US Municipal Strategy Special Focus

The Case for the Tax Exemption Remains Strong, Even As Threats Grow

- The municipal bond market has rallied strongly in recent months. At the same time, however, threats have increased that Congress might reduce access to this market for state and local issuers.

- These threats are, we believe greater than any time since 1986, when the Reagan Tax Reform Package was enacted with new restrictions for issuers and investors.

- The changes could take one of two forms: reduced access to the tax-exempt market or a reduction in the value of the tax exemption for investors.

- These changes could be incorporated in one of a variety of Congressional initiatives over the coming year, including fixes to sequestration, responses to the fiscal cliff, attempts to reduce the Federal deficit, or attempts to reform the tax code.

- We believe that the case for the tax exemption as a form of subsidy for state and local issuers remains extremely strong.

- Access to the market will be maintained only if market participants—particularly state and local government officials—are willing to fight for it.

- A particular concern is that estimates of the cost of the tax exemption from the Joint Committee on Taxation are, in our opinion, vastly overstated, and that estimates of the “efficiency” of the tax exemption are vastly understated.

- Historically, attempts to change the methodology JCT uses to score provisions of the tax code have proved to be futile.

- Cancellation of tax-exemption force issuers to place fully taxable bonds, incurring higher costs – the price that every American ultimately would have to pay.
The Case for the Tax Exemption Remains Strong, Even As Threats Grow

Executive Summary: The Case for the Tax Exemption of Municipal Bonds Remains Strong, Even as Threats Grow

The municipal bond market has rallied strongly in recent months. At the same time, however, threats have increased that Congress might curtail access to this market for state and local issuers, regardless of the outcome of the upcoming election. These threats are, we believe, greater than any time since 1986, when the Reagan Tax Reform Package was enacted with new restrictions for issuers and investors. The changes could take one of two forms: reduced access to the tax-exempt market or a reduction in the value of the tax exemption for investors. These changes could be incorporated in one of a variety of Congressional initiatives over the coming year.

We believe that the case for the tax exemption as a form of subsidy for state and local issuers remains extremely strong. The use of tax exempt financing is, in our view, a superior way of providing Federal subsidies for state and local projects, alone or in combination with Federal grants. Nevertheless, we think that access to the market will be maintained only if market participants—particularly state and local government officials—are willing to fight for it. In many instances cancellation of tax-exemption force issuers to place fully taxable bonds, incurring higher costs – the price that every American ultimately would have to pay.

A particular concern is that estimates of the cost of the tax exemption from the Joint Committee on Taxation are, in our opinion, vastly overstated, and that estimates of the “efficiency” of the tax exemption are vastly understated. It is extremely important that, in coming months state and governments, issuers, institutional investors and other participants in the municipal bond market make it clear to Congress that sharply curtailing access to or the value of the tax exemption would be a serious mistake, in the current environment of extremely limited availability of capital for needed state and local projects. In making the case that the tax exemption provides an attractive form of support for state and local projects, we believe that a number of factors should be considered including:

- The already severe shortfall in access to resources sufficient to fund our huge and growing backlog of infrastructure and related projects, and the role these projects play in supporting economic growth.

- The importance of a capital markets role in the sorting and selection of state and local projects.

- Certain perceptions regarding the importance of low-cost financing in the current environment. In particular, some members of Congress appear to believe that access to reduced funding costs for state and local projects leads to over-borrowing and over-spending. However, funding for new projects through the municipal bond market has plummeted, despite borrowing costs that are at or near historical lows across the yield curve, and across the credit spectrum. In the absence of Federal support for state and local projects, many needed projects will not be built.

- The huge challenges smaller issuers would face in a taxable fixed income market that is accustomed to dealing primarily with larger blocks of bonds.

The following “Special Focus” is intended to lay out many of the key arguments in the case to preserve access to tax-exempt financing for state and local governments.
The Greatest Threats to Tax Exemption Since 1986

Over the past three decades, the issue of state and local government access to tax exempt financing has come up in Congress numerous times. The most severe threat, of course occurred during development of the 1986 Tax Reform Act. That legislation ultimately incorporated a number of provisions that limited the benefit of the tax exemption to issuers and to a variety of institutional buyers, including commercial banks, property and casualty insurance companies, and nonfinancial corporations.

Under the Act, issuers were put under more severe restrictions with respect to use of proceeds, the number of advance refundings, and other limitations, and so-called "private activity" bonds were made subject to the Alternative Minimum Tax for investors who pay the AMT.

Nevertheless, for most of the period since Tax Reform, the tax-exempt municipal bond market has functioned as an extremely effective source of capital for a wide range of state and local projects. An exception occurred beginning in 2008 during the financial crisis, and in the Stimulus Bill, when Congress stepped in with a number of temporary sources of support for state and local projects, including, from April 2009 through 2010, subsidized but taxable Build America Bonds.

The municipal bond market has, in our view, rebounded quite well, and is once again functioning effectively as a source of state and local capital. However, for a variety of reasons, state and local governments now find that access to this important source of low-cost capital is once again at risk, as members of Congress seek to identify new sources of revenue and reduce spending in an environment of massive Federal deficits.

In our view, there is a real risk that access to tax exempt financing could be impaired, as members of Congress and their staff seek additional sources of revenue for the Federal Government that do not require an increase in individual or corporate tax rates. In this search, there are at least four themes that threaten to move in the direction of reducing either access to the tax exemption, or reducing the benefit derived from the tax exemption for investors who purchase municipal bonds:

- **The efficiency of the tax exemption**, which, as we discuss, relates to the methodology used by the Joint Committee on Taxation (JCT) to calculate how much of the benefit of the tax exemption goes to investors, rather than issuers. We are fortunate that the JCT recently published a detailed analysis of how they estimate the efficiency of the tax exemption. In our view, the methodology used by the JCT vastly understates the efficiency of the municipal bond market for a wide variety of reasons discussed below.

- "**Fairness.**" which suggests that the tradeoff whereby investors accept a lower yield in exchange for the tax exemption on their income is somehow "unfair," because the benefit falls heavily on high-wealth and high-income investors. In our view, if the municipal bond market is functioning effectively and efficiently as a source of capital for state and local governmental projects, questions related to fairness should subside. The reason is that, in a well-functioning municipal bond market, most of the benefit of the reduction in yield resulting from the tax exemption is passed through to state and local governments, rather than being offloaded to investors. The tradeoff then becomes one as to whether subsidies for state and local projects make sense, rather than whether they should be provided through the tax code.
- **Overspending**, under which a number of members of Congress have suggested that reducing or subsidizing borrowing costs for state and local governments leads these governments to borrow more than they ought to. In our view, the evidence against this perception is straightforward and compelling. According to Thompson Reuters, even as muni interest rates quite literally collapsed during 2011 and 2012, financing through the municipal bond market for new money projects declined sharply, from an average of $249 billion in 2003-10 to $146 billion in 2011 and an estimated annualized total of $137 billion in 2012\(^1\).

- **The general role and costs of tax expenditures.** Tax expenditures include any reduction in taxes owed by individuals or corporations built into the tax code to achieve a specific policy choice. Such tax expenditures include a variety of deductions, exemptions and tax credits. A variety of the plans that have been proposed, formally or informally, to reduce the deficit, are intended to make the tax code more efficient or reduce income tax rates include reductions in the amount of revenues the federal government "loses" to tax expenditures. These plans include Simpson Bowles, various proposals from the Administration including last year's proposed Jobs Bill, and most recently, a variety of suggestions from Governor Romney which would cap the benefit available to taxpayers from deductions in exchange for lower tax rates. Many of these proposals fall under the general category of "base broadening," whereby more income would be taxed, but at a lower average tax rate.\(^2\)

### What Form Could Threats Tax Exemption Take?

Proposed changes to the tax exempt status of municipal bonds generally take one of two forms that tend to fall to a degree, but not entirely, along party lines. Under the type of proposal primarily championed by the Administration, the value of the tax exemption could be greatly impaired through a cap on the value of exemptions and deductions. Under various Administration proposals, for example, the benefit of an exemption or deduction would be limited to its value in the 28% bracket, regardless of the maximum actual tax bracket. Under such a proposal, if the maximum tax rate were increased to 39.6%, current and future tax exempt securities would be taxed at 39.6% minus 28% or 11.6% (plus the impact of the Medicare tax).

As we discuss below, Administration proposals in this form have not limited future cuts in the value of exemptions and deductions to a drop to the 28% bracket. Indeed, a proposal advanced as part of the Administration's Jobs bill in 2011, discussed below, would have further reduced the maximum value of exemptions and deductions, if specified targets for deficit reduction were not achieved. As we discuss below, one of the most onerous aspects of proposals to date in this form is that, unlike nearly all prior changes to the tax code that affect the value of investments, they would be applied retroactively. In other words, the cap on the value of the tax exemption would apply to existing tax exempts as well as new bonds.

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1. This data excludes the new money portion of “combined” new money/refunding financings, which tend to lean heavily toward refundings.
It should be noted, however, there is still some important “good news” regarding the risk of a retroactive change in the value of the tax exemption of this magnitude: there continue to be many members of Congress who oppose the application of a provision such as this to outstanding bonds. Aside from the question of a breach of trust with investors, many of these members recognize that changing the value of an investment retroactively raises concerns that could come into play in terms of the value of future promises to investors. On the other hand, it is important to recognize that a prospective-only application of a provision such as this one doesn’t reduce tax expenditures by a significant amount.

Under some proposals, existing tax exempt securities would remain exempt, but some or all new state and local government securities could no longer be issued as tax exempts. It should be noted, for example, that under the Simpson-Bowles proposal, the tax exemption of new municipal bonds would have been eliminated entirely. While we discuss this topic in more detail below, our main point for now is that, as Congress attempts to deal with a variety of budget and deficit-related issues, the benefit of the tax exemption will be at risk, and that this risk will be on the table whenever budget issues are addressed, including:

- Modifications to Sequestration.
- Reduction or removal of the "Fiscal Cliff".
- Deficit reduction.
- Some version of tax reform.

It has been suggested that, because major tax reform is unlikely any time soon, the tax exemption may not be at substantial risk over the near to intermediate term. We do not agree. In our view, any major legislation intended to raise revenues, reduce the Federal deficit, deal with the sunset of existing reductions in tax rates or propose new reductions in tax rates could be a platform upon which the threat to tax-exempt financing becomes real and tangible. Indeed, while recent proposals to cap deductions did not include the tax exemption as well, we would not be surprised to see this additional form of “base broadening” considered at some point.

The Threat of Retroactivity

As noted above, one of the ways being considered to reduce the cost of the tax exemption, as well as deductions, would be to put a cap on the value of these deductions and exemptions as if the investor were in the 28% Federal tax bracket. In our view, the cost of this provision, if enacted, would be great for both investors in municipal bonds and issuers of tax-exempt debt3. Our key concerns include:

- The retroactive nature of the cap, which would put a retroactive tax on investments made under an understanding by investors that the income would remain tax exempt. Of course, investors accepted a lower yield on their bonds in exchange for the implied promise that the income would be tax-exempt at the federal level for the life of the bonds. One result of this retroactive change would, in our view, be a reduction in the market value of outstanding municipals of as much as $250 billion, as investors responded to a) the lower after-tax value of their income stream, b) uncertainty as to whether the amount of the tax might be increased again, and c) the perception of a breach of faith regarding the tax status of their bonds.

Given these concerns, we believe that, going forward, the cost of such a change to state and local governments would greatly exceed the amount of the tax, as investors insist on being paid for tax risk of indeterminate magnitude. Indeed, we would not be surprised to see borrowing costs for new municipal bonds come very close to those on fully taxable bonds of similar maturity and credit quality, thereby sharply reducing the value of the tax-exemption as a form of subsidy.

**Sharply Reduced Access to Tax-Exempt Financing**

An alternate method for reducing the cost of the tax exemption to the Federal Government is also likely to be considered and access to the tax-exemption for new financings could be curtailed. Since such proposals have been considered before, we believe we have some sense as to the “laundry list” of ways in which such access might be cut:

- Access to advance refundings could be curtailed or eliminated.
- So-called “private activity bonds”—those whose interest is subject to the Alternative Minimum Tax under current law, might lose access to the tax exempt market for new financings.
- Issuance by 501(c) (3) organizations, such as hospitals and universities, could be capped on a per-issuer basis. Previous proposals have included a $150 million cap, for example.

Other new restrictions might also be considered. As noted above, the proposal of the Simpson-Bowles Commission would have simply eliminated tax-exempt financing for all new projects.

**The Case for Maintaining Tax Exemption**

The case for maintaining access to tax-exempt financing for state and local projects is a strong one, in our view, but also one of some complexity. The following explains, briefly, the key positive factors that should be considered when the merits of the tax exemption are under scrutiny.

The case for subsidization of state and local projects: One of the issues that is likely to come up repeatedly as the role of the municipal bond market is discussed is whether state and local governmental projects should be subsidized to begin with. In our view, the answer is “yes.” There are a number of important reasons to answer in the affirmative. Perhaps the most important is the need for a response to the “infrastructure time bomb,” discussed below. Another key factor is simply the historical role of fiscal federalism in responding to funding needs for infrastructure and other needed projects—a role for the federal government as well as state and local governments in paying for transportation infrastructure, and to supplant state and local resources in terms of the need to respond to unfunded mandates such as clean water and clean air. During this period of extraordinarily tight state and local budgets and limited funding capacity, it seems clear that there needs to be a continuing federal role—in effect, a subsidy—despite the pressure to reduce the Federal deficit. The main question then is as to what types of subsidies are the most efficient. In the discussion that follows, we make the case that the tax exemption as a form of subsidy that effectively involves the capital markets is a strong one.

The need for a response to the "Infrastructure Time Bomb": A vast array of studies have suggested that a) the United States is falling farther and farther behind in terms of building, maintaining and rebuilding the US infrastructure and related
governmental projects that support economic activity. Projects in this category include surface transportation (roads, bridges, and tunnels), air transportation, water systems, wastewater treatment and disposal, sewage treatment and disposal, certain aspects of communications, improvements to educational capital plant, etc. Estimates of the shortfall are in the range of $2.5 trillion and growing. A basic truism of civil engineering is that, if infrastructure related projects are not repaired, maintained, and renewed as they get beyond their useful life, the cost of doing so expands geometrically - ultimately exploding if a project reaches the point where it must be replaced rather than maintained or repaired. The obvious question, then, is how to identify needed projects, prioritize them, and provide funding at the lowest possible cost. In our view, the tax-exempt bond market does a far better job at this than available alternatives; including proposals federally approved and controlled lists of projects such as those funded through a Federal infrastructure bank.

The benefits of tax exempt financing for state and local governments over available alternatives include:

- **Local control.** State and local governments are in the best position to identify and prioritize projects in terms of timing and utilization of scarce financial resources.

- **Effective sorting and selection of projects.** The United States has a long history of providing financial support for state and local projects through a Federal Agency —through the Bureau of Reclamation and the Army Corps of Engineers, through the Federal Highway Administration, and though provisions of ARRA, the 2009 stimulus bill. In virtually all of those cases, a Federal Agency working independently of the capital markets tended to be an ineffective substitute for state and local financing. Approval of projects tended to be extremely slow, poorly targeted, and highly subject to political pressures. By contrast, the capital markets—either through tax-exempt bonds or taxable, subsidized Build America Bonds, had extremely important advantages as providers of timely low-cost capital: a) projects are selected based upon the willingness of the issuer to undertake the project and make repayment on the debt issued for the project; b) issuers have a strong incentive to use proceeds efficiently in order to minimize annual debt service and maintain credit ratings; and c) there is never any incentive to accept a direct federal subsidy for a project simply because the money is there.

- **Reduced funding costs in a capital and capacity-short environment.** A key factor in terms of the amount of state and local projects that can be financed is the amount of level debt service that can be funded. Quite simply, the lower the annual level debt service that has to be paid per million dollars of debt outstanding, the larger the amount of borrowing that will fit in a given budget. Since lower borrowing costs translate to lower level debt service, the “subsidy” provided by the tax exemption is a key source of additional capacity to fund projects.

- **Timely funding of projects.** Projects could be funded and started specifically upon the state or local governmental entity’s timetable simply by going into the capital markets to borrow as funds are needed.

- **A method of providing subsidy that works effectively in leveraging direct Federal support.** We are not suggesting that that direct Federal monies provided as grants do not provide an important adjunct to the capital markets. Particularly in the aftermath of the Great Recession, there is not sufficient capacity to pay for...
need infrastructure and related governmental projects simply through borrowing, and state and local governments tend to have extremely limited capacity to pay for projects out of current budgets, as many did in the past. We simply suggest that Federal programs tend to work best when a state or local issuer, not a Federal government agency, is driving the process, and federal monies are combined with state or local borrowing in order to increase the combined capacity to provide funding for needed projects. The rapid turnaround and better targeting available through such an approach enhances its value as a support for new projects and for putting project builders back to work.

- **The need for a cost structure similar to the after-tax cost of corporate debt.**
  In our view, a factor that is often ignored when the question of the role of the tax exemption arises is the fact that it plays an important role in reducing the cost of state and local financing to a level similar to the after-tax cost of corporate debt. Since corporate bond interest is a deductible expense, its actual cost to the corporate borrower is the interest rate times (1 minus the corporate tax rate) or the borrowing cost times 65%. The net borrowing cost for a 4% corporate bond is actually 2.60%. If a state or local government has to borrow in the taxable bond market, the gross and net costs are the same, so a 4% bond actually costs 4%. In terms of US capital allocation, this distinction in net borrowing costs is an important one, and is one that is reduced dramatically by access to the tax exemption.

- **Tax credit bonds—an alternative that simply won’t work.** We have written extensively about our view that tax credit bonds simply cannot work effectively as a source of subsidized financing for state and local projects.  

- **BABs - a useful potential "partner" to the tax exemption, but facing virtually insurmountable hurdles.** In our view, the most efficient form of subsidy for state and local projects would be a combination of state and local access to the tax exemption, that also gives issuers the choice of a directly subsidized taxable bond along the lines of the Build America Bond program, but with the subsidy set at a significantly lower rate that under the previous BAB program (say, 23% or 25%, for example, instead of 35%). Such a combination would assure that state and local governments use the form of subsidy that is most efficient at a point in time, for a given project, in a given maturity range. Unfortunately, such a combination is unlikely for at least two reasons. First, there is widespread opposition to a BAB-like structure in Congress. Second, BABs appear to have lost some credibility with state and local issuers, given current plans to implement Sequestration, if this process is not eliminated, would apparently cut the value of the existing subsidy on BABs by 7.6%. Thus, there is no assurance for state and local governments that a level of subsidy, once accepted in exchange for the tax exemption, will remain intact over the life of the bonds.

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4 “Addressing Myths on Tax Credit Bonds”, G. Friedlander et al, Citi, 24 May 2012.
Analyzing The JCT’s Model of The Cost And Efficiency Of The Tax Exemption\(^5\)

On July 16, 2012, the Staff of the Joint Committee on Taxation (JCT) published a rather detailed analysis of its methodology for calculating the cost of the tax exemption on municipal bonds to the Federal government, while also adding a discussion of the cost of "direct-pay" subsidies such as those created in the Build America Bond program. This analysis is of particular importance right now, given the concerns noted above. If the estimate of the cost of the tax exemption is overstated, and the efficiency of the tax exemption as a method of providing subsidy is understated, then the policy case for continuing to support state and local funding through the tax-exempt bond market will be understated.

In our view, looking at the JCT analysis, this appears to be precisely what is occurring. It is extremely important that Joint Tax "get this right." A major overstatement of the cost of the tax exemption, which we believe the Joint Tax model leads to, could lead to, a policy decision that is simply incorrect, in terms of costs and benefits for the Federal/State/Local "complex." Interestingly, if anything the efficiency of the tax exemption has improved dramatically of late, as muni yields dropped sharply relative to taxable yields, as shown in Figure 1 and Figure 2.

Historically, and in this report, JCT Staff has always assumed that the tax-exempt market confers subsidy to state and local governments inefficiently, because the marginal buyer of a tax-exempt bond is often in a relatively low tax bracket, thereby conferring extra tax-exempt yield to all buyers of munis in higher tax brackets. If a 20-year muni yields 4.61% while an identical 20-year corporate yields 5.31% (as in the study, for 2009) then the implied marginal tax rate of the marginal investor in munis would be 13.2%, calculated simply by dividing the yield on the muni by the yield on the corporate and subtracting the result from 100%. In terms of the cost of the tax exemption specifically, we have identified at least five specific areas where we disagree strongly with their methodology as described in this recent report.

Our greatest concerns with the methodology used in the JCT analysis include:

1. **The index used to compare muni yields with corporate yields is not an appropriate index.**

   In the report, the Staff compares the yield with the Moody's long-term corporate index with the yield on the Bond Buyer 20, which it identifies as having an average AA1 rating. Actually, the Bond Buyer 20-Bond Index has an average rating of Aa2/AA; it is the 11-bond index that has the average AA1 rating. However, this is far from the greatest problem; the real concern is that both indices show yields that are far higher than market yields as shown in the Muni Market Data-Line triple-A yield curve. This yield curve is the standard benchmark for pricing tax-exempt bonds, and triple-A state municipals tend to price with yields extremely close to this latter index. On October 18, for example, the Bond Buyer’s 20-bond index yielded 3.68%, and the 11-bond index yielded 3.47%. At that same time, the yield on the 20-year Spot on the MMD yield curve was yielding 2.46%, a yield level we know to be extremely close to where triple-A paper in that maturity was actually being priced.

   Assuming that long-term triple-A corporates were yielding roughly 3.25% (the Citi BIG index for 20-year-plus corporates was at 3.37%), the Bond Buyer Index yield would suggest a marginal tax bracket of zero — the BBI was yielding

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\(^5\) **Municipal Market Comment, Citi, 27 July 2012.**
more than triple-A corporates. However, using the MMD 20-year "spot" gives a marginal tax bracket of 26.4%. However, needed adjustments do not end there. 20-year corporates typically have make-whole calls only, while munis have 10-year optional calls. We estimate that this difference is worth at least 10 basis points. Long-term triple-A corporates are extremely scarce, and they tend to be more liquid than triple-A munis.

Adding in scarcity value on corporates and the liquidity premium on munis and the yield on the MMD spot would be roughly 25 basis points lower, by our estimate. Adding 25 basis points to the differential provides a marginal tax bracket for the marginal buyer of munis of roughly 32% — a far cry from zero. Similar comparisons can be made for the entire period 1986-2009 shown in the JCT study: The assumed marginal tax bracket is highly sensitive to the index being used, and the use of the overly high-yielding BBI 20 simply results in too low of an effective marginal tax bracket.

2. Surprisingly, having assumed that the efficiency of the tax-exempt subsidy is very sensitive to the marginal tax bracket of the marginal buyer of munis, the report then goes on to suggest that this marginal tax bracket does not change as the supply of municipal bonds changes. They state:

"Generally tax-exempt bond revenue estimates are made under the assumption that interest rates, including taxable market rates or tax-exempt market rates, do not change as a result of changes in tax-exempt bond issuance." As we have discussed in Municipal Market Comment in considerable detail in recent weeks, in our view, this assumption is simply incorrect. AAA municipal bond yields are at 12-months lows from 15 years on out, and the reason, in our view, is clearly a shortage of supply relative to demand.

But, wait, the assumed inefficiency of the muni market derives directly from the "fact" that there are too many bonds being issued to be absorbed by high-bracket investors, thus forcing munis to be priced by an investor with a much lower tax bracket. If muni yields are supply-sensitive, then when supply is tight, the assumed marginal tax bracket of the marginal buyer should increase, and the efficiency of the tax exemption should increase as well. It seems virtually impossible that both sets of assumptions can be true simultaneously: high inefficiency of the tax exemption when there is too much supply, but no change in that inefficiency when supply declines. As we have discussed in some detail in recent reports, the net supply of municipal bonds has actually declined sharply over the past 5 quarters, and as a consequence, muni yields have declined relative to taxable yields. The result, clearly, has been an increase in the efficiency of the tax exempt mechanism, which shows in muni yields as a percentage of Treasury (Figure 1) and corporate bond yields (Figure 2).
Note that in both the 5-year and 10-year maturity, muni yields as a percentage of corporate bond yields are at or below 70%, implying a marginal tax rate for the marginal buyer of munis no lower than 30%. In the 5-year range, the implied marginal tax rate is actually abnormally high, as a result of a severe shortage of municipal bonds relative to demand.

3. **No consideration for the steeper slope of the muni curve.** In reality, the efficiency of the muni market based on the marginal tax bracket of the marginal buyer will tend to be greater on short and intermediate maturity bonds than on
This suggests that the muni market is an effective conveyor of subsidy for bonds with maturities 12 years and shorter.

The market contains an enormous amount of serial issues that are simply too small for typical buyers of taxable bonds to consider.

If the supply of tax-exempt bonds declines, a significant portion of the freed up assets will be invested in other tax-favored investments.

the long end. This results from the fact that, under most conditions, the muni yield curve is steeper than the corporate yield curve.

This pattern was borne out during the roughly 21 months when Build America Bonds were being issued. After the burn-in period for BABs, at a 35% subsidy rate, nearly all sizeable eligible munis 13 years or so or longer were done in the taxable bond market, while nearly all paper shorter than that was done in the tax-exempt market. This suggests that the muni market is an effective conveyor of subsidy for bonds with maturities 12 years and shorter, even at an assumed marginal tax rate of 35%. This is an extremely important result: if short and intermediate maturity tax-exempt munis are efficient relative to BABs subsidized at 35%, then the entire Joint Tax methodology must be questioned.

4. There is no consideration for the difficulty smaller issuers would face in a fully taxable market. With a very large proportion of tax-exempt bonds issued in serial maturity form, with issue size of $50 million or lower, the market contains an enormous amount of serial issues that are simply too small for typical buyers of taxable bonds to consider. In corporates, issues smaller than $100 million are considered “odd lots,” which tend to be less liquid and yield more. Consider, then, how difficult it would be for issuers of serial bonds in very small pieces to function in the corporate market; the efficiency of the tax exemption for smaller issuers tends to be very high indeed. Also, with more local issues facing credit concerns, we suspect that the small-issue premium when competing with corporate bonds will continue to trend higher.

5. Severe problems with the two-sector model used by JCT. The primary foundation of the Joint Tax analysis is a two-sector model in which an increase in muni bonds outstanding beyond the net amount that high tax bracket investors can absorb is purchased by investors in lower marginal tax brackets who otherwise would purchase taxable bonds with similar investment characteristics, taxed at a high tax rate. This model does not comport in any way with our real-world observations of how the muni market works. In our experience, the tax-exempt bond market functions in a four-sector environment: tax-exempt bonds, taxable bonds, equities, and other low-taxed instruments, and cash. The study dismisses the importance of equities as an alternative, but we believe that they are clearly wrong to do so. The pull of cash as a low-risk alternative to going out onto the yield curve is a highly important consideration, in our view. Muni yields tend to stay high as a percentage of taxable yields when high bracket individuals are reluctant to venture out along the yield curve, as they are at present. It is the pull of low-risk cash, rather than the role of low-bracket investors, that helps determine the level of muni yields relative to corporates, in our view. Cash instruments might be taxed at a high rate, but this would not add significantly to Treasury coffers when the yield on cash is tiny, as it is at present.

In addition, the study brushes off the potential role of equities as an alternative to municipal bonds, for reasons that it only explains briefly. Some very important work has been done on this topic, specifically in an analysis by James Poterba and Arturo Ramirez Verdugo: "Portfolio Substitution and the Revenue Cost of Exempting State and Local Government Interest Payments from Federal Income Taxes." As the authors note, if the supply of tax-exempt bonds available for purchase declines, then a significant portion of the assets freed up will be invested in equities or other tax-favored investments. To the extent that this would occur — and we believe that it is substantial — investors would be subject to the low tax rates currently charged on dividends and capital gains. The cost of the tax exemption in this case would thus be compared to...
Investments taxed at the current 15% rate, or a modestly higher rate if the Bush tax cuts do not survive in anything near their current form. However, the JCT study gives this logic short shrift. As noted in the study: "A model that allows investors to substitute equity, as well as debt, for tax-exempt bonds must not only account for the change in revenue as investors switch from taxable assets to tax-exempt assets, but also account for the change in revenue at the corporate level as retained earnings and dividend payments as dividends change... For these reasons, a model that allows changes in equity financed investments must account for the Federal tax revenue effect of this change on both investors and corporations..."

In our view there is a serious flaw in this logic: Unlike the taxable and tax-exempt bond markets, where it may make sense to view the pool of assets available to be purchased at a given price relationship as relatively fixed, the equity market is highly malleable, and it can change in aggregate value without generating any change in the pool of equities outstanding, or the amount corporations pay more or less in taxes as a result of new purchases of equities by investors. Quite simply, the equity market can absorb incremental investment funds simply by an increase in the value of stock outstanding. If $100 billion less in muni debt is issued over a specified period, and, say, $60 billion of that is absorbed into the equity market, the net effect would be to raise the value of existing equities in the stock market by roughly $60 billion. This result would not lead to any automatic change in Federal tax revenue as retained earnings or dividend payments at the corporate level.

To sum up, we believe that at least five key components of the Joint Tax analysis appear to be severely flawed:

- The indices used to compare corporates and munis vastly understate the efficiency of the tax exemption.
- The lack of assumed flexibility in efficiency of the muni market as net issuance ebbs and flows.
- Lack of consideration for the steeper slope of the muni yield curve, with munis tending to be more efficient than measured in maturities shorter than the 20-year "spot" used in their analysis.
- Lack of consideration for the impact of small issue size and the use of serial maturities when municipal issuers are required to compete in the taxable bond market.
- Finally, significant flaws in a model that includes only tax-exempt bonds and corporate bonds, and gives no consideration to either equities or cash as alternative investments.

**Conclusion**

In our view, the risk of changes in the tax-exempt status of municipal bonds is greater than at any time since 1986. The precise timing of any changes in this status, and the form that it might take, remain extremely uncertain. On the one hand, the benefit of the tax exemption for high-bracket investors might be curtailed. Such a provision would reduce the value of outstanding bonds, and cause a sharp increase in borrowing costs for new financings.
On the other hand, issuance of new municipal bonds could be cut in some fashion, incorporating one or more proposals that have been considered in the past. The result would be to force many issuers to come as fully taxable bonds, without any subsidy whatsoever, incurring higher costs - the price that every American ultimately would have to pay. This change would, we believe, increase the value of outstanding bonds, as shortages of bonds increase relative to supply.

In either case, the result would be to sharply increase the cost of borrowing for new state and local projects, and to sharply curtail the amount of subsidy provided by the Federal Government for state and local projects. It is too soon to make portfolio changes based upon the concerns raised above, but it is far from too soon for state and local governments and other market participants to express their concerns about the risks to the tax exemption to members of Congress.
Appendix A-1

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