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STATEWIDE

General Obligation Bond Sales Practices

November 2013

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CITIZENS SUMMARY

Findings in the audit of the General Obligation Bond Sales Practices

Background

When authorized by state law, Missouri's local governments, such as school districts and municipalities, may borrow money to finance capital and other projects by issuing general obligation (GO) bonds, which are guaranteed by the "full faith and credit" of the issuer since the entity can levy a general tax to make GO bond repayments.

In a competitive bond sale, the local government typically uses a financial advisor to help structure the bond issue, then requests fixed bids from underwriting firms to purchase its bonds, and the bonds are sold to the underwriter offering the lowest true interest cost bid.

In a negotiated sale, the local government selects an underwriter before the sale date and before the terms of the sale are fully determined. The underwriter also usually acts as the financial advisor, helping structure the bond issue. The entity and the underwriter may negotiate the underwriter's compensation and interest rate on the bonds, and the underwriter purchases the bonds and resells them to investors.

General Obligation Bond Sales

School districts and other local governments incur unnecessary borrowing costs when issuing GO bonds through negotiated sales rather than competitive bond sales. As noted in our three previous audits on this topic, local governments in Missouri continue to significantly favor negotiated sales. Between 2008 and 2011, an annual average of 88 percent of Missouri issues have been sold through negotiated sale, compared to a national average of 53 percent. Six of the eight surrounding states require all or most local entities to use competitive sales, but the majority of Missouri local governments have no restrictions on the method of sale for GO bonds.

While not all of the 538 GO bonds in our analysis population would meet the criteria for a competitive sale, a significant portion would. Theoretically, local governments could have potentially saved as much as $43 million over the life of bonds issued during the 4-year analysis period if competitive sales had been used. The increased borrowing costs are the result of a lack of competition as well as an inherent conflict of interest between underwriters who provide financial advice and the local government. An underwriter's incentive is to have the bonds carry a higher interest rate to make the bonds more attractive to investors, while an issuer's incentive is to keep interest rates low to minimize borrowing costs.

In September 2013, the Financial Industry Regulatory Authority fined a Missouri municipal underwriting firm $200,000 for providing improper gifts to local government clients who utilize the firm's services, including over $183,500 worth of professional sports tickets. This firm was involved in 258 bond issues in our analysis population, with 254 (99 percent) of those issues being negotiated sales.

Many local government officials lack an understanding of the bond issuance process and the expertise to evaluate and negotiate bond pricing proposal, and no state agency is charged with providing assistance or authoritative guidance to local entities regarding debt issuance. Training and guidance is instead being provided by underwriters. We continue to recommend that local governments and the General Assembly require the use of independent financial advisors, ensure local governments receive guidance on debt issuance, and require the use of competitive sales in appropriate circumstances.

Because of the compound nature of this audit report, no overall rating is provided.

General Obligation Bond Sales Practices
Table of Contents

State Auditor's Report 2

Introduction
- Background 4
- Scope and Methodology 5

Management Advisory Report - State Auditor's Findings
- General Obligation Bond Sales 8

Appendixes
- A Bond Analysis Data 15
- B Technical Advisor Biographies 25
- C Bond Analysis Methodology 26
- D Local Governments Interviewed 29
- E GFOA Resources 31
- F GFOA Method of Sale Matrix 32

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Honorable Jeremiah W. (Jay) Nixon, Governor
and
Members of the General Assembly
Jefferson City, Missouri

We audited general obligation bond practices within the state because of the importance of local governments incurring the lowest possible costs associated with the issuance of bonds. Missouri local governments issued approximately $4.4 billion in general obligation bonds during the 4 years ending December 31, 2011. This audit focused on general obligation bonds sold by school districts, cities, counties and other local governments pursuant to Section 108.170, RSMo. The objectives of our audit were to:

1. Determining the extent to which the negotiated method of sale has been used compared to the competitive method.

2. Determining the financial impact of the use of negotiated sales.

3. Determining the reasons why competitive sales have not been used more often by Missouri local governments.

4. Follow up on recommendations made in previous statewide audits of General Obligation Bond Sales Practices.

As noted in previous audits, we found Missouri's local governments have continued to significantly favor the negotiated sales method of issuing general obligation bonds. An analysis of $3.1 billion of bonds issued during the 4 years ending December 31, 2011, disclosed average interest cost savings of $88,000 per issue could be achieved if bond issues had been sold competitively. Public school administrators and other local government officials have continued to use negotiated bond sales and incurred unnecessary borrowing costs because (1) state law has not required public school districts and municipalities to conduct competitive sales of general obligation bonds and to obtain independent financial advisory services, and (2) the bond issuance process is complex, and local users often do not have sufficient knowledge of the process. In addition, recommendations from our previous reports have not been implemented.

We conducted our audit in accordance with the standards applicable to performance audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform our audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides such a basis.

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General Obligation Bond Sales Practices
Introduction

Background

Our audit focuses on sales practices for general obligation (GO) bonds by local governments, including, but not limited to, school districts and municipalities.

When authorized by state law, Missouri's local governments may borrow money to finance capital and other projects by issuing GO bonds. The repayment of these bonds obligates taxpayers for many years and requires the levy of taxes to fund repayments. Local governments including cities, counties, school districts, and special districts can issue various types of bonds including, but not limited to, GO, revenue, special assessment, and tax increment financing. Each of these bond types is repaid using different revenue streams and provides local governments useful financing options under different circumstances. However, only GO bonds are guaranteed by the "full faith and credit" of the issuer since the entity has the authority to levy a general tax to make GO bond repayments. Because of the strength of this guaranty, GO bonds are also typically highly rated by bond rating services such as Moody's Investors Service, Fitch Ratings, and Standard and Poor's Rating Service. In addition, Missouri school districts may enroll their bonds in the Missouri Health and Education Facility (MOHEFA) direct deposit state payment intercept program, which allows school districts to take advantage of the state's higher credit rating. As a result, GO bonds are considered desirable investments among conservative investors and are generally highly marketable.

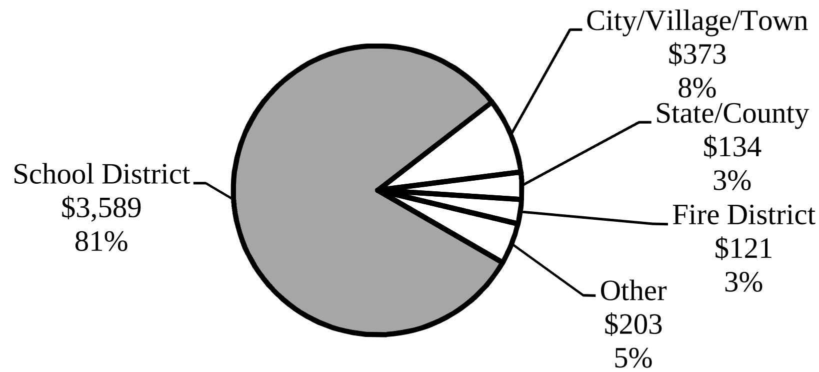
In a competitive bond sale, a local government typically uses a financial advisor to help structure the bond issue, then requests fixed bids from underwriting firms to purchase its bonds. The bonds are sold by the entity to the underwriter offering the lowest true interest cost (TIC)[1] bid, with bids being evaluated by the financial advisor. In a negotiated sale, an underwriter is selected in advance of the sale date and before the terms of the sale are fully determined. For the vast majority of negotiated sales in Missouri the underwriter acts as the financial advisor for the local government; helping structure the bond issue, before then becoming the underwriter for the issue. The entity and underwriter then may negotiate the underwriter's compensation and the interest rates on the bonds. Shortly after negotiations are completed (if any), the underwriter purchases the bonds from the entity and resells the bonds to investors.

[1] TIC is the "best practice" measure recommended for determining the interest cost of municipal bond issuance. It is the interest rate that sets the present value of interest and principal payments equal to the proceeds from the issue. Bill Simonsen and Mark Robbins, "Measuring Municipal Borrowing Costs: How Missing Cost Information Biases Interest Rate Calculations," *Public Budget & Finance*, Vol. 22., No. 1., Spring 2002, pp 31-45.

Issuer type

Local governments issued $4.4 billion in GO bonds statewide from January 2008 through December 2011. As shown in Figure 2, school districts issued 3.6 billion, or approximately 81 percent, of that amount.

Figure 2: Percentage of Missouri GO Bond Dollars by Type of Issuer (in millions) - 2008 through 2011



Source: Bloomberg Finance L.P. and State Auditor's office (SAO) bond registration data.

Scope and Methodology

In preparing for this review, we reviewed published literature on the topic of local government bond sales, and specifically on competitive versus negotiated sales. Much of the research reviewed is cited in the body of this report.

To analyze and quantify the differences between competitive and negotiated bond sales, we obtained the help of technical advisors. Dr. Bill Simonsen and Dr. Mark Robbins of the University of Connecticut, Department of Public Policy. The technical advisors have published research articles on the topic of public bond sales and public finance. For additional information on the technical advisors, see Appendix B.

Most public entities in Missouri issuing general obligation debt are required to register each issue with the SAO. To determine an overall population of GO bonds to analyze, we obtained the SAO bond registration database for all bonds issued between January 2008 and December 2011. Our database of bonds for that time frame included 795 bonds totaling $4.1 billion. To ensure our overall population included all bonds relevant to this review, we obtained a list of Missouri local government bond sales from Bloomberg Finance L.P. and compared it to the bonds in the SAO database. We identified 12 additional GO bonds not required to be registered with the SAO[2] totaling $339 million. We added those bonds to our database to come

[2] In accordance with Section 108.300, RSMo, registration is not required when bonds are issued by any county of the first classification or city or school district having a population of over sixty-five thousand inhabitants, as established by the last United States census. In addition, provisions of Section 108.240, RSMo, do not specifically include library or nursing home districts.

up with an overall population of 807 bonds, totaling approximately $4.4 billion.

We also verified the accuracy of the overall population data by comparing data recorded in the SAO bond registration system to copies of the official bond statements available on the Electronic Municipal Market Access system maintained by the Municipal Securities Rulemaking Board or by reviewing copies of bond transcripts maintained by the SAO. While performing this data verification, we documented additional information in each bond record to allow for further data analysis. The overall population data was provided to the technical advisors who used the data to perform a statistical analysis. The population of bonds was reduced to a total of 538 bonds, worth approximately $3.1 billion, for analysis. See Appendix A for the list of bonds used in the analysis, as well as an explanation of what bonds were excluded.

To ensure all relevant costs of issuance had been considered in our analysis, we obtained and included financial advisor cost information on all competitively sold issues in our test population. The technical advisors adjusted the TIC rates of those issues accordingly.

The technical advisors tested additional methodological concerns and addressed those concerns in accordance with prevailing standards of empirical public policy analysis. They determined analysis results to be statistically significant. For a more technical discussion of the methodology used by technical advisors, see Appendix C.

To further validate the methodology used by technical advisors, we contacted the University of Missouri's Truman School of Public Affairs to request a staff professor evaluate the analyses performed by the technical advisors. The professor concluded the technical advisors used widely accepted methods and tests. The professor further stated the studies' estimates that competitive sales result in 23.5 to 24.2 lower basis points than for negotiated sales and the present value savings can be viewed with confidence. See Appendix C for additional information on the methodology review.

To obtain an understanding of the services provided by underwriters during competitive and negotiated bond sales, we conducted interviews with representatives of four leading bond underwriters in the state. We ensured the underwriters interviewed provided services in competitive and negotiated sales and to a wide variety of local governments. We also discussed the role of independent financial advisors in the competitive process with three financial advisors that provided services to Missouri local governments.

To identify potential issues faced by issuers of public debt and to understand what factors contribute to the choices they make, we met with representatives of 14 school districts and 1 city. We selected locations from our analysis population of bonds to ensure the entities had been recently involved in several bond issues and included both competitive and negotiated sale methods. See Appendix D for a listing of locations visited along with the bonds issued by the entities. We contacted representatives of the Department of Elementary and Secondary Education, the Missouri Association of School Administrators, the Missouri Association of School Business Officials, the MOHEFA, and the Missouri Municipal League to identify any guidance provided or made available to local governments.

To document best practices in the issuance of public debt, we obtained publications issued by the Government Finance Officers Association (GFOA). See Appendix E for a summary of the publications reviewed.

We reviewed state laws of Missouri's eight surrounding states to determine how the GO bond sale laws in those states compared to Missouri. We specifically reviewed whether other states' laws restricted the method of sale of GO bonds. We also compared Missouri laws relevant to public debt issuance with the laws in the states of Kentucky, Tennessee and New York that provide local governments additional guidance or restrictions regarding the issuance of debt.

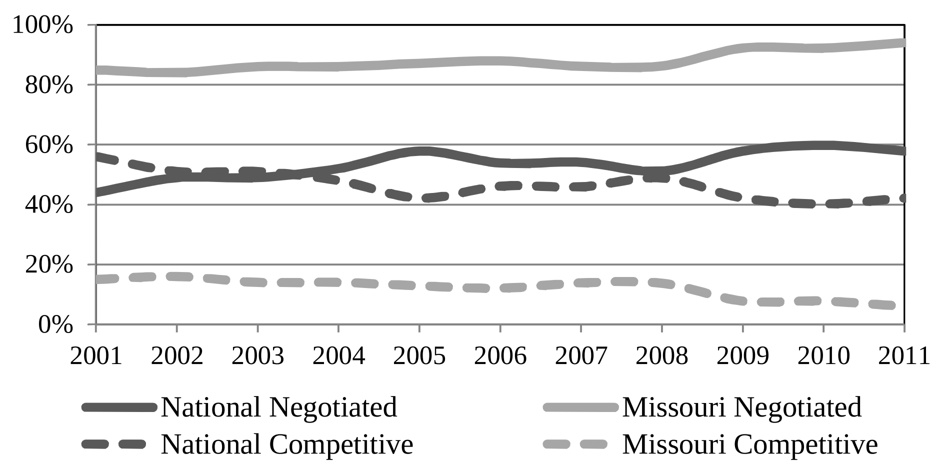
General Obligation Bond Sales

School districts and other local governments incur unnecessary borrowing costs when issuing general obligation (GO) bonds by heavily favoring negotiated sales rather than selling bonds through a competitive sale. This condition has occurred because state law does not require the use of a competitive process when issuing GO debt at the local level, and because local officials have not been provided sufficient guidance regarding bond sale methods and are not required to obtain independent financial advisory services. Having an underwriter serve in the dual capacity of financial advisor and underwriter, which normally occurs when bonds are sold through negotiated sale, creates a conflict of interest which is not in the best interests of the local government and results in increased borrowing costs.

Sales methods

As noted in our previous three audits on this topic,[3] local governments in Missouri continue to significantly favor the use of negotiated sales. Our analysis of 538 GO bond issues by Missouri local governments during the 4 years ending December 31, 2011 showed only 50 issues (9.3 percent) were sold through competitive sale. Figure 1 below shows the percentage of bonds issued by method of sale nationally and for Missouri issues from 2001 through 2011. During this time period, an average of 88 percent of Missouri issues have been sold through negotiated sale, compared to a national average of 53 percent.

Figure 1: Percentage of GO Bond Issues by Method of Sale - Missouri and Nationwide



Source: Bloomberg Finance L.P. and State Auditor's office (SAO) bond registration data.

Interest costs

Local governments often incur unnecessary interest costs as a result of the bonds not being sold through competitive sale. Our analysis of 538 GO bonds issued by Missouri local governments totaling approximately $3.1

[3] *Special Review of Bonds Issued by Political Subdivisions*, May 1995, report number 95-44; *Audit of General Obligation Bond Sales Practices*, January 2001, report number 2001-04; and *General Obligation Bond Sales Practices Follow-Up*, December 2005, report number 2005-101.

billion issued during the 4 years ending December 31, 2011, disclosed the average bond issue in the population was approximately $5.8 million, had a 12-year repayment schedule, and will incur an estimated $88,148 in unnecessary interest costs over the life of the bond. The regression analysis performed by the technical advisors disclosed local governments incurred interest rates[4] that were approximately 23.5 basis points[5] higher on negotiated sales than were paid on competitive sales. The figure below describes estimated savings that would likely have occurred if local governments had chosen the competitive sale method. Calculations were performed for bond principal amounts totaling $2, $5.8, and $10 million.

Estimated Savings for Issues Sold Through Competitive Bidding

Amount of Sale	$ 2,000,000	5,800,000	10,000,000
Savings potential[6]	$ 30,743	88,148	150,067
Annual savings	$ 2,561	7,345	12,506

Collectively, the potential interest savings statewide is significant. While not all of the GO bonds in our population would meet the criteria for a competitive sale (see Appendix F), a significant portion would. Theoretically, potential interest cost savings could approach $43 million[7] over the life of bonds issued during the 4 year analysis period.

Missouri law does not require GO bond sales by school districts, municipalities, and other political subdivisions to be issued through competitive sale. As a result, local governments utilized the negotiated sales method in over 90 percent of the GO bond issues in our analysis population.

Missouri law requires competitive sales of GO bonds for the Missouri Board of Fund Commissioners, joint fire departments, consolidated library districts, urban library districts, water conservancy districts, and watershed districts. All other entity types are allowed to sell GO bonds using either competitive or negotiated sales in accordance with Section 108.170, RSMo.

Other state laws

Our review of Missouri's eight surrounding states indicates Iowa, Kentucky, Oklahoma and Tennessee laws require all, or most, local entities to use competitive sales. Arkansas and Kansas statutes require most entities to use competitive sales, while other entities may choose the method of sale.

4 Interest rates were measured using the TIC rate of each issue.

5 One basis point is 1/100 of one percent; the average interest rate of negotiated sales in our analysis was 3.157 percent, while the average interest rate for competitive sales was 2.922, a difference of .235 percentage points.

6 Calculated assuming a 12-year repayment schedule with equal principal payments and semi-annual interest payments. These characteristics are considered typical for the population analyzed.

7 Calculated by multiplying average issue savings of $88,148 by 488 negotiated bond sales in our population (see Appendix A).

Illinois and Nebraska laws do not require bonds to be sold by competitive sale. According to Bloomberg municipal bond data, 76 percent of the bonds issued in the 6 states that restrict the method of sale have been sold competitively from 2005 through 2011. Comparatively, only 15 percent of the GO bonds issued in Missouri, Illinois and Nebraska, which do not restrict the method of sale, have been issued by competitive sale.

Competition

Our analysis concludes increased competition leads to lower interest costs. According to our analysis, each bid received on a competitive bond sale resulted in a 3.9 basis point reduction in the interest rate paid on the bond issue. The number of bids received on competitive sales in our analysis population averaged 7.6 bids per issue, with 40 percent of the competitive sales in our analysis population receiving 9 bids or more.

According to Government Finance Officers Association (GFOA)[8] guidance, the primary advantages of issuing GO bonds competitively include (1) open competition provides some assurance that bonds have been sold at the lowest interest rates, and (2) competition promotes the appearance of an open and fair process. Guidance further states competitive sales of issuances with standard debt structures, such as GO bonds, and local governments with good credit ratings (greater than an A rating) can produce very favorable interest rates. Changing state law to require local governments to utilize the competitive sale method for highly rated GO bond issues would result in reduced borrowing costs at the local level. GFOA guidance on factors to consider when making a bond sales method decision is documented at Appendix F.

Conflicts of interest

The increased borrowing costs incurred by local governments utilizing the negotiated sale method are a result of the inherent conflict of interest that exists between underwriters who provide financial advice and the local government. The role of an underwriter is to purchase bonds from the issuer and sell them to investors. An underwriter's incentive is to have the bonds carry a higher interest rate to make the bonds more attractive to investors, while an issuer's incentive is to keep interest rates low to minimize borrowing costs. As a result, the underwriter cannot objectively represent the interests of both parties during negotiated sales. For this reason, it is important that local governments do not rely on the underwriter of the bond issue to also provide financial advisory services.

Independent advice

The majority of issuers do not obtain independent financial advice. Officials from eight of the thirteen local governments interviewed that used negotiated sales stated they did not consider the use of a competitive sale, which indicates the underwriters who provided their financial advice were

[8] *A Practitioner's Guide To Effective Debt Management: Competitive v. Negotiated: How to Choose the Method of Sale for Tax-Exempt Bonds*, GFOA, 1994, p. 3.

not presenting all options available. In the event a negotiated sale is used, an independent financial advisor can still provide value to the issuer by helping evaluate the underwriter's pricing of the bonds and fees. However, our review of Missouri bond data shows independent financial advisors are rarely used during negotiated bond sales. Of the 355 different local governments issuing GO bonds via a negotiated sale during the 4 years ending December 31, 2011, only 16 hired independent financial advisors to help negotiate bond terms with underwriters.

Based on information presented in our prior GO bond sales report, officials in the City of Grandview stated they now recognize that a conflict of interest exists when independent financial advice is not obtained. As a result, the City of Grandview now requires the use of competitive sales on all bond issues. However, based on interviews with other local government officials, not all of them recognize that a conflict exists, or if they do it is not considered significant. Local government officials cite trust and familiarity with the underwriter as the primary reasons for not hiring an independent financial advisor. Local governments also cited the potential cost of an independent financial advisor as a barrier. Underwriters who provide financial advice often market their financial advice as being "free," however, their compensation is rolled into the bond financing and is typically less transparent. In contrast, the cost of an independent financial advisor would need to be separately approved by the entity's governing body.

Underwriter sanctions

The Financial Industry Regulatory Authority (FINRA) fined a Missouri municipal underwriting firm $200,000 in September 2013 for providing improper gifts to local government clients who utilized the firm's services. According to the FINRA report, in 598 instances the firm provided 2,143 professional sports tickets, with a value of $183,546, to its local government clients. A firm member also offered the tickets to potential clients at a Missouri School Board Association conference, where the firm was an exhibitor, according to the FINRA report. This firm was involved in 258 of the 538 bond issues (48 percent) in our analysis population, with 254 (99 percent) of those issues being sold through negotiated sale.

According to GFOA literature,[9] to minimize conflicts of interest and promote objectivity, local governments should avoid selecting a firm to serve both as financial advisor and underwriter of a bond issue. In addition, GFOA guidance states the independent financial advisor's ability to provide an objective and informed review is essential to the process.

[9] J.B. Kurish and Patricia Tigue, *An Elected Official's Guide to Debt Issuance*, 2d ed, GFOA, Chicago, IL, 2005, p. 23.

Local government guidance and training

Although the bond issuance process is complex and requires knowledge of bond markets, financial calculations and legal requirements, no state agency is charged with providing assistance or authoritative guidance to local entities regarding debt issuance. Interviews with local governments, underwriters and other stakeholders determined local officials are not familiar with best practices published by leading authorities, instead these officials rely on underwriters to guide them through the process. In addition, training on the bond issuance process is provided at various administrators' association meetings, and is often taught by representatives of the underwriting firms.

Issuer understanding of process

Based on interviews with local government finance officials, there is a clear lack of understanding of the bond issuance process. Eight of the thirteen local governments that used the negotiated sale method were not aware a conflict of interest existed, had not implemented procedures to mitigate the conflict of interest, or believed that the conflict of interest did not apply to their entity's negotiated bond sales. In addition, one school official indicated the district did not realize it could hire a financial advisor and also did not know the initial fees and costs offered by an underwriter in a negotiated sale could be negotiated. A school official from another district believed the district had used a financial advisor to competitively issue all bond issues; however, half of the district's bond issuances were sold by negotiated sale directly to the district's underwriter. Finally, a school official from a third district believed the district's bonds had been competitively sold when, in fact, they were sold to the district's underwriter using a negotiated sale.

Issuer expertise

Many local government officials lack the expertise to evaluate and negotiate bond pricing proposals from underwriters. Officials from eleven of the thirteen local governments interviewed stated they relied on comparative sale data provided by the underwriter to evaluate the negotiated bond pricing proposal. However, based on our review of comparable bond data provided to the interviewed local governments, the majority of the data did not provide TIC information to evaluate the comparable bonds. One local government official interviewed was provided data from two comparable bonds, but the official did not recognize that the TIC for the sales presented were approximately 100 basis points (or 1 percentage point) lower than the price proposed. In addition, we noted bonds presented as comparable that were issued more than one week apart, had different tax exempt statuses, were debt issues other general obligation debt, and had very different call features. One underwriter provided comparable sale information after the bonds had been sold, long after the information could be used to evaluate the proposal.

Other state laws

Our review of the bond related laws of the eight states surrounding Missouri provide varying levels of requirements, advisory guidance, and oversight for bonds issued by local entities.

In addition to laws that require competitive sales, we noted states with additional requirements designed to ensure debt is issued responsibly. For example, Tennessee created a state-level bond authority to provide assistance, guidance, and oversight to local governments and to collect bond data. The Tennessee State Funding Board is part of the State Comptroller's office, and is authorized to establish policies and procedures for the administration of state laws concerning bond and note issues by counties, municipalities, and utility districts. The board is also authorized to collect bond data from local governments and develop model bond policies for use by local governments. In some cases, the issuing entity is not authorized to borrow money unless it first obtains approval from the State Funding Board. Similarly, New York's Office of State Comptroller reviews public debt issuances to ensure the sales method is appropriate.

In addition, Kentucky's Department of Local Government provides oversight of local public debt and has a state debt officer who provides advice and conducts training to help local governments obtain the lowest interest costs on public debt.

GFOA guidance[10] states that even large local governments cannot be expected to have adequate in-house expertise to successfully structure and market bonds. The level of expertise and experience required to adequately negotiate a bond sale is also listed as one of the key negative aspects of issuing bonds through a negotiated sale. Providing local governments access to state-level, independent guidance would help ensure officials are more informed about the bond issuance process and will help ensure the best interests of the public is served.

Status of prior recommendations

While our current audit is the most comprehensive because it analyzes 4 years of general obligation issues, each of our three previous audits of statewide GO bond sales practices concluded the use of the negotiated sales method resulted in increased borrowing costs for the issuer. Our 2005 audit, concluded that, on average, competitively sold bonds achieved borrowing cost savings of approximately $78,000 per bond issue over bonds sold through negotiated sale, an amount that is comparable with our current estimate.

Prior recommendations to the General Assembly included revising Section 108.170, RSMo, to require (1) the use of a competitively selected financial advisor, who is independent of the bond sale, when issuing public debt, (2) local governments to use the competitive method of sale for GO bond issues with a credit rating of "A" or higher, (3) the use of a competitively selected underwriter, when appropriate, for necessary negotiated sales. We also

[10] James C. Joseph, *Debt Issuance and Management: A Guide for Smaller Governments*, GFOA, Chicago, IL, 1994, p. 37.

recommended the Department of Elementary and Secondary Education (DESE) provide guidance to public school entities regarding the preferred use of competitive bond sales and the use of independent financial advisors.

As of April 2013, none of the above recommendations had been implemented. According to a DESE official, the department does not have a position on the matter of school districts issuing GO bonds through the competitive or negotiated sale methods and the decision is made at the local district's discretion.

Recommendations

School district and other local governments:

1.1 Obtain the services of a financial advisor who is independent from the underwriting function, regardless of the method of sale used.

1.2 Utilize the competitive method of sale when issuing GO bonds, particularly when the issuing entity maintains a credit rating of 'A' or higher.

The Missouri General Assembly revise Section 108.170, RSMo, and other laws as applicable to:

1.3 Require local governments to use financial advisors that are independent of the bond sale.

1.4 Require local governments to use the competitive method of sale when issuing GO bonds when the issuing entity maintains a credit rating of 'A' or higher.

1.5 Designate a state agency to develop authoritative guidance regarding debt issuance at the local level, and provide guidance to local officials to ensure public debt decisions are in the best interests of the issuing entity.

Bond Analysis Data

The table below lists the bonds used by the technical advisors (see Appendix B) in their analysis of general obligation bond sales in the state. The data includes 538 of the 807 bonds issued between January 2008 and December 2011. The data was obtained from the SAO bond registration data and Bloomberg Finance L.P. As recommended by the technical advisors, the analysis excluded 228 bonds with unusual financing structures (for example bonds subsidized with federal stimulus funding, issued with capital appreciation components, and issued by neighborhood improvement districts), 35 short-term bonds with maturities less than 3 years, 5 taxable bonds, and 1 bond with inconsistent borrowing costs as compared to the remainder of the population.

	Competitive Sales		Negotiated Sales	
Issuer Name	Issue Count	Issue Amount	Issue Count	Issue Amount
Adair County R-II School District			1	$ 560,000
Advance R-IV School District			1	1,500,000
Arcadia Valley R-II School District			1	4,462,825
Archie R-V School District			1	1,000,000
Ash Grove R-IV School District			3	3,599,735
Aurora R-VIII School District			1	3,980,000
Avenue City R-IX School District			2	2,175,000
Bayless Consolidated School District			1	6,840,000
Belton School District No. 124			3	16,285,000
Bismarck R-V School District			2	2,220,000
Black Jack Fire Protection District	1	$ 2,500,000	1	2,949,998
Blair Oaks R-II School District			2	10,325,000
Bloomfield R-XIV School District			1	839,168
Blue Eye R-V School District			1	2,200,000
Bolivar R-I School District			1	2,975,000
Boone County			2	521,000
Boonville R-I School District			3	13,045,000
Branson R-IV School District			1	9,150,000
Brentwood School District			1	6,780,000
Brookfield R-III School District			3	4,945,000
Brunswick R-II School District			1	615,000
Butler R-V School District			1	6,145,000
Camdenton R-III School District			1	3,950,000
Cameron R-I School District			1	2,130,000
Campbell R-II School District			1	1,950,000
Canton R-V School District			1	1,085,081

Issuer Name	Competitive Sales Issue Count	Competitive Sales Issue Amount	Negotiated Sales Issue Count	Negotiated Sales Issue Amount
Cape Girardeau County R-II School District			1	4,785,000
Cape Girardeau School District No. 63			3	26,380,000
Carl Junction R-I School District			3	17,535,000
Carthage R-IX School District			1	4,060,000
Cass County			1	10,000,000
Cass County R-II School District			2	36,675,000
Central Cass County Fire Protection District			1	510,000
Central Jackson County Fire Protection District			1	5,000,000
Central R-III School District			4	14,219,049
Central St Charles County Fire and Rescue District	1	6,125,000		
Chadwick R-I School District			1	825,000
Chaffee R-II School District			1	1,065,000
Christian County R-III School District			2	3,306,000
City of Avondale			1	165,000
City of Ballwin			1	3,695,000
City of Bellefontaine Neighbors			1	5,500,000
City of Belton			2	18,730,000
City of Blue Springs			2	6,030,000
City of Burlington Junction			1	250,000
City of Carl Junction			1	4,500,000
City of Chesterfield	1	5,255,000		
City of Clayton	1	3,950,000		
City of Des Peres			1	6,170,000
City of Fair Grove			1	500,000
City of Ferguson	1	8,000,000		
City of Gasconade			1	245,000
City of Grain Valley	1	6,940,000		
City of Grandview	2	7,550,000		
City of Greenwood			1	1,285,000
City of Kansas City	1	40,000,000	2	87,190,000
City of Kirkwood			1	4,185,000
City of Lake St. Louis			1	7,230,000
City of Lake Winnebago			2	460,000
City of Lee's Summit	1	12,000,000		
City of Lilbourn			1	175,000
City of Lone Jack			1	999,000

Issuer Name	Competitive Sales Issue Count	Competitive Sales Issue Amount	Negotiated Sales Issue Count	Negotiated Sales Issue Amount
City of Maryville			1	4,220,000
City of Northwoods			1	2,500,000
City of Oak Grove			2	9,025,000
City of Owensville			1	1,185,000
City of Raymore	1	2,515,000		
City of Richmond			1	2,355,000
City of Rock Hill			2	5,250,000
City of Springfield	1	3,335,000		
City of St. James			2	7,400,000
City of St. Peters	3	23,670,000	1	3,790,000
City of Weatherby Lake			1	1,280,000
City of Webb City			1	5,895,000
City of Webster Groves	1	13,000,000		
City of Woodson Terrace			1	1,040,000
Clark County R-I School District			1	2,250,000
Clarksburg C-2 School District			1	600,000
Clay County R-I School District			2	6,165,000
Clayton School District			2	24,750,000
Clearwater R-I School District			1	1,005,000
Clever R-V School District			1	2,000,000
Clinton County R-III School District			2	7,695,000
Cole Camp R-I School District			1	1,420,000
Cole County R-I School District			2	5,520,788
Cole County R-V School District			2	4,084,793
Columbia School District	4	61,625,000	1	48,275,000
Community Fire Protection District of St. Louis County	1	2,680,000		
Community R-VI School District			2	3,025,000
Concordia R-II School District			1	750,000
Cooper County Fire Protection District			1	1,280,000
Cooper County R-IV School District			1	315,000
Cottleville Community Fire Protection District	1	3,120,000		
Crawford County R-I School District			1	500,000
Crawford County R-II School District			1	5,000,000
Crocker R-II School District			1	1,065,000
Crystal City School District No. 47			3	4,655,000
Davis R-XII School District			1	200,000

	Competitive Sales		Negotiated Sales	
Issuer Name	Issue Count	Issue Amount	Issue Count	Issue Amount
Delta R-V School District			1	2,600,000
DeSoto School District No. 73			2	6,786,056
Dexter R-XI School District			2	8,775,000
Drexel R-IV School District			1	1,280,000
Dunklin R-V School District			2	13,960,000
El Dorado Springs R-II School District			1	1,850,000
Eldon R-I School District			2	11,800,000
Eminence R-I School District			1	200,000
Eureka Fire Protection District			1	3,600,000
Excelsior Springs School District No. 40			2	6,810,000
Fair Play R-II School District			1	1,270,000
Farmington R-VII School District			1	8,545,000
Fayette R-III School District			1	1,750,000
Festus R-VI School District			1	11,925,000
Florissant Valley Fire Protection District	1	2,685,000		
Fordland R-III School District			1	1,465,000
Fort Osage Fire Protection District			1	2,500,000
Fort Osage R-I School District			2	20,985,000
Fort Zumwalt School District			2	4,799,950
Francis Howell R-III School District			4	78,530,000
Fulton Public School District No. 58	3	15,377,575		
Galena R-II School District			1	1,750,000
Gasconade County R-II School District			1	7,100,000
Grain Valley R-V School District			4	12,565,000
Grandview C-4 School District			4	20,405,000
Grandview R-II School District			3	8,668,822
Green City R-I School District			1	813,811
Greene County R-II School District			2	7,955,000
Greene County R-III School District			2	8,452,000
Greenfield R-IV School District			1	750,000
Greenville R-II School District			1	4,000,000
Halfway R-III School District			1	1,500,000
Hallsville R-IV School District			1	2,120,000
Hancock Place School District			4	19,235,000
Hannibal School District No. 60			2	10,065,000
Harrisburg R-VIII School District			2	3,505,000

Issuer Name	Competitive Sales Issue Count	Competitive Sales Issue Amount	Negotiated Sales Issue Count	Negotiated Sales Issue Amount
Hartville R-II School District			1	1,440,000
Henry County R-I School District			2	2,071,246
Hermitage R-IV School District			1	900,000
Hickman Mills C-1 School District			2	24,650,000
Hickory County R-I School District			1	1,150,000
Higbee R-VIII School District			1	1,200,000
Hillsboro R-III School District			3	14,765,449
Holcomb R-III School District			1	400,000
Holden R-III School District			1	2,715,000
Hollister R-V School District			1	2,518,938
Humansville R-IV School District			1	1,300,000
Independence School District			4	89,095,000
Jackson County C-2 School District			2	29,385,000
Jackson County R-IV School District			2	113,945,000
Jackson County R-VII School District			2	57,235,000
Jefferson Co R-VII School District			2	11,000,000
Jefferson County C-6 School District			2	17,060,000
Jennings School District			1	5,600,000
Johnson County R-VII School District			1	620,000
Junior College District of East Central Missouri			1	9,800,853
Kearney Fire and Rescue Protection District			1	3,500,000
Kennett School District No. 39			1	7,000,000
King City R-I School District			1	871,940
Kingston K-14 School District			2	1,590,000
Kingsville R-I School District			1	1,475,000
Kirbyville R-VI School District			1	1,315,000
Kirksville R-III School District			2	21,355,000
Kirkwood R-VII School District			1	4,980,000
La Monte R-IV School District			1	835,000
La Plata R-II School District			1	2,050,000
Ladue School District			1	2,245,000
Lafayette County C-1 School District			1	2,875,000
Lakeland R-III School District			2	3,330,000
Lawrence County R-IX School District			1	4,350,000
Lawson R-XIV School District			1	1,800,000
Lebanon R-III School District			1	6,490,000

Issuer Name	Competitive Sales Issue Count	Competitive Sales Issue Amount	Negotiated Sales Issue Count	Negotiated Sales Issue Amount
Liberty Public School District No. 53			2	74,290,000
Lincoln County R-II School District			3	6,725,000
Lincoln County R-III School District			9	49,670,000
Lindbergh R-VIII School District	3	24,465,000		
Livingston County Library District			1	3,400,000
Lockwood R-I School District			1	1,775,000
Logan-Rogersville R-VIII School District			1	2,435,000
Lone Jack C-6 School District			1	700,000
Lonedell R-XIV School District			1	712,061
Lotawana Fire Protection District			1	750,000
Louisiana R-II School District			1	2,600,000
Macks Creek R-V School District			1	720,000
Malden R-I School District			1	1,690,000
Malta Bend R-V School District			1	490,000
Mansfield R-IV School District			1	2,225,000
Maplewood Richmond Heights School District			3	11,219,981
Marceline R-V School District			1	1,360,000
Maries County R-I School District			1	2,200,000
Marshfield R-I School District			1	712,000
Maryville R-II School District			2	11,685,000
McDonald County R-I School District			2	11,385,000
Meadow Heights R-II School District			2	1,325,000
Meadville R-IV School District			1	955,000
Meramec Valley R-III School District			2	13,340,000
Metro West Fire Protection District of St. Louis County			1	5,045,000
Metro-North Fire Protection District of St. Louis County	1	2,000,000		
Mexico School District No. 59			6	15,377,596
Mid Camden County Fire Protection District			1	3,635,000
Mid St. Louis County Fire Protection District	2	3,405,000		
Mid-Buchanan County R-V School District			1	3,630,000
Miller County R-III School District			1	490,000
Miller County Nursing Home District			1	1,430,000
Mineral Area Community College District			2	13,950,000
Missouri Board of Fund Commissioners	3	105,660,000		
Moberly School District No. 81			1	16,200,000
Monett R-I School District			3	10,416,075

Issuer Name	Competitive Sales Issue Count	Competitive Sales Issue Amount	Negotiated Sales Issue Count	Negotiated Sales Issue Amount
Moniteau County R-I School District			2	8,155,000
Moniteau County R-VI School District of Tipton			1	5,465,000
Monroe City R-I School District			1	1,200,000
Mt. Vernon R-V School District			2	4,495,000
New Bloomfield R-III School District			4	6,490,000
New Franklin R-I School District			2	1,775,000
New Haven School District			1	2,800,000
New Madrid County R-I School District			1	4,175,000
Newburg R-II School District			1	990,000
Nixa R-II School District			3	10,887,934
Norborne R-VIII School District			2	920,000
Normandy School District			4	31,500,000
North Callaway County R-I School District			1	1,870,000
North Kansas City School District No. 74			3	38,415,000
North Nodaway County R-VI School District			1	650,000
North Platte County R-I School District			1	3,750,882
North Shelby School District			1	486,330
North St. Francois County R-I School District			6	26,522,529
Northeast Nodaway County R-V School District			1	965,000
Northeast Randolph County R-IV School District			1	970,000
Northwest R-I School District of Jefferson County			3	22,260,000
Oak Grove R-VI School District			2	20,000,000
Oak Ridge R-VI School District			1	1,270,000
Odessa R-VII School District			2	16,000,000
Oran R-III School District			1	1,690,000
Orchard Farm R-V School District	1	9,000,000		
Orrick R-XI School District			1	2,400,000
Osage County R-II School District			2	4,380,000
Osborn R-0 School District			1	510,000
Otterville R-VI School District			1	410,000
Ozark R-VI School District			4	24,320,000
Palmyra R-I School District			1	7,000,000
Paris R-II School District			1	720,000
Park Hill School District			2	14,595,000
Parkway C-2 School District			3	93,780,000
Pattonsburg R-II School District			1	905,000

Issuer Name	Competitive Sales Issue Count	Competitive Sales Issue Amount	Negotiated Sales Issue Count	Negotiated Sales Issue Amount
Pattonville Fire Protection District	4	18,000,000		
Pettis County R-V School District			1	790,000
Pierce City R-VI School District			2	4,375,000
Pike County R-III School District			1	5,000,000
Pilot Grove C-4 School District			1	1,030,000
Platte County R-III School District			4	27,415,000
Pleasant Hill R-III School District			3	11,900,000
Pleasant Hope R-VI School District			1	900,000
Polo R-VII School District			1	1,290,000
Princeton R-V School District			2	2,495,000
Purdy R-II School District			1	1,600,000
Putnam Co R-I School District			2	2,810,023
Puxico R-VIII School District			1	2,160,000
Ralls County R-II School District			1	2,650,000
Rich Hill R-IV School District			2	2,695,000
Ritenour School District			3	34,955,000
Riverview Fire Protection District			1	3,000,000
Riverview Gardens School District			2	10,089,921
Robertson Fire Protection District	3	6,275,000		
Rock Port R-II School District			1	2,029,046
Rockwood R-VI School District	2	83,800,000	3	67,315,000
Roscoe C-1 School District			1	235,000
Santa Fe R-X School District			1	1,900,000
Schuyler Co R-I School District			1	2,405,000
Scott City R-I School District			1	2,410,000
Scott County Central School District			2	2,275,000
Shawnee R-III School District			1	425,000
Sherwood Cass R-VIII School District			1	2,890,000
Sikeston R-VI School District			1	3,190,000
Silex R-I School District			2	1,980,000
Slater School District			2	1,581,119
Smithville Area Fire Protection District			1	2,500,000
Smithville R-II School District			1	6,500,000
Sni-Valley Fire Protection District of Jackson County			2	3,900,000
South Metropolitan Fire Protection District of Cass County			1	5,690,000
Southern Boone County R-I School District			4	12,645,000

Issuer Name	Competitive Sales Issue Count	Competitive Sales Issue Amount	Negotiated Sales Issue Count	Negotiated Sales Issue Amount
Southern Reynolds County R-II School District			1	910,000
Southwest R-V School District			2	3,825,000
Spokane R-VII School District			1	2,095,000
Springfield R-XII School District			2	15,970,000
St. Louis Transitional School District			2	77,650,000
St. Charles Community College			1	21,770,000
St. Charles County Ambulance District	1	3,265,000		
St. Charles School District			2	11,265,000
St. Clair R-XIII School District			1	2,550,000
St. James R-I School District			2	6,090,000
Ste. Genevieve County R-II School District			1	1,610,000
Stewartsville C-2 School District			1	437,317
Stockton R-I School District			1	8,015,000
Stone County R-IV School District			3	12,292,356
Strafford R-VI School District			1	3,700,000
Strain-Japan R-XVI School District			1	200,000
Strasburg C-3 School District			1	935,000
Sturgeon R-V School District			2	4,550,000
Sullivan School District			2	8,885,000
Sunrise Beach Fire Protection District			1	1,150,000
Sunrise R-IX School District			2	2,053,788
Sweet Springs R-VII School District			1	1,395,104
Taneyville R-II School District			1	1,000,000
Thayer R-II School District			1	2,600,000
Trenton R-IX School District			1	2,370,000
Union R-XI School District			3	27,325,000
University City School District			3	34,374,866
Valley Park School District			2	3,915,000
Van-Far R-I School District			1	1,265,000
Verona R-VII School District			2	2,950,000
Warren County R-III School District			2	11,200,000
Warrensburg R-VI School District			2	5,030,000
Washington County R-III School District			1	5,475,000
Washington School District			1	2,650,000
Webb City R-VII School District			1	5,000,000
Webster Groves School District			1	6,955,000

	Competitive Sales		Negotiated Sales	
Issuer Name	Issue Count	Issue Amount	Issue Count	Issue Amount
Wellington-Napoleon R-IX School District			2	2,382,041
Wellsville Middletown R-I School District			1	1,460,000
Wentzville R-IV School District	1	8,540,000	3	81,108,677
West County EMS & Fire Protection District of St. Louis County	3	16,980,000		
West Nodaway County R-I School District			1	1,200,000
West Peculiar Fire Protection District			2	2,815,000
West St. Francois County R-IV School District			2	4,320,000
Wheatland R-II School District			1	700,000
Windsor C-1 School District			4	33,105,000
Winfield R-IV School District			2	7,665,000
Worth County R-III School District			1	520,000
Wright City R-II School District			7	17,125,023
Grand Total	50	$ 501,717,575	488	$ 2,621,766,171

Technical Advisor Biographies

The technical advisors are involved in public finance research and education and have published numerous research articles on the topic. Much of their work has specifically addressed the cost differences that exist between competitive and negotiated sales.

Bill Simonsen is a Professor in the Department of Public Policy at the University of Connecticut and Director of its Master of Public Administration (MPA) program. Simonsen's research and writing focuses on public sector financial management and policy and has two main themes (1) ways to aid public management decisions about municipal bond sales, and (2) processes that improve the ways that citizen preferences can be used in public decisions. His research on municipal bonds covers such topics as interest rate calculations, use of competitive or negotiated sale types, bond structuring and sizing, understanding decision making in the bond sale process, debt policies, and emerging bond markets. His research on citizen preferences focuses on innovative, deliberative, and realistic ways that citizen input can be elicited and used in public decisions. He frequently collaborates with his colleague Mark Robbins, also at the University of Connecticut.

Simonsen's work has been published widely in public finance, public administration and related journals. His work has appeared in journals such as Public Administration Review; American Review of Public Administration; Public Budgeting and Finance; Municipal Finance Journal; Journal of Public Budgeting, Accounting and Financial Management; Urban Affairs Review; State and Local Government Review; Publius: The Journal of Federalism, Journal of Urban Affairs and the Social Science Journal. His book chapters include a study of the State of Oregon budgeting practices in Budgeting in the States. His book with Mark Robbins, Citizen Participation in Resource Allocation examines current and historical methods of involving citizens in public budgeting processes. Simonsen has been on the editorial boards for both the Municipal Finance Journal and Public Budgeting and Finance.

Mark Robbins is the Department Head and a Professor of Public Policy at the University of Connecticut. He conducts research and teaches in the area of public budgeting and finance. His research focuses on public preferences for taxing and spending, and on public debt. Mark works closely with Bill Simonsen and their work together has appeared in numerous scholarly journals. He also serves as technical adviser to the Government Finance Officer's Association's Debt Committee, sits on the Commission for Peer Review and Accreditation for the National Association of Schools of Public Affairs and Administration, and is on the Government Accounting Standard Board's Government Accounting Standards Advisory Council representing the Association for Budgeting and Financial Management. Robbins received his Master's degree from the University of Oregon, and his Ph.D. from Syracuse University's Maxwell School.

Bond Analysis Methodology

The purpose of this appendix is to provide additional detail of the methodology used by the technical advisors. The advisors prepared the detailed methodology and, therefore it is somewhat technical in nature.

Using ordinary least squares regression, the advisors concluded that, on average, with all other factors being equal, competitive bidding carried borrowing costs that were approximately 23.5 basis points lower than those sold without such bidding. For the average sale amount of $5.8 million the savings provides debt service savings of $88,148 over the life of the bond. The following narrative provides information that explains the advisors' review methods and how they addressed selection bias and other variables.

Analysis population

The analysis eliminated short-term bonds and other bonds with unusual characteristics. The eliminated bonds included bonds maturing in less than 3 years, bonds that were not "plain vanilla" GO issues (such as Qualified Zone Academy Bonds, Build America Bonds, Neighborhood Improvement Bonds, and others), taxable bonds, and one bond with "outlier" characteristics regarding borrowing costs. The original overall population of 807 bonds was reduced to an analysis population of 538 bonds.

Consideration of selection bias

To account for the possibility of selection bias, as issuers might select the sale type non-randomly, a Hausman test was performed. The test, which factored for whether or not the bond was partially or fully refunded as an instrument, did not reveal the need for selection correction. Whether or not the bond is a refunding bond has been used in past studies as an instrument.[11]

Analysis method

Previous research and economic theory were reviewed. Factors other than the method of sale that could affect borrowing costs were identified. To statistically control for the other factors ordinary least squares regression was used to observe the effect that the decision to pursue competitive sales makes on borrowing costs. The table below presents the variables used in the analysis and their definitions.

[11] Peter Brucato and Jun Peng, "Another Look at the Effect of Method of Sale on the Interest Cost in the Municipal Bond Market: A Certification Model," *Public Budgeting and Finance,* Vol. 23., No. 1., March 2003, pp 73-95. Tatyana Guzman and Temirlan Moldogaziev, "Which Bonds Are More Expensive? The Cost Differentials by Debt Issue Purpose and the Method of Sale: An Empirical Analysis," *Public Budgeting and Finance*, Vol. 32., No. 3., Fall 2012, pp 79-101.

Variables Considered During Analysis	
Variable	Variable Definition
Method of sale	1 if sale is competitive, 0 if negotiated
Experience	Number of sales by the issuer since June 2005[12]
Callable	1 if the bond is callable, 0 if not
Bank qualified	1 if the bond is bank qualified, 0 if not
Bond Buyer GO Index	The Bond Buyer GO index for the week of the sale
Ratings	A series of indicator variables representing the bond ratings. The Moody's rating is used. If there is no Moody's rating, the Standard and Poor's rating is used. The base case is no rating or unreported rating
Volatility	The standard deviation of the Bond Buyer GO Index for the prior month
Yield ratio	The ratio of the Bond Buyer One-Year Note Index and the Bond Buyer GO Index
Insured	1 if the bond is insured, 0 if not
Natural log-years to maturity	The natural logarithm of the years to bond maturity
Natural log-bond amount	The natural logarithm of the amount of the bond
School	1 if the issuer is a school, 0 if not
Time counter	A time counter by quarter of the year
Quarters	A series of indicator variables representing the year and quarter that the bond was issued

Multiple analysis models were applied

Two analysis models were used to analyze the test population. The first model included competitive sale as the variable of interest to determine the impact of sales method on interest costs. The second model included the number of bids as the variable of interest to determine the incremental impact of each additional bid on interest costs. The results of both models show similar patterns in the results. Both models were subjected to an additional data result set that factors in controls for time, which are

[12] The prior audit data went through May 2005.

considered important due to the effects of the financial collapse during the time period under analysis.

Estimated savings using analysis results

The present value of the cost difference between bond issues sold by competitive versus negotiated means was calculated to describe the magnitude of the effects revealed in the analysis. The calculation is based on assumptions that the debt matures in 12 years (about the average for bond sales in the sample), debt service has equal principal payments, and interest payments occur every 6 months. Cost savings were calculated for sales of $2 million, $5.8 million (approximately the average for the bond sales in the sample) and $10 million. The expected interest savings were calculated using the 23.45 basis point saving estimate calculated as part of the bond analysis. This saving estimate is provided by the preferred analysis results, which used method of sale as the independent variable and was adjusted for time controls. The results are shown in the table below.

Estimated Savings for Issues Sold Through Competitive Bidding

Amount of Sale	$ 2,000,000	5,800,000	10,000,000
Savings (undiscounted)	$ 30,743	88,148	150,067
Savings (discounted)	$ 24,477	70,346	119,730

Methodology approved by an independent professor

The SAO provided documentation of the analysis performed by the advisors to the University of Missouri for an evaluation of the methodology. Judith Stallmann, Professor of Agricultural Economics, Rural Sociology and Truman School of Public Affairs performed the evaluation. The professor has published research in national publications and is familiar with the statistical techniques used by the advisors.

The professor reviewed various aspects of the methodology, including the number of competitive and negotiated sales, potential sample selection bias, and the control variables. The professor concluded the numbers of bonds for each method of sale were sufficient to obtain reliable estimates, preliminary testing correctly addressed the possibility of selection sample bias, ordinary least squares was an appropriate methodology to be used to estimate the impact of type of issue on the basis points, and the control variables and test results under several analysis applications provide confidence in the estimates.

Local Governments Interviewed

The table below documents the local governments contacted as part of our fieldwork and any of their bond issues included in our analysis. We visited the local governments to identify potential issues faced and to understand factors contributing to choices made. We selected the entities from our analysis population of entities that completed bond issues during the 4 years ending December 31, 2011. To ensure a diverse mix of bond issuers, we based selections on geographic location, sales method, entity type, and bond characteristics.

Political Subdivision	Bond Registration Number	Type of Sale	Amount of Issue	Date of Issue	TIC Rate (Percent)
Boonville R-I School District	25164	Negotiated	$ 2,855,000	1/29/2008	3.775
	25293	Negotiated	4,320,000	2/18/2009	2.815
	25923	Negotiated	5,870,000	12/13/2011	2.928
Carthage R-IX School District	25298	Negotiated	4,060,000	2/15/2009	2.070
City of Grandview	25371	Competitive	3,300,000	7/29/2009	1.325
	25748	Competitive	4,250,000	11/23/2010	1.591
Cole County R-V School District	25487	Negotiated	3,240,000	1/27/2010	2.738
	25644	Negotiated	844,790	7/29/2010	3.595
Columbia School District	25186	Competitive	30,015,000	4/1/2008	4.364
	25347	Competitive	4,875,000	5/5/2009	3.185
	25510	Competitive	8,305,000	2/23/2010	1.671
	25726	Competitive	18,430,000	10/12/2010	1.502
	25852	Negotiated	48,275,000	6/1/2011	4.004
Fulton Public School District No. 58	25163	Competitive	3,550,000	1/24/2008	2.976
	25467	Competitive	7,500,000	12/16/2009	2.888
	25574	Competitive	4,327,570	6/24/2010	3.875
Grandview C-4 School District	25238	Negotiated	8,410,000	6/25/2008	3.235
	25248	Negotiated	1,500,000	7/31/2008	4.608
	25300	Negotiated	4,000,000	2/18/2009	3.260
	25623	Negotiated	6,495,000	7/14/2010	2.534
Greene County R-III School District	25202	Negotiated	4,990,000	5/1/2008	3.429
	25602	Negotiated	3,462,000	6/15/2010	4.015
Marshfield R-I School District	25609	Negotiated	712,000	6/15/2010	3.808
North Callaway County R-I School District	25292	Negotiated	1,870,000	2/12/2009	2.727
Rockwood R-VI School District	25234	Competitive	70,000,000	6/24/2008	3.905
	25307	Negotiated	32,945,000	2/24/2009	1.895
	25488	Negotiated	24,465,000	1/28/2010	2.831
	25714	Competitive	13,800,000	9/29/2010	1.586
	25879	Negotiated	9,905,000	7/27/2011	1.280

Appendix D
Local governments Interviewed

Bond Issued By	Bond Registration Number	Type of Sale	Amount of Issue	Date of Issue	TIC Rate (Percent)
Warrensburg R-VI School District	25409	Negotiated	1,510,000	9/15/2009	3.155
	25671	Negotiated	3,520,000	8/9/2010	2.341
Webb City R-VII School District	25214	Negotiated	5,000,000	5/15/2008	4.192
Wentzville R-IV School District	25278	Competitive	8,540,000	12/30/2008	4.840
	25381	Negotiated	30,623,677	8/4/2009	5.581
	25828	Negotiated	7,950,000	3/30/2011	3.249
	25907	Negotiated	42,535,000	10/6/2011	2.870
Wright City R-II School District	25213	Negotiated	2,735,000	5/28/2008	3.167
	25352	Negotiated	2,700,000	5/13/2009	4.199
	25422	Negotiated	310,020	10/1/2009	2.705
	25554	Negotiated	1,400,000	6/3/2010	3.419
	25802	Negotiated	3,730,000	2/3/2011	2.076
	25824	Negotiated	5,250,000	3/8/2011	2.951
	25951	Negotiated	1,000,000	12/29/2011	2.243

GFOA Resources

Our research identified valuable best practices resources and other guidance published by the GFOA. A full listing of GFOA best practices guidance, other advisories, and publications are available at www.gfoa.org. Other organizations and authors publish similar resources and technical papers, which are generally available for download or purchase by local governments. Several of the GFOA debt management resources are listed below, most of which are available at no cost:

BOOKS

- A Practitioner's Guide To Effective Debt Management: Competitive v. Negotiated: How to Choose the Method of Sale for Tax-Exempt Bonds (1994)
- An Elected Official's Guide to Debt Issuance (2005)
- Debt Issuance and Management - A Guide for Smaller Governments (1994)

BEST PRACTICES

- Analyzing and Issuing Refunding Bonds (1995 and 2010)
- Costs of Issuance Incurred in a Publicly Offered Debt Transaction (2013)
- Debt Management Policy (1995, 2003 and 2012)
- Expenses Charged by Underwriters in Negotiated Sales (1996, 2010 and 2012)
- Issuer's Role in Selection of Underwriter's Counsel (1998, 2009)
- Issuing Taxable Debt by U.S. State and Local Governments (1998 and 2012)
- Managing Build America and other Direct Subsidy Bonds (2010 and 2012)
- Pricing Bonds in a Negotiated Sale (1996, 2000, and 2010)
- Selecting and Managing the Method of Sale of State and Local Government Bonds (1994 and 2007)
- Selecting Bond Counsel (1998 and 2008)
- Selecting Financial Advisors (2008)
- Selecting Underwriters for Negotiated Bond Sales (2008)

ADVISORIES

- Evaluating the Use of Pension Obligation Bonds (1997, 2005)
- Need for Considerable Caution in Regard to OPEB Bonds (2007)
- Understanding the Issuer's Role in Secondary Market Securitization of Tax-Exempt Obligations (1993, 1996, 2005)
- Underwriter Disclaimers in Official Statements (2000)
- Using Variable Rate Debt Instruments (1997 and 2010) revised
- Use of Debt-Related Derivatives Products and the Development of a Derivatives Policy (1995, 2003, 2005 and 2010) revised

GFOA Method of Sale Matrix

The table below is a reproduction of a GFOA document intended to provide guidance to issuers of public debt. It presents the conditions which favor competitive and negotiated sale methods.

	Competitive	Negotiated
Debt Structure		
Pledged Revenues	General Obligation or Strong System Revenue	Project Supported Revenues
Security Structure (for Revenue Bonds)	Conventional Resolution and Cash Flow: Rate Covenant and Coverage	Unusual or Weak Covenants; Subordinate Debt
Debt Instrument	Traditional Serial and Term, Full Coupon Bonds	Use of Innovative Structuring, Derivative Products, Structure to Attract Particular Investors (e.g. Discount Bonds), etc.
Credit Quality		
Rating	'A' or better	Below Single 'A'
Outlook	Stable	Weak but Improving, or Under Stress
Issuer Characteristics		
Type of Organization	Broad-Based General Purpose Borrower	Special Purpose, Independent Authority
Frequency of Issuance	Regular Borrower in Public Market	New or Infrequent Issuer
Market Awareness	Active Secondary Market with Broad Investor Base	Little or No Institutional Awareness of Issuer; Historical Antipathy
Investor Comfort	Well-Known, Stable Issuer	Issuer Experiencing Significant Financial, Legal or Other Problems
Market Conditions		
Interest Rates	Stable; Predictable Market	Volatile or Declining Market
Supply and Demand	Strong Investor Demand, Good Liquidity, Light Forward Calendar	Oversold Market, Heavy Supply
Policy Considerations		
Participation in Sale of Bonds	Broad Market Participation Desired Sale of Bonds	Desire to Direct Business to DBE[1] or Local/Regional Firms
Stimulation of Investor Interest	Broad Market Participation Desired for Purchase of Bonds	Desire to Direct Business to Local/Regional Investors

[1] Disadvantaged Business Enterprise

Source: *A Practitioner's Guide to Effective Debt Management: Competitive v. Negotiated: How to Choose the Method of Sale for Tax-Exempt Bonds*, GFOA, 1994, p. 3.