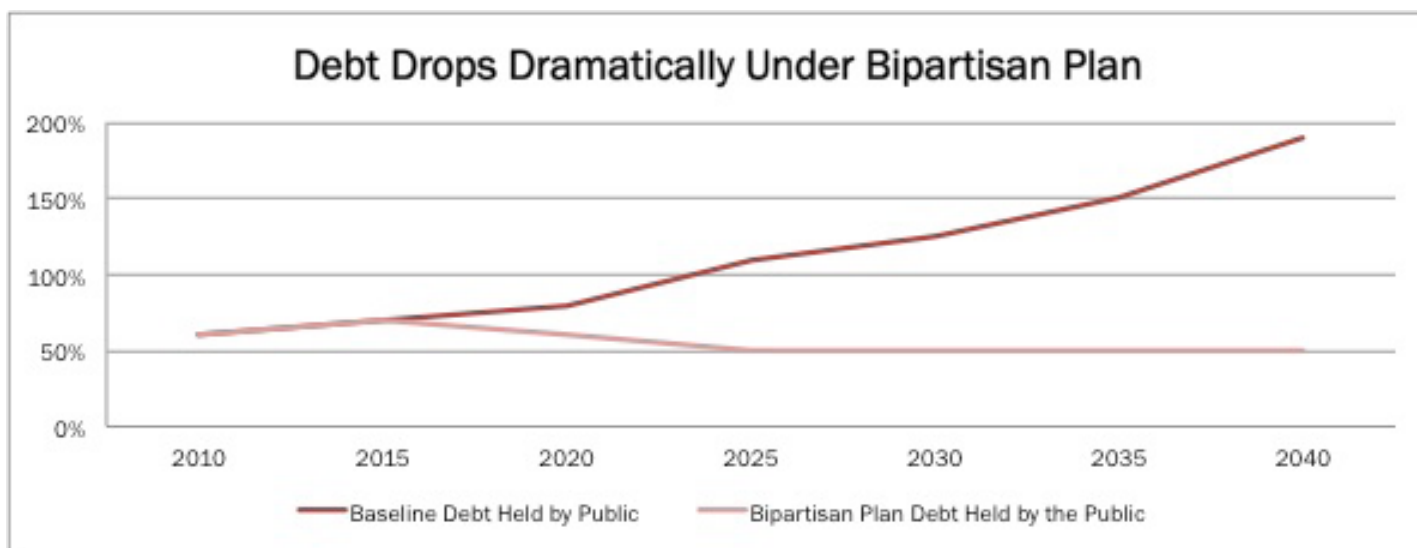


Table 2. Source: CBO "Alternative Fiscal Scenario" constructed from the August 2010 Budget and Economic outlook, additionally assuming that troops in Iraq and Afghanistan are reduced to 30,000 by 2013.

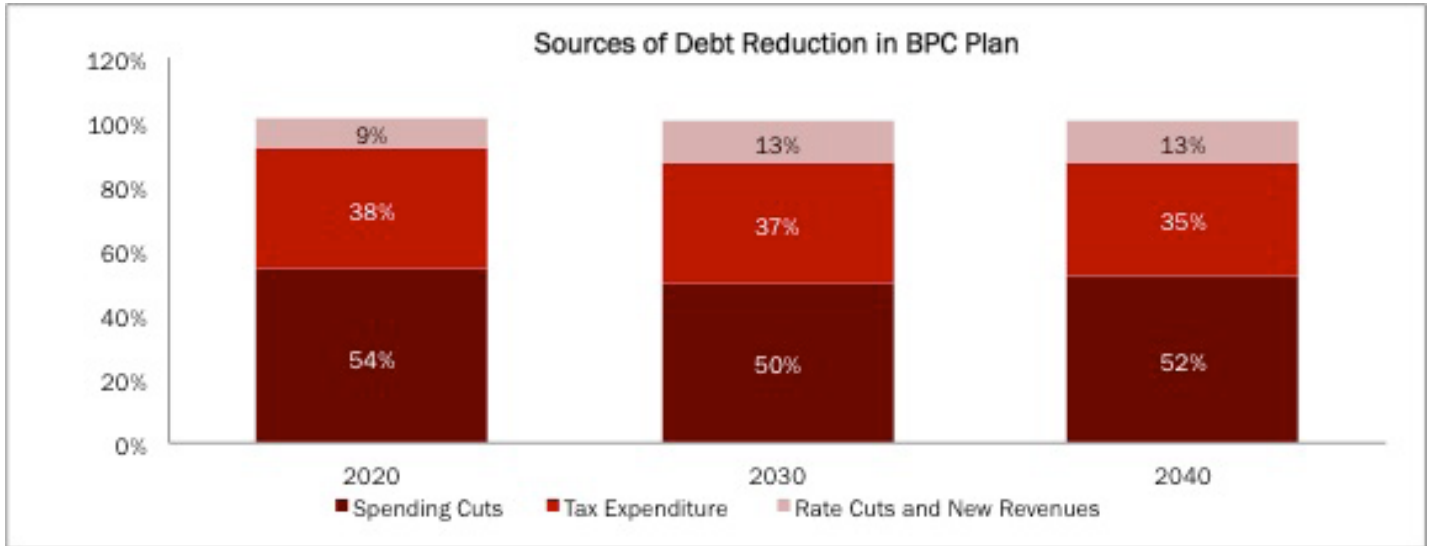


Table 3. Source: Restoring America's Future

The graph above illustrated the combination of spending cuts, the elimination of certain tax expenditures and increase of federal revenue that will contribute to the overall deficit reduction.

The federal government's budget and taxation estimates are the bases for many of the quantifiable figures in these proposals. We will examine those estimates closer in the next section.

Senators' Wyden – Coats Proposal

The Wyden – Coats proposal outlines measures on how to best stimulate the US economy. The proposal calls for making numerous changes to current policies. A goal of the plan is to simplify the current tax code and eliminate many tax expenditures including replacing the tax-exempt feature of municipal bonds with a tax credit option.

III. Tax Expenditure Cost Estimates

There is near unanimous agreement among elected officials, policy makers and the general public that tax expenditures, as a whole, are greatly responsible for the nation’s burgeoning federal debt. The Congressional Budget Office (CBO) recently estimated that annual tax expenditures are 7.4 percent of Gross Domestic Product (GDP) or \$1 trillion dollars. It is perhaps understandable then why the three proposals previously discussed take aim at reducing tax expenditures to ease the federal debt load.

Unanimity disappears, however, when the discussion turns to what expenditures should be eliminated and how much elimination would produce for the US Treasury.

Each year Joint Committee on Taxation (JCT) and CBO calculate the revenue loss to the Treasury resulting from tax expenditures benefiting individual taxpayers. Below are their lists of the top tax expenditures (2010-2014).

10 Largest Tax Expenditures, Individual, Total 2010-2014					
Joint Committee of Taxation			US Treasury		
Rank	Individual Tax Expenditure and Function	Total Amount (2010-2014) (Billions of dollars)	Rank	Individual Tax Expenditure and Function	Total Amount (2010-2014) (Billions of dollars)
1	Exclusion of employer contributions for health care, health insurance premiums, and long-term care insurance premiums	659.4	1	Exclusion of employer contributions for medical insurance premiums and medical care	926.0
2	Deduction for mortgage interest on owner-occupied residences	484.0	2	Deductibility of mortgage interest on owner-occupied homes	500.1
3	Reduced rates of tax on dividends and long-term capital gains	403.0	3	401(k) plans	323.3
4	Defined benefit plans	303.2	4	Step-up basis of capital gains at death	289.1
5	Earned income credit	268.7	5	Exclusion of net imputed rental income	248.6
6	Deduction of nonbusiness State and local government income taxes, sales taxes, and personal property taxes	237.3	6	Deductibility of nonbusiness State and local taxes other than on owner-occupied homes	226.4
7	Defined contribution plans	212.2	7	Employer plans	222.9
8	Exclusion of capital gains at death	194.0	8	Deductibility of charitable contributions, other than education and health	205.6
9	Deduction for charitable contributions, other than for education and health	182.4	9	Capital gains (except agriculture, timber, iron ore, and coal)	202.5
10	Hospital insurance (Part A)	175.8	10	Capital gains exclusion on home sales	166.8
17	Exclusion of interest on public purpose State and local government bonds	116.3	11	Exclusion of interest on public purpose State and local bonds	129.0

Table 4.

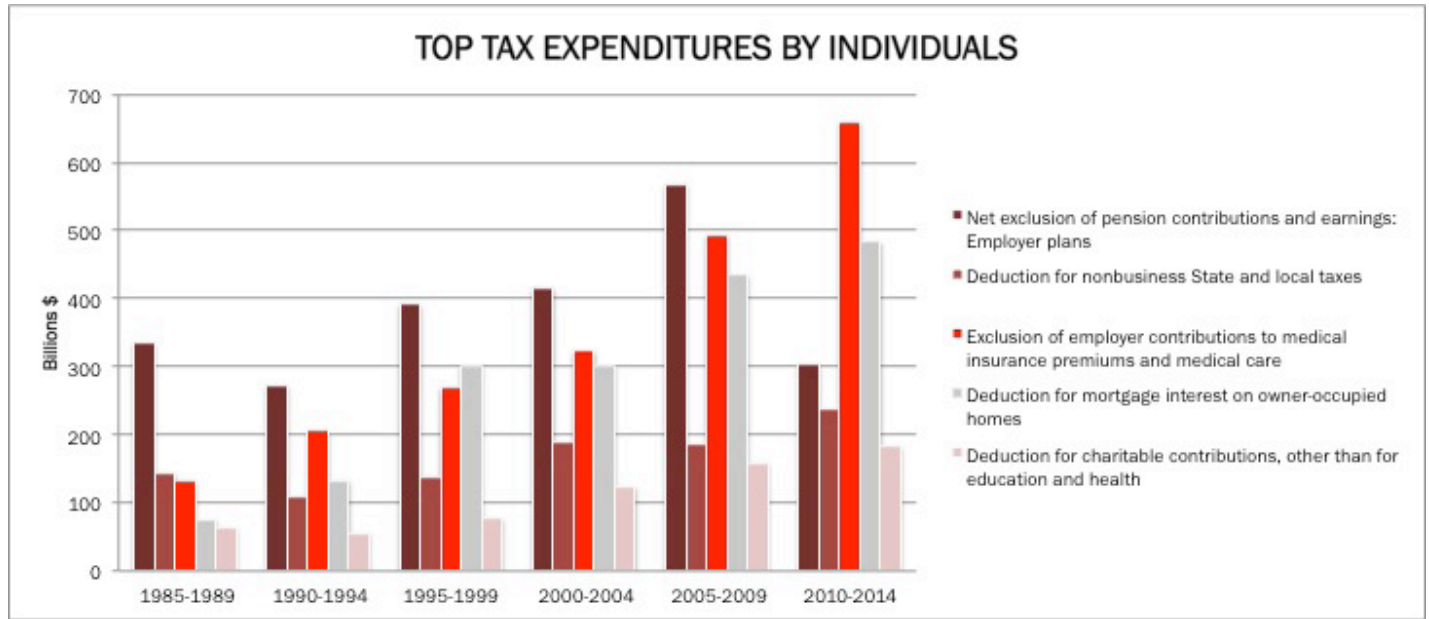


Table 5. Source: Joint Committee on Taxation

There are three salient discussion points with regard to this tax expenditure data:

1. The two calculations place cost of the tax-exempt expenditure well towards the bottom of this list; in fact, per JCT calculations, it is seventeenth on the list and more than 55 percent less costly to the Treasury than the most costly expenditure (exclusion of employer health contribution)
2. Of note is the variance between these two calculations, resulting from a different set of assumptions. Clearly, the calculated cost as reported by CBO and JCT is not an exact science and therefore these calculations need to be challenged.

More telling is the next table from the Urban Institute:

Since 1968, the organization has gathered data and conducted research on a wide range of issues. Unlike the JCT and CBO, it is non-partisan and independent of the US government.

Periodically, the Institute calculates the annual cost of various tax expenditures. In 2007, as table 6 shows, the Institute's cost calculation of revenue loss to Treasury resulting from the tax-exempt expenditure was approximately 50 percent less than both JCT and CBO calculations.

This is a significant difference both in the relative and nominal cost of the tax-exempt expenditure. It calls into question the validity of both the JCT and CBO calculations and underscores the belief held by many in the municipal bond industry that the tax-exempt expenditure is far less costly than some claim.

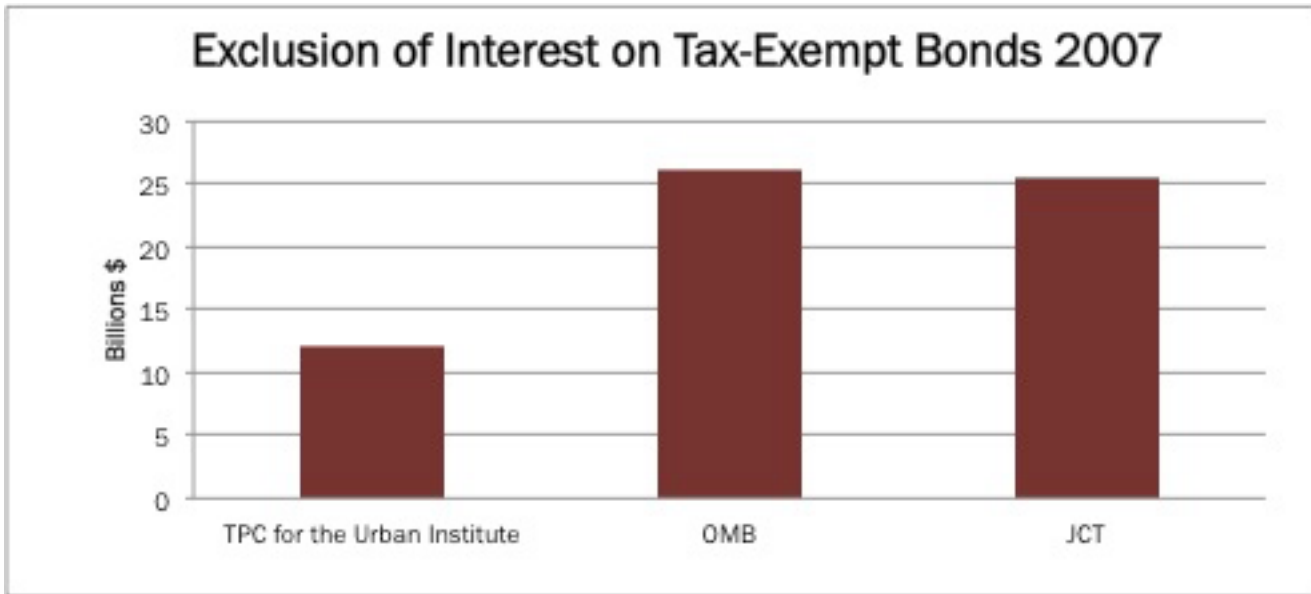


Table 6. Source: Leonard Burman, Director, Tax Policy Center and senior fellow at the Urban Institute. Discussion Paper 31.

Our third point has to do with the methodologies used by JCT and CBO to determine tax-exempt expenditure costs.

3. The specific math used to derive their calculations is not disclosed so it is impossible to offer a detailed analysis. We do know for certain that their methodology assumes that if the tax exemption is repealed, 100 percent of investor capital will be reallocated to taxable securities. It is this flawed assumption that, in part, explains the significant overstatement of revenue loss to Treasury resulting from the tax-exempt expenditure as borne out by the Urban Institute’s 2007 calculations.

The static model assumption used by JCT and CBO clearly does not reflect economic and market behavior reality; investor and issuer behavior will change if tax exemption is repealed or altered and thus have an affect on any calculations of the cost to the Treasury of the tax-exempt expenditure. As is often the case, when economic models are transferred from the bureaucratic blackboard to the real economy, there is wide gap between theory and practice.

Both issues are thoroughly addressed in a paper recently published in the National Tax Journal (June 2011).

Importance of Analyzing Data

James M. Poterba, President and CEO of the National Bureau of Economic Research, and Arturo Ramirez Verdugo published a research paper in June 2011 detailing the importance of thorough tax expenditure analysis. The paper challenges the core methodology used by the federal government to derive the estimated tax expenditure related to the tax exemption of municipal bonds.

First, the authors strive to differentiate between two commonly, but mistakenly interchanged concepts. While it is easy to assume that the estimated tax expenditure associated with an income tax provision equates directly to the estimate of the revenue that would be collected if that provision were repealed, in fact these two concepts are very different. The estimated tax expenditure assumes that taxpayers currently holding tax-exempt bonds would continue to hold those same bonds, but subsequent to the repeal, as taxable securities yielding higher interest rates. This is fundamentally how the federal government compiles its tax expenditure estimates. Comparatively, the revenue estimate calculation is dependent on certain assumptions regarding how removing the tax exemption may impact the investment decisions of taxpayers that currently hold tax-exempt bonds. This is where the revenue loss calculations begin to diverge dramatically.

Poterba and Verdugo admit that developing a sufficiently robust econometric model to estimate an individual taxpayer's portfolio adjustment in response to changes in the tax exemption is difficult. However, the author's point to two capital market fundamentals that support, in general, a reallocation of assets in response to a change in market dynamics. The first is simple supply and demand. A change in tax treatment of municipal bonds would alter demand for the security with a counterbalancing change in supply to bring the market back into equilibrium. The second concept is related to risk and diversification. An individual's decision on the reallocation of assets is dependent on that individual's risk aversion and overall portfolio diversification strategy.

Our estimate of the Treasury's revenue gain from repeal of the tax exemption for individual municipal bondholders is almost 65 PERCENT LOWER than the CBO estimate..

Table 7 below presents the paper's findings. It examines the revenue estimates under different portfolio scenarios. The taxable bond substitution case, which yields the largest revenue gain to Treasury, \$14.0 billion, assumes individuals replace their current tax-exempt bonds with taxable bonds. According to the authors, this is a minimal response case as it involves no portfolio strategy change by taxable investors. This is the strategy that underpins the government's tax expenditure estimates. As a reminder the JCT tax expenditure estimate for the exclusion of public purpose state and local bonds for 2011 was \$21.9 billion. The US Office of Management and Budget (OMB) estimate for 2011 totaled \$22.27 billion.

The equity or tax efficient substitution scenario assumes individuals replace tax-exempt debt with equity, or choose between equity and other assets in a tax-efficient way. The author's find smaller estimates of the revenue cost of the tax expenditure: \$8.9 billion and \$9.9 billion, respectively.⁸ The proportional substitution case produces the lowest revenue gain (\$8.2 billion) because some of the assets that are assumed to replace tax-exempt bonds have low yields, such as checking and savings accounts.

The debt repayment scenario generates an increase in tax revenue of \$12.3 billion. This is close to the value in the taxable bond substitution case, because the average interest rate on the debt that the households pay down in this scenario is close to the average taxable interest rate that households earn on taxable bonds.

Revenue Cost and Distributional Effects of Repealing Tax Exemption							
Assumption about Household Portfolio Adjustment	Estimated Revenue Effect (\$Billions)	Percentage of Tax Increase Allocated to Households in Different AGI Categories (\$Thousands)					
		\$0-\$40	\$40-\$75	\$75-\$125	\$125-\$250	\$250-\$500	> \$500
Taxable bond substitution	\$14.00	0.7	4.7	8.7	11.2	25.4	49.6
Proportional substitution	\$8.20	0.3	5.3	7.1	13.2	26.5	47.7
Equity substitution	\$8.87	0.5	4.7	9.6	12.3	26.2	46.7
Tax efficient substitution	\$9.85	0.9	5.0	10.9	11.5	24.0	47.7
Deductible debt pay-down	\$12.30	1.0	4.4	7.8	13.3	23.4	50.0

Table 7. Source: Poterba-Verdugo calculations using 2004 SCF, Internet TAXSIM, and Kevin B. Moore's Code. See text for further details regarding portfolio adjustment strategies. Households with AGI between \$125K-\$250K paid 20.3 percent of federal income taxes in 2003, those with AGI between \$250K-\$500K paid 12.0 percent, and those with AGI of greater than \$500K paid 29.4 percent.

This table illustrates the sensitivity of the revenue estimate for eliminating the interest tax exemption to alternative portfolio adjustment assumptions. As an example, the estimated revenue gain in the proportional substitution case is less than 60 percent of that in the taxable bond substitution case.⁹

Ultimately, the study validates the argument that estimates of the revenue gain from eliminating the income tax exemption for interest paid by state and local governments are sensitive to assumptions about how taxable investors would adjust their portfolios in response to this change.¹⁰ Furthermore, the extent of the portfolio adjustment depends on the degree to which households pursue tax-efficient strategies as well as on preference to preserve current risk and diversification objectives. While, the author's do note that changes in the mix of assets in portfolios could be offset by shifts in the non-taxable portfolios managed by pension funds or other nations, the shifts could still affect the risk properties of the federal government's income tax revenue stream.

In short, the study and its supporting research data calculate a range (depending on each scenario) of \$8.2 - \$14 billion in tax revenue flowing into the Treasury if the tax exemption for individual investors is eliminated. The

revenue gain is almost 65 percent lower than the CBO estimate of the cost of the tax-exempt expenditure. The conclusion of this study: the tax-exempt expenditure is nowhere near as costly to the Treasury as the JCT and CBO calculations suggest.

Last, the paper touches on a key subject that is not generally considered when discussing repealing the tax-exempt expenditure: the potential response from state and local governments themselves. The paper highlights research from Gordon and Slemrod (1983, 1986) and Gordon and Metcalf (1991) that correctly surmises that states and localities face a choice between debt and tax finance.¹¹ Frequently this choice is sensitive to the tax treatment of interest on state and local government bonds and to the income tax deductibility, or lack therefore, for state and local taxes. According to the Gordon and Slemrod (1983) research, there could be a dramatic response to taxing interest on state and local government bonds, up to and including decisions not to issue bonds in many instances. It suggests that these governments would shift toward tax finance, passing on tax increases sufficient to fund essential service capital project costs to taxpayers. This reaction, in addition to the changes in individual portfolio strategies, further reduces potential Treasury revenue gains if the tax exemption is repealed.

IV. Beware of Simple Solutions to Complex Problems - Efficiency, Equity and Effectiveness

A recent research paper written by Professor Linda Sugin of Fordham University, titled *Tax Expenditures, Reform and Distributive Justice*, offers an accurate perspective on this topic:

Not all tax expenditures are giveaways to special interests and bad federal policy. Congress must pay as much attention to the purpose and effectiveness of individual tax expenditures, and evaluate them on a program-by-program basis, as they do in making decisions about whether to discontinue direct spending programs. Some tax expenditures may be worth their costs, if they achieve important policy goals.¹²

Detractors of tax-exempt expenditures often cite two primary reasons for repeal:

1. They are inefficient as evidenced by the fact that it costs taxpayers more than the benefits realized by the issuers of the tax-exempt debt.
2. They are inequitable as they give more opportunities for the affluent to reduce their level of federal income taxes than the less affluent.

While there may be some truth in both these assertions, we believe that such conclusions are drawn from incomplete and inconsistent information.

Efficiency

Professor Sugin takes her view on the relative inefficiency of tax expenditure even further by stating that “Tax expenditures are purposely inefficient. They are adopted precisely because they encourage individuals and businesses to engage in activities they would not undertake in the absence of tax inducement, the very definition of an inefficient tax provision”.¹³

Professor Sugin’s view is made more compelling by examining the definition of “efficiency” in the context of federal tax and budget policies. Interestingly, the concept of efficiency is a core argument for those seeking to reform tax policies. The deficit reduction proposals and federal tax expenditure estimates discussed earlier point to the sheer number of expenditures and their associated revenue losses as reasons for the elimination of most, if not all tax expenditures. However, these proposals and estimates fail to account for the true implications of any potential repeal. Currently, there is no comprehensive Congressional review process for determining the efficiency of tax expenditure priorities and there is little analysis of the redistribution of the tax burden among taxpayers. This is the difficulty inherent in defining efficiency. It takes on different meanings in various contexts. In the remainder of this section we will address the tax-exempt expenditure in the context of three important efficiency categories: economic, financial, and administrative. We rely heavily on the work of several well-respected academicians - Dennis Zimmerman, Professors Peter Fortune and Linda Sugin - whose work highlight the need for an objective assessment of the above categories in any tax expenditure analysis.

Economic

Economic efficiency is defined as “the use of resources so as to maximize the production of goods and services.”¹⁴ More broadly this definition implies that achieving this state of economic nirvana requires every resource be optimally allocated while minimizing waste. Furthermore, upon reaching this state of equilibrium, any changes made to benefit one sector will cause a proportionately negative impact to another sector. This theory is frequently highlighted as a central argument against the efficiency of the municipal tax exemption. Supporters contend that the tax exemption provides the public sector with a competitive advantage over the private sector and this disparity creates imbalances in labor and cost of capital. This certainly would be the case if the economy ever reached this level of perfection, but in reality the concept of Pareto efficiency is never reached and rarely even approached. Public goods are inherently inefficient because they reallocate resources for a socially desired purpose.

Admittedly, in certain instances public goods introduce labor and cost of capital imbalances into the market. Nonetheless, as we have presented, the discussion as it pertains to tax expenditures should not be based solely on whether the expenditure is efficient or inefficient, but on whether the tax expenditure produces its desired affect and at what cost. Given the subjective nature of valuations of public goods, few comprehensive studies have been compiled on the economic cost of the tax exemption. However, in his paper titled “The Municipal Bond Market, Part II: Problems and Politics,” Peter Fortune, Professor of Economics at Tufts University, concluded this regarding the estimated loss in economic output due to the tax exemption:

“That while the loss is small relative to the size of the economy, it is nevertheless, worthy of attention.”¹⁵

PUBLIC GOODS are inherently inefficient because they reallocate resources for a socially desired purpose.

Professor Fortune’s study provides this estimate from prior research:

Using the period 1980-85 as the basis for estimates, this study concludes that in the 1980-85 period the tax exemption reduced the annual aggregate output (value added) of the nonfarm, non-federal government sector by \$2.4 billion to \$7.6 billion, depending on the assumptions. The preferred estimate is \$3.4 billion, which translated to per capita amounts equal to \$14.66 per person.¹⁶

To put those figures in terms of 2010 dollars, Fortune’s preferred estimate of \$3.4 billion equates to \$8.8 billion in 2010 dollars, representing approximately \$29.59 per person based on current population estimates. Even utilizing the highest value of \$7.6 billion, the reduction in annual aggregate output in 2010 dollars translates to \$19.8 billion or \$66.15 per capita. Relative to current US GDP, in 2010 dollars that represents a mere 0.14 percent of GDP.

The existence of inefficiency costs in the tax-exempt expenditure merely serves as evidence that there is a cost of doing business. As Professor Sugin highlights:

Government creates costs in the course of achieving public policies unrelated to revenue collection, and we generally know to consider the benefits to be gained through those policies and balance them against the costs. **Discussions of tax reform seem to have forgotten that the inefficiencies produced by tax expenditures might be outweighed by their beneficial effects on other values, such as the distribution of the benefits and burdens of government.**¹⁷

Administrative

When compared to other government spending programs such as grants and categorical aid, the tax-exempt expenditure boasts several administrative efficiencies, most notably decentralized decision making. The federal government sets grant and categorical aid priorities irrespective of state and local governments' needs. The federal government dictates spending guidelines and develops compliance mechanisms to audit spending practices. This undoubtedly increases administrative costs thereby siphoning off a portion of the grant or aid efficiency. Additionally, given the variability in state and local government's demands, the broad application of grant or categorical aid programs can fail to adequately support an area's under-served population. On the other hand, the spending provided through the tax-exempt expenditure allows state and local governments the flexibility to fund programs as diverse as their community's needs while minimizing administrative costs. Moreover, since most state and local taxpayers are also federal taxpayers, the benefits generated by the local project achieve the overall goal of subsidizing under-served federal taxpayers. The addition of legislation limiting the scope of projects that can be funded using tax-exempt financings gives the federal government some budgetary control while reinforcing the importance of making fiscally responsible decisions at the local level.

Dennis Zimmerman, writing for the Urban Institute in 1991, concurs with our common sense observation as it relates to the tax administrative cost of the tax exemption: "Administrative costs for tax deductibility and tax-exempt bonds are a largely unexplored area, but are almost surely considerably lower per dollar of foregone federal revenue than for any type of grant".¹⁸

It is important to keep in mind the administrative efficiency enjoyed by tax-exempt market participants as we continue on to the financial efficiency issue.

Financial

As a counter argument to the higher administrative costs of grants it is often claimed that grants are more efficient in providing nearly complete transfer funding to end users. Opponents of the tax exemption associate the benefits received by wealthy investors purchasing tax-exempt bonds as an indicator of funding transfer inefficiency. These critics cite the existence of a "clearing rate" as evidence that the municipal bond market is inefficient and unfairly allocates a portion of the benefits to wealthy investors. The clearing rate concept is generally described as the incremental increase in yield the issuer must pay on the bonds in order for the entire issue to be sold or "cleared". Markets, of course, are imperfect and imbalances in supply and demand must inevitably be ferreted out. The municipal market is no exception.

The existence of a clearing rate can be supported as follows. First, not all investors in this market are wealthy individuals in the top marginal tax bracket (35 percent). In an effort to induce lower tax bracket investors to buy the last remaining portion of a bond issue, an issuer must pay some additional yield premium to make the bonds more attractive. This results in the higher tax bracket investor earning incrementally more yield than would have been needed to make the initial investment. This "freebie," of sorts, is commonly referred to as "windfall income" and is the figure opponents of the tax exemption reference when discussing the benefits transferred to investors.

**THE ECONOMIC,
administrative and financial
inefficiency criticisms of the
tax- exempt market are
tenuous at best.**

Professor Fortune estimates this windfall amount to be approximately \$2.5 billion annually.¹⁹ Frankly, we believe this amount is very small and in many instances does not exist at all. For example, when Zimmerman factored inflation into his calculations he found that because tax rates are applied to nominal yields in certain inflationary environments, “a substantial part of the anticipated real yield has been taxed away.”²⁰ This implies that the portion of the expenditures being received by higher tax bracket investors essentially disappears, making the portion that investors do receive even smaller than previously thought.

The second reason for the existence of a clearing rate is to compensate investors for the increased credit, liquidity and event risk of municipal bonds. The reality of the market is obvious: **municipal bonds offer less credit quality and are less liquid than Treasury bonds.** Investors across all asset classes, regardless of marginal tax rate, require a risk premium and this manifests itself in a higher yield. In addition, persistent dialogue in Congress about adjusting income tax rates creates doubt in the minds of investors as to the relative value of the tax exemption. This again pushes investors to demand incrementally more yield. These inefficiencies have more to do with normal market dynamics and uncertainty in the tax code than inefficient tax expenditures.

Zimmerman provides an accurate summary of our discussion on administrative and financial inefficiency by pointing out:

Tax-exempt bonds have long been plagued with the allegation that the federal government’s revenue loss exceeds the reduction in state and local borrowing costs, thereby making bonds an inefficient method for transferring money from the federal to the state and local governments. This is true, but its importance is overstated for two reasons. First, this “transfer inefficiency” was greatly reduced by lowering of the marginal tax rate schedule that occurred in 1986. And, second, it is also true that grants-in-aid and state and local tax deductibility do not convert every dollar of grant or revenue loss into an increase in state and local budgets ... none of the available subsidy instruments succeeds in

transferring anywhere close to 100 percent of the federal cost to increased state and local services.²¹

The economic, administrative and financial inefficiency criticisms of the tax-exempt market are tenuous at best, but Zimmerman’s findings are particularly relevant to the current tax-exempt expenditure debate. Our observations over nearly three decades worth of municipal market expertise leave us to conclude that the tax-exempt expenditure is fairly efficient. If a public policy goal is to encourage private investment in public purpose capital projects, the tax-exempt expenditure accomplishes that goal.

Equity

The tax-exempt expenditure allows investors to reduce their tax liability proportionate to their respective tax bracket. It reduces the vertical equity of the U.S. tax system as investors in higher tax brackets benefit more from this exemption than investors in lower tax brackets. This feature is at odds with the progressive nature of the U.S. tax code and is the most popular criticism of this expenditure. Conversely, there is a bias in not recognizing that the same progressive tax structure generates certain benefits exclusively for lower income taxpayers at the expense of higher income taxpayers.

Sugin writes:

From a distributional perspective, we have to understand both what we are spending on and who benefits from that spending. These are two separate pieces of information, and the tax expenditure budget would ideally provide both, even where the analysis is more complex than the hypothetical windows in the simple example above. Take the classic tax expenditure example of the exclusion for interest on municipal bonds. The tax expenditure budget treats this exclusion as a tax expenditure because interest income is generally included in taxable income; section 103 is an exception to that rule. But it would be a mistake to assume that the benefit in the budget goes to the holders of the bonds who are not required to include the

interest. The exclusion was adopted to provide a subsidy for state and local governments. The reduced interest rate paid by municipalities is an implicit tax on holders. If the entire exclusion were a transfer from the federal government to the states, then holders would get no real benefit from owning municipal bonds, and policy-makers might want to maximize that benefit. However, for tax-exempt bonds, it is well known that the benefit does not flow entirely to issuers because issuers need to pay a premium rate of interest in order to attract sufficient purchasers. It also flows to high-bracket taxpayers who receive a windfall interest rate from municipal bonds compared to the after-tax rate of taxable bonds of equal risk. The real policy issue in the section 103 exemption is not the exclusion for the interest earned by all the taxpayers receiving it; it is the benefit to states and windfalls to high rate holders.²²

Sugin continues by arguing that through the current tax expenditure analysis...

We make the mistake of believing that the individuals who benefit from a tax expenditure are the ones who would pay tax if the provision did not exist. It follows from the way that the tax expenditure budget measures revenue loss: by considering how much the nominal taxpayer would owe if not for the provision. But this is a mistake. Revenue losses attributable to particular taxpayers do not imply that those taxpayers actually receive windfall benefits.²³

TAXPAYERS AND NON-TAXPAYERS... benefit from infrastructure projects financed by municipal bonds. This reality needs to be a consideration for policy-makers.

In support of that notion, there are a great number of middle-income taxpayers benefitting from the tax-exempt expenditure. According to data compiled from tax filers in 2009, approximately 57 percent of filers that reported AGI of less than \$100,000 claimed tax-exempt interest earnings. This equates to over 3.6 million filers.²⁴

Finally, failure to acknowledge and quantify the benefits citizens across the economic spectrum derive from the tax-exempt expenditure is a serious shortcoming of any critical analysis. We have never seen such an analysis. There is a large group of taxpayers and non-tax payers who are not municipal bond investors who use and benefit from infrastructure projects financed by municipal bond issuance. This reality needs to be a consideration of policy-makers when discussing.

V. Defining Success: BAB Program and the Tax Credit Option

There is ongoing discussion in Washington regarding possible alternative methods to the current tax-exempt method of financing state and local infrastructure projects. In particular, these two ideas appear to have some traction: [1] a direct federal government funding approach eliminating tax exemption entirely or [2] an indirect approach replacing the state and local government bond tax exemption with a taxable bond alternative. This section will outline the background and facts about both ideas as well as discuss market inefficiencies created by these federal programs.

Background

The financial crisis of 2008 swept across the global market place. Most financial institutions and businesses struggled mightily following the Lehman Brothers bankruptcy and the subsequent collapse of equity markets. The crisis plagued the municipal market, too, as panicked investors fled the municipal bond market only to have bond prices plummet and borrowing costs skyrocket. Market chaos was exacerbated as the credit ratings on most insured municipal bond issues were downgraded with the collapse of mono line insurers. The volatile municipal market was a threat to financial stability.

The urgency of the 2008-2009 financial crisis compelled Congress to put forth a plan designed to stabilize the national economy. In February of 2009, Congress announced the American Reinvestment and Recovery Act, which introduced the Build American Bond (BAB). BABs are taxable state and local government bonds. The unique quality of the bonds is that the Federal government, in the form of a Treasury rebate, pays a 35

percent subsidy to the issuer (or investor) of the bond. The Treasury makes direct payments to the issuer of the BABs, which assures, in theory, 100 percent of the federal subsidy benefits the issuer. The Build America Program was established to spur local capital projects by lowering borrowing cost for issuers, reducing market inefficiency, expanding the marketplace for municipal bond investors and easing market instability. The program expired at the end of 2010.

The United States Treasury trumpeted the success of BABs. John Bellows, the Acting Assistant Secretary for Economic Policy, wrote:

In its less than two years of existence, the program was decidedly a success - in addition to lowering borrowing costs, it helped to restore a badly damaged municipal finance market and supported job creation through thousands of much-needed infrastructure projects.²⁵

A report by the Center for American Progress supported Bellows' conclusion:

Strengthened the municipal bond market, reduced inefficient returns to high income bond buyers, and brought about long-overdue investment in infrastructure at the state and local level. It did so at a time when broader financial markets were fragile and the economy was struggling out of the deepest recession in two generations.²⁶

Clearly, the short lived BAB program achieved its goals of reducing the direct borrowing costs of state and local government issuers, of expanding the pool of investors and stabilizing the volatile marketplace that existed during the latter part of 2008 and early 2009. These are significant accomplishments.

It is less clear, however, if the program reduced overall financing costs for municipal capital projects. It is also likely that the program encouraged unnecessary debt issuance in certain instances. Given these failings, and the support of many to reinstitute the BAB program, it is important to review the program

Mixed Results from the BAB Experiment

Proponents of the BAB program claim it strengthened and stabilized the municipal bond market. It certainly stabilized the municipal bond market at a time when most financial markets were quite volatile. But the instability of the municipal bond market in late 2008 through early 2009 resulted more from worldwide economic turmoil than from the lack of a federal program supporting the municipal bond marketplace. After all, in the decades prior to the fall of 2008, the municipal bond marketplace functioned very well. Generally, it raised capital efficiently for credit worthy state and local governments. Today, the mature municipal bond marketplace offers very low borrowing costs for most issuers. The Municipal Market Data index published by Thomson – Reuters indicated as of November 29th, 2011, a 10-year AAA-rated municipal bond was yielding 2.22 percent.²⁷

It is important to remember today's low borrowing rates and market stability enjoyed by most state and local governments exist ABSENT of any direct subsidized federal programs like the defunct BAB program. While BABs served to ease market volatility in 2008-2009, we question the need today of a program with the same scope and breadth now that markets have calmed from the tumult of the past few years.

**BEFORE REPLACING
TAX- EXEMPT BONDS
with tax- credits or BABs,
policymakers need consider the
effects: efficiency declines,
higher taxpayer costs, lost local
independence.**

Clearly, BABs altered the makeup of state and local government debt. Table 8 depicts BAB issuance level during the program's life. It mushroomed from early 2009 until the program expired at the end of 2010: a \$180 billion plus market was created in less than two years. The fact is that the 35 percent federal subsidy was overly generous to state and local governments. As a result, governments responded by issuing subsidized taxable debt rather than un-subsidized, non-taxable debt. Economically, it made more sense to follow this strategy. The program resulted in local issuers reducing their financing costs by agreeing to have the federal government and taxpayers nationwide pay a portion of the cost of the local project. Within this context, the program was a resounding success.

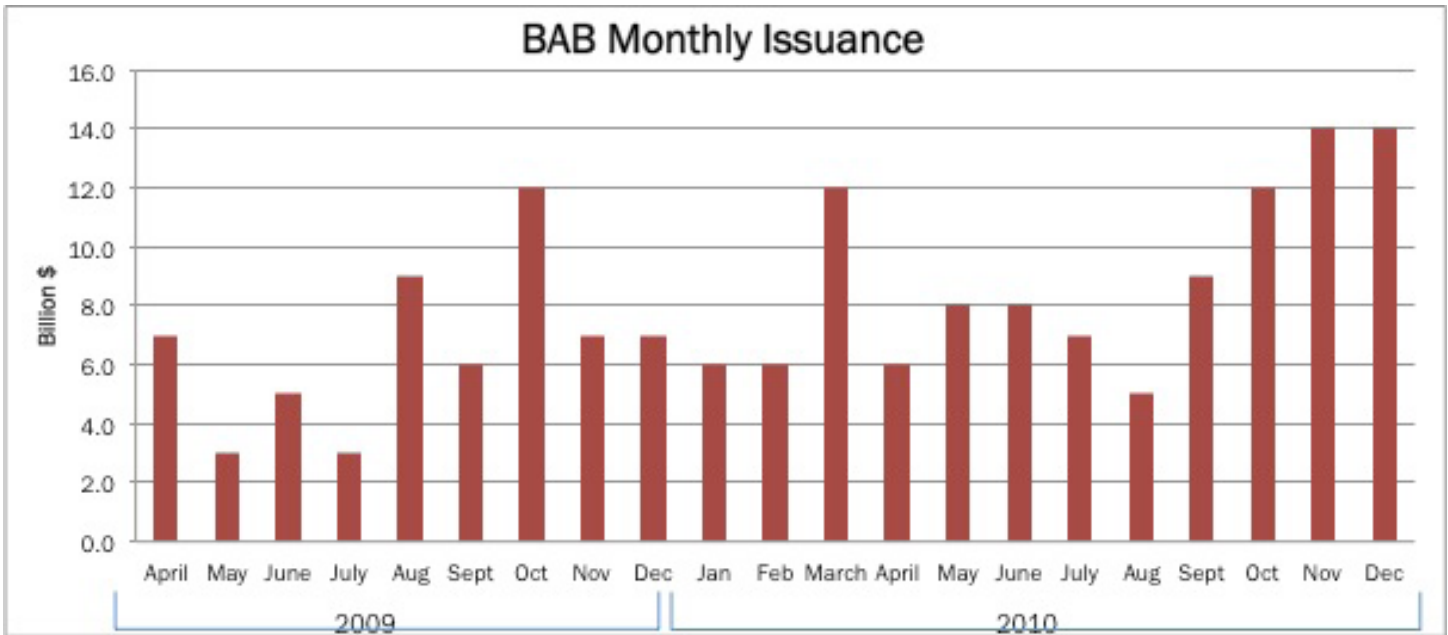


Table 8. U.S. Treasury Department

But one area’s subsidized success is another’s financial burden. Similar to our analysis of the JCT and the OMB’s tax expenditure estimates, a review of the BAB program reveals some problems. Therefore, before dramatically altering the present day municipal bond market with a BAB or tax credit option, it is important to consider the possible implications. Items to consider include the efficiency of the proposed program, its overall cost to federal taxpayers and any loss of local decision-making and independence that result.

A recent Treasury report (May 2011) asserts the success of the BAB program:

...state and local governments that issued BABs saved an estimated \$20 billion in borrowing costs, on a present value basis, as compared to tax-exempt bonds.²⁸

Importantly, the \$20 billion in savings to borrowers is considerably greater than the net cost to the federal government of the BABs program.²⁹

BAB issuers saved, on average 84 basis points on interest costs for 30 year bonds and also received significant savings on shorter maturities, as compared to traditional tax-exempt bonds.³⁰

The Treasury report is long on claims, but short on supporting evidence. In fact, some its own findings call into question some of the claims. Below we address several of these Treasury claims.

Like the Treasury analysis of tax expenditure costs discussed previously, portions of the BAB analysis are incomplete casting doubt over credibility of the paper's conclusions about the success of the BAB program. As an example, the 12-page report is unclear about the amount of tax revenue the Treasury expects to earn by taxing BAB interest income – revenue that will be an offset to the 35 percent subsidy Treasury is paying on \$180 billion in debt issued. This revenue is included in Treasury's calculation of program savings, yet details are not in the report. The amount of the offset will be determined by a number of factors including the number of U.S. taxpayers investing in BABs, the dollar value of their investments, the average coupon rate, and their average tax bracket. There are no such details in the report because, to our knowledge, the government has not collected this information. Anecdotal evidence during the program's duration suggests that foreign buyers, U.S. pension and retirement accounts and not-for-profit organizations were significant investors in BABs. **None of these entities pay U.S. federal income tax.**

We have several remarks:

1. Although the selected sample encompasses a fairly large universe, it seems to exclude the small and medium-sized issuers that typically account for a majority of annual municipal issuance (see pie chart below). This large subset is not factored into the Treasury savings calculation. To exclude this group calls into question the validity of the data.

Our analysis of both the Tax-exempt General Obligation market and the overall BAB market between April 2009 and December 2010 yielded interesting information. Utilizing Bloomberg³² data, we counted 2,262 individual BAB issues, very similar to the 2,275 quoted by the Treasury report. (The discrepancy could be attributed to private placements or differences in separating out individual bond issues.) BAB issuers with deal sizes under \$20 million, i.e. those representative of the small and mid-sized municipalities, accounted for 51 percent of the total number of individual issues. However, those smaller government issues accounted for a mere \$9.365 billion or 5.2 percent of the roughly \$180 billion total BAB issuance. Meanwhile, BAB issuers with deal sizes of \$100 million or greater, i.e. largest issuers in the country accounted for \$138 billion or 76.75 percent of the total \$180 billion issued. Even more interesting, there were only 384 issues of that size, or just 16.98 percent of the total number of issues. The disparity between large and small issuers becomes even more apparent in the G.O. Tax-exempt Market during the BAB issue period. Below is a pie chart showing the results. We found a total of 7,947 individual G.O. Tax-exempt issues from April '09 to Dec. '10.³³ Our data leads us to conclude that while a number of small to medium-sized municipalities benefitted from the BAB program, it is evident the preponderance of the benefits went to the largest of municipal issuers.³⁴

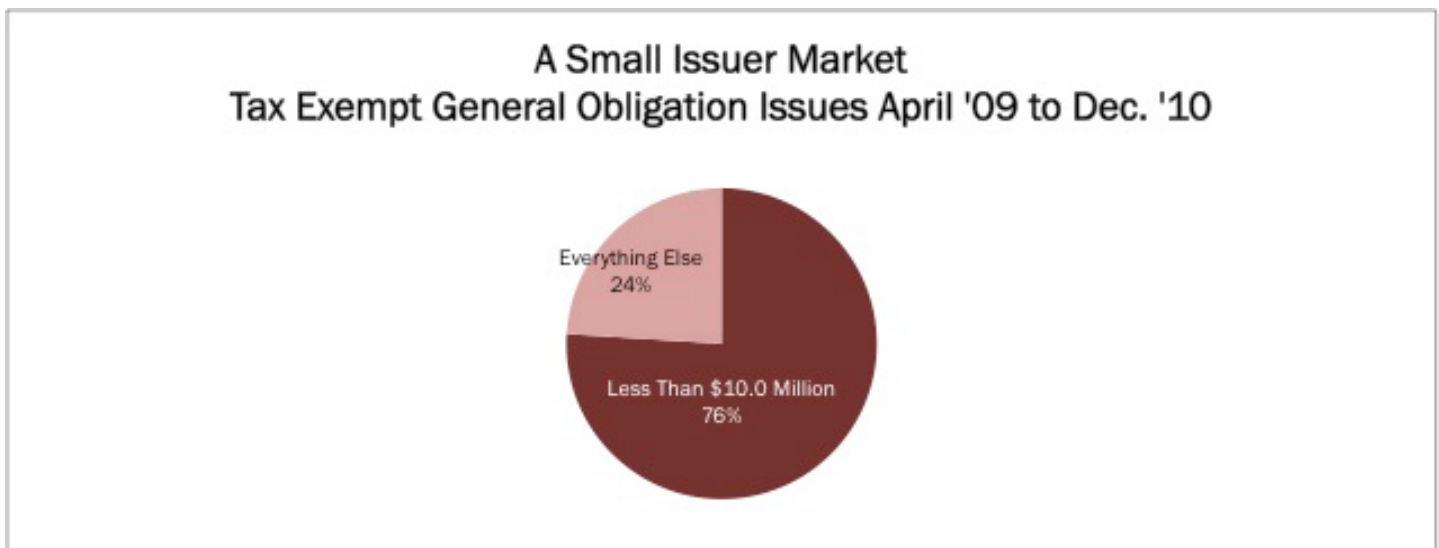


Table 9. Bloomberg

2. As Table 10 below shows, the Treasury data shows the savings from issuing BABs is greatest for long maturity issuers. This is consistent with our experience. Conversely, there were quite a few instances where short maturity issuers were economically better off issuing tax- exempt bonds rather than taxable, subsidized BABs. There also were many instances where it was a wash. This fact is supported by specific issues we can cite and by the Treasury's own data. Treasury's graph shows that for its sample, savings for issuers really do not materialize until the 10-year portion of the yield curve begins and that significant issuer savings generally do not begin to occur until the maturity dates approach 20 years. Generally, if issuers kept their maturity structures around 10 years,

little if any, direct interest cost savings resulted from a BAB option. Generally, for those issuers that did realize savings in this part of the yield curve, it occurred only after receiving the 35 percent federal subsidy. Therefore, Treasury's conclusion that "issuers saved...and also received significant savings on shorter maturities, as compared to traditional tax-exempt bonds" is highly questionable. Indeed, Treasury's own data and our direct experience do not support the claim. The Treasury goes out of its way to comment on this phenomenon by stating "it is possible that the estimated yield curves for the sub-sample of municipalities that issued BABs and Tax-exempt bonds on the same day do not apply to the broader set of BAB issuers".³⁵

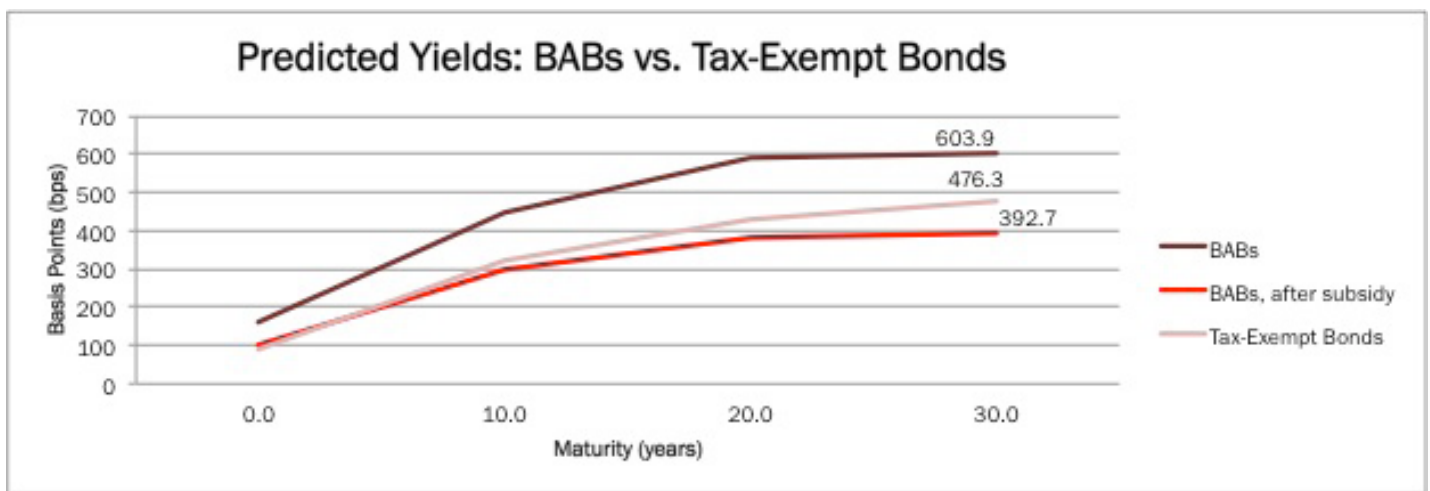


Table 10. U.S. Treasury Department. Treasury Analysis of Build America Bonds Issuance and Savings. 2011. Print.

In fact, oftentimes issuing BABs in the short part of the maturity curve actually was a more expensive method of raising capital for the nation's taxpayers. The Treasury graph shows overall interest cost savings for shorter term BAB issues was nearly non-existent with taxpayers nationally on the hook to cover 35 percent of the issues' debt service over its life. This federal subsidy was paid to issuers who easily raised capital for projects at similar or lower interest tax-exempt rates. Additionally, the spike in issuance at yearend 2010, a deviation from typical market volume levels, further suggests that issuers came to market in a mad rush in order to maximize their benefits from the soon to expire, overly generous 35 percent BAB subsidy.

In the Treasury's BAB sample it states average maturity for BABs is 14.3 years, while the average maturity for tax-exempts is 8.2 years.³⁶ Our BAB research revealed some contradictory evidence. A simple averaging of all the individual BAB maturities gave us a figure of 11.9 years. We took it a step further and calculated the weighted average maturity in an effort to gauge the impact of any long, back loaded maturities. Conceptually, this would be similar to thinking of the collective BAB issues as a portfolio of loans. This is relevant because the federal government will be responsible, at least for the time being, for covering 35 percent of the debt service. The point is that it really does matter to taxpayers if the federal government has agreed to make annual interest payments for the next 10 years or the next 30 years. We acknowledge that our data does not adequately account for the impact

of a mandatory sinking fund on the average life of the maturities. However, given a level debt service schedule, the typical 30 year bond issue, with a single payment at maturity 30 years from the sale date, has its average weighted maturity reduced by approximately 5 years for every 10 years of sinking fund payments made prior to final maturity. We calculated the weighted average maturity of all the BABs in our database to be 24.2 years. When we removed the subset of BABs with maturities of 10 years or less and examined only the remaining subset of BABs with maturities greater than 10 years, the weighted average maturity calculation figure increases to 25.6 years.³⁷

When tying together our data on issue size and length of maturity we can conclude that the BAB program was overly generous to municipalities. This conclusion also suggests that the direct total cost to national taxpayers could be far greater than the Treasury estimates. Municipalities that issued bonds in excess of \$100 million and structured the debt service payments so that significant principal pay down did not occur until the tail end of the bond's life ... these issuers derived the greatest benefit at the expense of national taxpayers. Theoretically, this longer and slower amortization schedule increases the amount of interest an issuer will pay over the life of the bonds as the semi-annual interest payment is calculated based on the outstanding principal balance. Effectively, by offering a 35 percent interest rate subsidy, the Treasury created an environment that allowed municipalities to issue longer than normal maturities that incorporated

a slower principal amortization at a lower tax-exempt equivalent rate than the municipality would have been able to obtain for the same issue in the tax-exempt market. The Treasury's BAB report comments on this phenomenon by citing an average savings of 84-basis points on BABs as compared to tax-exempt 30-year bonds.³⁸ This finding is consistent with our overall experience in the municipal market. Unquestionably, it is on this long end of the yield curve where the value of the BAB program has significant merit because historically it is also the least efficient part of the tax-exempt yield curve.

These findings, however, are somewhat skewed and overstated. As previously stated, BAB issues had much longer maturities when compared to the typical tax-exempt issuance and many of the long maturity structure BAB issues came with protracted amortization. Typically, issuers want to pay off debt as soon as possible. That was not the case with many BAB issues, probably because issuers wanted to lock in the 35 percent federal subsidy for as long as investors were willing to allow. We believe, if issuers had to pay 100 percent of the debt service cost, most of the long maturity BAB issues would have shortened maturity schedules with lower debt service costs. This additional cost to national taxpayers is not accounted for in Treasury "savings" figures.

Similarly, the Treasury's BAB report admits its analysis disregards any interactions between BABs and tax-exempt bonds and that in doing so the availability of BABs could have actually lowered the borrowing costs for tax-exempt bonds.³⁹ The Treasury summarizes this point by adding it is possible that the savings estimate understates the total reduction in state and local government borrowing costs due to the BAB program.⁴⁰ Using the Treasury's logic, the potential savings generated by the BAB program could exceed \$20 billion.

However, it is that same estimate that translates into the direct cost of the subsidy born by the federal government. In essence, the Treasury's same conclusion just under a different lens could be: "As a result of disregarding any interactions between BABs and tax-exempts we may have understated the total cost of the BAB program to the national taxpayers which now stands at \$20 billion." To illustrate our point on matching an asset's useful life to the liability incurred in funding it, we examined a variety of BAB issues. We settled on this example because it represents the type of structure alluded to above, though it is not wholly representative of the entire BAB universe. The Pennsylvania Turnpike Commission brought the issue to market on August 30th, 2010 and included two bullet maturities totaling \$600 million. Bullet maturities require a lump sum payment for the entire principal and interest amount paid at maturity. In this case the maturities are split into two portions, one due in 2045, and the other in 2049. The bonds were issued to fund various capital projects and were secured by toll revenue collected from the turnpike system. We examined the issuer's comprehensive annual financial report and found useful life estimates ranging from 10 to 50 years for infrastructure, 10 to 45 years for buildings, 3 to 40 years for equipment, and 15 to 20 years for improvements. Maturities on these bonds stretch the limits of the useful life ranges.

Over the long term, structuring municipal bond capital projects with very long maturities can prove to be a very inefficient and dangerous way to finance a project. The issue above has a nearly 40-year debt service amortization. Yet it is for capital projects with an expected life of 25 to 30 years. The project's useful life will most likely end 10 to 15 years, long before the final BAB debt service payment is due. What happens then?

This payment structure means the asset and liabilities do not match on the balance sheet which will result in an additional, future cost that is NOT accounted for in the Treasury's \$20 billion issuer "savings" calculation. Assuming the 35 percent federal subsidy is not available at that time, these issuers will have to fund a capital project in order to update the facility or replace it. This will require additional debt service payments on top of the remaining 10 to 15 year BAB debt service payments. This a cost not recognized in the Treasury figures. Therefore, the Treasury claim of \$20 billion in issuer cost savings from the BAB program is clearly not telling the whole story and overstates the program's success when viewed from a national cost perspective.

Many times we asked ourselves what force produced this very dangerous asset and liability disparity on many long maturity BAB financings and have concluded this:

The federal government's BAB creation introduced an anomaly into the marketplace and as often is the case, the marketplace reacted by changing its behavior to take maximum advantage of this subsidy. In doing so, new inefficiencies were created by the BABs program creating a future, presently unaccounted for cost. This new, unaccounted for future cost is a direct result of the BAB program. It is very difficult to calculate today, but very real, and will be significant.

OVER THE LONG TERM, structuring municipal bond capital projects with long maturities can prove to be very inefficient and dangerous financing alternatives.

We recall Professor Fortune's finding cited earlier regarding the investor windfall resulting from the tax-exempt clearing rate issue. Per his study's findings (1990 dollars), it amounted to be approximately \$2.5 billion.⁴¹ This is a number calculated by an expert and measures a current market inefficiency and benefit accruing to affluent tax-exempt bond investors, one of the great criticisms of detractors of the present day municipal bond marketplace.

The inflation adjusted amount of this inefficiency pales in comparison to what we fear will be the future unaccounted issuer costs of the BAB program as discussed above. These sums far exceed any up to date Poterba type calculations. If our instinct proves accurate, the Treasury claim that BABs eliminated the clearing rate inefficiency issue is moot, as it will be replaced by this significantly larger inefficiency.

Last, many of the long maturity BAB issues came to market at abnormally high yields compared to Treasury bond yields. Below is a sample:

Issue	Issue	Issue Maximum Yield	Net Interest Cost After Subsidy (1)	Estimated Alternative Tax-Exempt Yield (2)	Estimated Net Benefit (Basis Points)	30-year Treasury Rate at Issuance (3)	BAB Basis Point Spread to Treasury (4)	Yield on First Day of Trading (5)
4/15/09	University of Minnesota	6.38%	4.15%	4.60%	45	3.71%	2.67%	5.84%
4/16/09	University of Virginia	6.22%	4.04%	4.81%	77	3.79%	2.43%	5.76%
4/20/07	New Jersey Turnpike Authority	7.41%	4.82%	5.00%	18	3.68%	3.73%	6.94%
4/21/09	Milan MI Area Schools	7.14%	4.64%	5.07%	43	3.74%	3.40%	N/A
4/21/09	State of California	7.43%	4.83%	5.36%	53	3.74%	3.69%	7.00%
4/21/09	DuPage CO IL CCD	5.75%	3.74%	4.60%	86	3.74%	2.01%	N/A
4/22/09	RileyCO KS School District	6.68%	4.34%	4.90%	56	3.82%	2.86%	6.30%
4/23/09	Metro Transit Authority of New York	7.34%	4.77%	5.15%	38	3.80%	3.54%	7.00%
Near Program's end								
11/15/10	Little Blue Water District, MO	6.75%	4.39%	5.31%	0.92	4.41%	2.34%	N/A
11/29/10	Purdue University	5.95%	3.87%	4.24%	0.37	3.78%	2.17%	5.62%
11/29/10	Northern IL Muni Power	7.82%	5.08%	5.65%	0.57	4.14%	3.69%	7.56%
11/29/10	Unvirsity of NC - Asheville	6.77%	4.40%	5.65%	1.25	4.14%	2.64%	6.47%
12/13/10	State of WV - Higher Ed	7.65%	4.97%	5.61%	0.64	4.41%	3.24%	6.72%
12/20/10	Metro Transit Authority of New York	7.13%	4.64%	6.98%	2.34	4.19%	2.95%	6.94%

Table 11. Source: (1) Calculated by multiplying (1-0.35) by issue yield, (2) similar secondary market issues, (3) Bloomberg, (4) Issue Yield minus Treasury rate, (5) MSRB

We make these two observations:

1. The difference in basis point yield spread compared to the Treasury yield is greater than normal. Many factors possibly account for this, but the spread is noteworthy.
2. The first day re-offering yields are substantially lower than the issuance yield. Again, many different factors can account for this discrepancy, but it too is noteworthy.

We make these observations to punctuate our point above regarding Treasury claims that the BAB program eliminated certain inefficiencies of the tax-free municipal market. It is true that by its nature the BAB program eliminated the clearing rate inefficiency of the tax-exempt market. Based on the above data, this inefficiency seems to have been replaced by another more costly one. Namely, a wealth transfer from top marginal U.S. tax payers who benefit from the clearing rate inefficiency of the current market to the buyers of BABS

including U.S. taxpayers, pensions, not for profit organizations and foreigners who clearly are buying federally subsidized BAB issues at yield spreads in excess of historical averages. Authors Ang, Bhansali, and Xing make this very claim in their paper on BABs.⁴²

Some may argue this transfer is appropriate, but let's be certain about one thing. It exists and it is merely one form of market inefficiency replacing another. Once again, Treasury claims about savings and increased efficiency resulting from the BAB program is highly suspect.

Our point in this section is not meant to lead one to conclude the BAB program was a failure. It succeeded in many respects and we believe the BAB program has a future role in stabilizing the municipal marketplace. A properly structured BAB program will help reduce some of the current market inefficiencies by improving market liquidity, reducing volatility and broadening the universe of municipal bond investors.

It is important to note BABS tend to homogenize (remember bond insurance?) the market given the 35 percent federal debt service payment subsidy. We do not view this as a credit positive. The current tax-exempt market requires investors to scrutinize each credit and their individual standards. There is a connection between lenders (investors) and borrowers (issuers) and this connection serves as an important and needed credit quality governor. Any contemplated changes to the current system should attempt to enhance – not diminish – this important market attribute. The current structure of the market has great depth and breadth. Clearly improvements are needed, but to replace it completely with a BAB type option would only serve to raise overall costs and create uncertainty for state and local governments at a time when this would be very harmful.

Finally, in our view the tax credit option is a non-starter. It has been around for decades and has been used sparingly with little success in the municipal bond marketplace. It is a thin and inefficient market. Additionally, the Treasury set tax credit rate is generally unattractive to investors and usually results in immediate discount pricing. The idea appeared to have gained some traction recently since the tax credit bond was an optional part of the BAB program. To our knowledge, no BAB issues in the \$180 billion plus pool chose the tax credit option. This underscores the futility of pursuing this idea as an alternative to today's broad, well-developed and liquid municipal bond market. Issuers dislike the option as do most investors, and that is why it was universally ignored during the BAB era.

It would be disastrous to state and local governments and irresponsible policy if the current tax-exempt market was replaced with a tax credit option.

**CLEARLY
IMPROVEMENTS ARE
NEEDED**, but to replace it completely with a BAB type option would only serve to raise overall costs and create uncertainty for state and local governments at a time when this would be very harmful.

VI. SENSIBLE IMPROVEMENTS

The current structure of the municipal bond market is broad, deep and very well established. The market offers issuers and investors great liquidity and efficiency. This marketplace is a proven, time- tested cornerstone of our economic system. It ensures state and local governments can raise low interest rate capital for public purpose infrastructure projects...creating thousands of jobs along the way. The municipal bond market has been notably stable for the past 18 months, a time when most other financial markets have been quite volatile. It would be a serious, irresponsible misstep to substantively alter the market's current dynamics and structure as it would create havoc in the marketplace, raising issuer borrowing costs and reducing investor's liquidity.

Undoubtedly, improvements and minor modifications can and should be made to the current system. The changes noted below would serve to improve liquidity, stabilize and expand the market, reduce some of the inherent inefficiencies that exist and, most important, lower issuer borrowing costs for public purpose infrastructure projects.

Here is what we suggest:

Congress and the Administration need to positively assert the tax-exempt expenditure is sacrosanct. Absolute clarity on this issue will go a long way to reducing market volatility and the uncertainty it brings to state and local government bond issuers. As a nation, we need to decide how we want to finance local infrastructure projects:

Do we want local control and decision making to prevail with requisite local responsibility for these projects or do we want a system ceding this authority to distant bureaucrats who control decisions and the financing for local infrastructure projects? This is the core issue that must be addressed and resolved.

Prior to *South Carolina v. Baker* the question was moot because of the Constitutional protection afforded to tax-exemption. Clearly, this has not been the case since 1988 and the resulting uncertainty only serves to elevate issuer borrowing costs and market volatility. This dynamic is exacerbated whenever policy makers or elected officials circulate legislation challenging or limiting tax-exemption. President Obama's job bill provision limiting the tax value of tax-exempt interest from municipal bonds to 28 percent for certain taxpayers and current proposals circulating that all municipal interest become fully taxable are excellent examples. If such proposals become law, the market will adjust accordingly and the affluent will invest their capital in other markets if it is more beneficial. The main cost of any changes will fall on issuers who will see their borrowing costs increase and low to middle bracket taxpayers who will experience a combination of higher user fees, higher taxes and diminished public purposes municipal facilities. Congress would be wise to move in the opposite direction of such proposals in order to bring stability and lower cost financing to state and local governments. It should, without equivocation, delegate public works decisions to state and local governments so local constituents decide whether they want to finance new schools, water systems or county court houses and cease any and all over-arching threats to their ability to finance these public purpose projects.

The present day municipal bond market, blemishes and all, works very well and is one of the most efficient bond markets in the world today. Efforts should be made to improve it rather than destroy it.

A sensible adjustment to the current market structure would be to refine the "public purpose infrastructure" definition. In our view, the universe of currently valid tax-exempt projects is too broad and should be somewhat constrained. This action will reduce new issue supply thereby improving market efficiency and lowering borrowing costs. Additionally, it will serve to better protect the federal purse. Clearly, defining "public purpose" is a subjective exercise. In our view, projects financing

elementary and high schools, municipal/county courts and jails, administrative facilities, water/sewer facilities to name a few clearly fall under the “public purpose”, while single family and certain multi-family housing projects, industrial revenue bonds, and private university financing projects do not. This is not to suggest these activities fail to serve important needs. But, arguably, theirs is not a basic public purpose contributing to the nation’s general productivity and, therefore, cost should not be financed at the expense of the federal purse. In between these two groups there is a great deal of gray area. A dialogue is needed to arrive at a tighter definition, which needs to be firmly and permanently set. Doing so will accomplish what we cite above and provide much needed certainty to the marketplace. For those projects denied access to the tax-exempt subsidy, either a taxable municipal bond option or private capital investment option will remain available to them. In our view, this is a very sensible improvement to the current market structure.

Permanent reinstatement of a modified BAB program would improve and broaden current market dynamics. A reduced federal subsidy level from the overly generous 35% rate will reduce future cost to the Treasury and also force BAB issuers to more closely examine issuance purpose, deal size and maturity structure since they will bear more of the financing cost. BAB issuance should be restricted to capital projects only and refinance of prior BAB issues. Issuance to cover operating expenses should not be an option. There should be a fixed dollar amount limit per year assigned to every eligible issuer. Imposing a limit will force issuers to carefully consider the purpose of an issue and decide whether or not to utilize a portion of its BAB allocation on the subject issue. The annual BAB allocation also will provide issuers with an alternate financing option if tax-exempt interest borrowing costs skyrocket (as they did in 2008-2009), acting as a governor of sorts.

One idea is to consider expanding BAB issuance for projects that no longer qualify under a more restrictive “public purpose” definition, as discussed above, thus allowing the issuer to decide if a particular project qualifies for the BAB funding option. There should be a

WE NEED TO narrow the definition of public purpose infrastructure. Right now it is so broad that it actually creates some inefficiencies.

fairly small annual limit on the par value that each issuer could allocate for these types of financings.

Enact legislation making the bank qualified feature permanent at a \$20-\$30 million annual, inflation-adjusted issuance size. As mentioned previously, deal sizes in these ranges capture a very large percentage of overall number of bond issues that come to market each year. Local banking institutions generally support local bond issues. This local support serves two important functions: it reduces issuer interest costs; and it serves as a credit governor because local investment usually offers greater assurance of debt repayment. The recent home mortgage debacle is an excellent example of what occurs when investors are too far removed from their third party guaranteed investment.

Expanding the pool of local investors participating in this sector of the market will serve several important purposes and enhance the current market place.

To a great degree, market inefficiencies today result from inadequate or dated issuer credit information. Implementing standardized required reporting mechanisms and universal recognition by issuers of the importance of compliance would greatly enhance our marketplace. Municipal bond dealers cannot act as policeman on this issue. This is a difficult issue to resolve given near overwhelming support by state and local government officials of maintaining Tower Amendment protection. There is great validity in their position, but resolving this issue would add great stability to the marketplace, improve market efficiency and reduce issuers’ borrowing costs.

VII. CONCLUSION

A central feature of our political system of government is the concept of federalism. The relative independence enjoyed by state and local governments is unique strength to this country.

So we ask: Is this a system that works for us? Is this a system that we want to perpetuate?

If the answer is yes, then our economic and tax policies need to ensure that state and local governments have the ability to raise capital independent of the federal government with the concomitant understanding that they are responsible for the obligations they incur.

This belief was the genesis of the tax-exempt bond concept decades ago. Before discarding or severely limiting the tax-exempt expenditure the nation needs to have a discussion about what this expenditure accomplishes and how it is interwoven into the political and economic fabric of our society.

Theoretically, the efficiency and fairness of the current day municipal bond market could be improved. We suppose an idealized view would have the central government in Washington doling out funds for only needed projects ensuring that every grant dollar is expended 100% on the project. This Alice in Wonderland solution exists only in theory and would come at a great cost: the loss of political autonomy for all of us outside of the Washington influence sphere.

The fact that all municipal bond issuers are NOT correlated with each other is a positive from a credit quality and independent decision-making perspective. The present day tax-exemption feature is partially responsible for the market's credit diversity. It should not be watered down, narrowed or eliminated by enacting far-reaching legislation or one uniform standard. There should not be a federal guarantee of local debt, and any direct federal assistance must be specifically defined and severely limited. This approach has been tried in other spheres of our economy and has failed miserably (FNMA/FREDDIE MAC). The market's credit diversity and its current dynamic requiring state and local governments to pay for their own projects serves to govern economic behavior and is the primary reason public purpose municipal bond debt rarely defaults.

Why on earth would we want to alter this successful dynamic?

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ABSTRACT

This paper will show that the tax-exempt expenditure for municipal securities is far less costly than some claim and suggests solutions aimed at reducing the existing cost. The purpose of the white paper is to explain and highlight the value of the tax-exempt expenditure to our economy. The paper argues in favor of decisions made with a comprehensive understanding of the market's history, unique mechanics and recommends nuanced changes that affect its overall dynamics. We use this platform to discuss and challenge the methodologies utilized by policy-makers who approve legislative changes that would negatively affect the municipal bond market. We oppose proposals that recommend repealing or reducing (either staggered or retroactive) the market's tax-exempt feature. The paper provides strong evidence the tax-exempt expenditure is a federal policy tool that levels the playing field for most municipal issuers in our highly competitive capital markets. Tax-exemption provides state

and local governments with a subsidy to finance essential and needed infrastructure projects as determined by local decision makers rather than distant bureaucrats. Contrary to the position of some, the municipal bond marketplace allocates infrastructure capital fairly efficiently (defined herein). It has been a massive job creator providing low cost capital for needed state and local infrastructure projects that improve the lives of citizens across many economic classes. This paper will show the tax-exempt expenditure is far less costly than some claim and suggests solutions aimed at reducing the existing cost. Generally, state and local issuers remain diligent about project selection, cost and management because local constituents pay most of the associated costs rather than a federal handout. In short, it is this dynamic of the municipal bond market that helps insure state and local finance markets do not become this nations next FNMA, FREDDIE MAC and FHA disaster.

REFERENCES

- Ang, Andrew, Vineer Bhansali, and Yuhang Xing. Build America Bonds. Rep. no. 16008. Web. (<http://www.nber.org/papers/w16008>).
- Bipartisan Policy Center. Restoring America's Future. By Pete Domenici and Alice Rivlin. 2010. Print.
- Buckley, John L. Tax Expenditure Reform: Some Common Misconceptions. Rep. July 2011. Web. (<http://taxprof.typepad.com/files/132tn0255.pdf>).
- Burman, Leonard, Eric Toder, and Christopher Geissler. Total Individual Income Tax Expenditures, and Who Benefits from Them? Rep. Dec. 2008. Web. (http://www.urban.org/UploadedPDF/1001234_tax_expenditures.pdf).
- Burman, Leonard. "Is the Tax Expenditure Concept Still Relevant?" National Tax Journal Sept. 2003. Print. Council of Economic Advisors. Economic Report of the President. Feb. 2011. Web. (<http://www.gpo.gov/fdsys/pkg/ERP-2011/pdf/ERP-2011.pdf>).
- Fortune, Peter. "Tax-exempt Bonds Really Do Subsidize Municipal Capital!" National Tax Journal 51 (1998): 43-54. Print.
- Fortune, Peter. "The Municipal Bond Market, Part II: Problems and Policies." New England Economic Review (1992). Web. (<http://www.bos.frb.org/economic/neer/neer1992/neer392d.pdf>).
- Gordon, Roger H. & Slemrod, Joel, 1983. "A General Equilibrium Simulation Study of Subsidies to Municipal Expenditures," NBER Working Papers 1080, National Bureau of Economic Research, Inc. Published as: Gordon, Roger H & Slemrod, Joel, 1983. "A General Equilibrium Simulation Study of Subsidies to Municipal Expenditures," Journal of Finance, American Finance Association, vol. 38(2), pages 585-94, May
- Gordon, Roger H. & Metcalf, Gilbert E., 1991. "Do Tax-Exempt Bonds Really Subsidize Municipal Capital?," NBER Working Papers 3835, National Bureau of Economic Research, Inc.
- Hicks, Cadmus. What If Direct Subsidies Replaced Tax-Exemption? July 2011. Web. (<http://www.nuveen.com/Home/Documents/Viewer.aspx?fileId=53520>).
- Hungerford, Thomas. United States. Congressional Research Service Report. Tax Expenditures and the Federal Budget. Cong. Rept. June 2011. Web. (<http://www.fas.org/sgp/crs/misc/RL34622.pdf>).
- Maguire, Steven. United States. Congressional Research Service. State and Local Government Debt: An Analysis. Cong. Rept. 31 Mar. 2011. Web. (<http://www.nasbo.org/LinkClick.aspx?fileticket=4sLYo0HTYI8%3D&tabid=81>).
- Nadler, Daniel J., and Sounman Hong. Political and Institutional Determinants of Tax-exempt Bond Yields. Rep. no. 11D04. Harvard Kennedy School. Web. (http://www.hks.harvard.edu/pepg/PDF/Papers/PEPG_11-04_Nadler_Hong.pdf).
- Poterba, James M., and Arturo Ramirez Verdugo. "Portfolio Substitution and the Revenue Cost of the Federal Income Tax Exemption for State and Local Government Bonds." National Tax Journal (2011).

Sugin, Linda. Tax Expenditures, Reform, and Distributive Justice. Rep. no. 1851802. Web.
(http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1851802). Print.

Tax Equity and Middle Class Fairness Act of 2011, H.R. 2495. Print.

The National Commission on Fiscal Responsibility and Reform. The Moment of Truth. By Bowles and Simpson.
Dec. 2010. Web.
(http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf).

United States. Center for American Progress. Good News on Deficit Reduction: Conservatives Now Recognize Some Tax
Breaks as Wasteful Spending. Web.
(http://www.americanprogress.org/issues/2011/06/conservatives_tax_breaks.html).

United States. Congressional Budget Office and Joint Committee on Taxation. Subsidizing Infrastructure Investment with
Tax Preferred Bonds. Cong. Rept. Oct. 2009. Web.
(<http://www.cbo.gov/ftpdocs/106xx/doc10667/10-26-TaxPreferredBonds.pdf>).

United States. Cong. Senate. By Wyden, Coats, and Begich. 112 Cong., 1 sess. S 727. Print United States.
Joint Committee on Taxation. Estimates of Federal Tax Expenditures for Fiscal Year 2008-2012. Cong. Rept. JCS-2-08.
Oct. 2008. Web. (<http://www.jct.gov>).

United States. Joint Committee on Taxation. Estimates of Federal Tax Expenditures for Fiscal Year 2010-2014. Cong. Rept.
JCS-3-10. Dec. 2010. Web. (<http://www.jct.gov>).

United States. Joint Committee on Taxation. Present Law and Issues Related to Infrastructure Finance. Cong. Rept. J
JCX-83-08. 24 Oct. 2008. Web. (<http://www.house.gov/jct/x-83-08.pdf>).

United States. Office of Management and Budget. Budget of the United States, Fiscal Year 2010: Analytical Perspectives.
Web. (<http://www.gpoaccess.gov/usbudget/fy10/pdf/spec.pdf>).

West, Patrick T. "Sen. Wyden Touts Tax-Credit Bonds, Hits Tax-exemption for New Munis." The Bond Buyer. Apr. 2011.
Web. (http://www.bondbuyer.com/issues/120_71/wyden_tax_credit-1025513-1.html).

Zimmerman, Dennis. The Private Use of Tax-exempt Bonds: Controlling Public Subsidy of Private Activity.
Rep. Washington DC: Urban Institute, 1991. Print

END NOTES

- ¹ McCulloch v. Maryland. 1819. (<http://www.ourdocuments.gov/doc.php?doc=21&page=transcript#>).
- ² U.S. Const. Amend. X.
- ³ McCulloch v. Maryland.
- ⁴ U.S. Const. Amend. XVI
- ⁵ Introduction to Tax-exempt Bonds, Internal Revenue Service
- ⁶ Neumark, Michael H. "The Taxability of State and Local Bond Interest by the Federal Government." Heinonline: Law Library. Web. 15 July 2011. <http://heinonline.org/HOL/LandingPage?collection=journals>
- ⁷ Excerpts Relating to Legislative Procedure from the Congressional Budget Act of 1974. [2 U.S.C. 601]
- ⁸ Poterba, P. 604
- ⁹ Poterba, P. 604
- ¹⁰ Poterba, P. 610
- ¹¹ Poterba, P. 610
- ¹² Sugin, Linda. P.7-8
- ¹³ Sugin, Linda. P.38
- ¹⁴ Sullivan, Arthur; Steven M. Sheffrin (2003). Economics: Principles in action. Upper Saddle River, New Jersey 07458: Pearson Prentice Hall. pp. 15.
- ¹⁵ Fortune, Peter. P. 2-3
- ¹⁶ Fortune, Peter. P. 63
- ¹⁷ Sugin P. 39
- ¹⁸ Zimmerman P. 100
- ¹⁹ Fortune, P. 62
- ²⁰ Zimmerman, P. 141
- ²¹ Zimmerman, P.100
- ²² Sugin, P. 22
- ²³ Sugin, P. 23
- ²⁴ Internal Revenue Service, SOI Tax Stats - Individual Statistical Tables by Size of Adjusted Gross Income. Table 1.4 All Returns: Sources of Income, Adjustments, and Tax Items, by Size of Adjusted Gross Income, Tax Year 2009
- ²⁵ Bellows, Jonh. "The Case for Bringing Back BABs." U.S. Department of the Treasury. 18 May 2011. Web. 11 Aug. 2011.
- ²⁶ Center for American Progress. Bring Back BABs. By Jordan Eizenga and Seth Hanlon.
- ²⁷ MMD Scale, Thomson-Reuters, 10/08/2011
- ²⁸ U.S. Treasury Department. Treasury Analysis of Build America Bonds Issuance and Savings. 2011 Print
- ²⁹ Treasury Analysis of Build America Bonds Issuance and Savings. P.12
- ³⁰ Treasury Analysis of Build America Bonds Issuance and Savings. P.2
- ³¹ Treasury Analysis of Build America Bonds Issuance and Savings. P.5
- ³² Bernardi Securities Build America Bond Proprietary Research
- ³³ Bernardi Securities Build America Bond Proprietary Research
- ³⁴ Bernardi Securities Build America Bond Proprietary Research
- ³⁵ Treasury Analysis of Build America Bonds Issuance and Savings. P.11
- ³⁶ Treasury Analysis of Build America Bonds Issuance and Savings. P.8
- ³⁷ Bernardi Securities Build America Bond Proprietary Research
- ³⁸ Treasury Analysis of Build America Bonds Issuance and Savings. P.2
- ³⁹ Treasury Analysis of Build America Bonds Issuance and Savings. P.11
- ⁴⁰ Treasury Analysis of Build America Bonds Issuance and Savings. P.11
- ⁴¹ Fortune, P.62
- ⁴² Ang, Andrew, Bhansali, Vineer, Xing, Yuhang (May 2010). Build American Bonds

