

A
Practitioner's
Guide

PRICING BONDS IN A NEGOTIATED SALE

HOW TO MANAGE THE PROCESS

To
Effective
Debt
Management

GOVERNMENT FINANCE OFFICERS ASSOCIATION

© 1994 by the Government Finance Officers Association

ISBN no. 0-89125-167-7

This report was prepared by J.B. Kurish of the Government Finance Research Center of the Government Finance Officers Association (GFOA). The author extends his thanks to John L. Andreyko (City of Cincinnati), Mary-Margaret Cross (City of Houston), Frank R. Hoadley (State of Wisconsin), Thomas Stanberry (Piper Jaffray Inc.), and Patricia Tigue (GFOA) for their assistance in reviewing the manuscript and offering insightful suggestions. Any opinions expressed in this report are those of the author, and not the GFOA.

For illustrative purposes this publication discusses the products and services of several firms providing financial and market-related information to state and local governments. It is not the policy of GFOA to recommend the products or services of particular firms; hence, GFOA does not endorse any product or service discussed in this publication.

PRICING BONDS IN A NEGOTIATED SALE

How to Manage the Process

INTRODUCTION

One of the most important outcomes of debt issuance -- the cost of borrowing -- is established through the pricing process. In a competitive sale, the cost of borrowing is determined through bids received for an issuer's bonds. Unlike a competitive sale, the bond pricing in a negotiated sale requires a much greater degree of issuer involvement. The issuer negotiates both the yield on the bonds and the underwriters' compensation. Yet, because much of what goes on in the pricing process is dependent on information provided by the senior underwriter (e.g., information on market conditions, investor demand, etc.) issuers often feel they have the least amount of control over this aspect of the bond issuance process. Issuers must develop sufficient knowledge about pricing activities to be able to effectively negotiate both the price of their bonds and compensation to underwriters.

This publication focuses on the pricing of bonds in a negotiated sale process for two significant reasons. First, in recent years, most tax-exempt bonds are brought to market using the negotiated method of sale. Based on annual dollar volume, negotiated offerings have averaged over 75 percent of the bonds sold in the municipal market this past decade.

A second, and more important, reason for this guide is the added cost that issuers may incur if they and their underwriters do not take steps to aggressively price bonds in a negotiated offering. There are two components that determine an issuer's borrowing costs:

1. the **up-front fees** associated with selling bonds and
2. the **continuing interest payments** over the period of time bonds are outstanding.

The largest up-front cost is compensation to the underwriters. Compensation to the underwriters is referred to as the **underwriting spread** or **underwriters' discount**. The four

components of the underwriting spread are **management fee, expenses, underwriting fee, and takedown.**¹

1. **Management Fee** is the fee paid to underwriters for investment banking services, including structuring of the bond issue and analyzing various cash flows such as revenue streams and construction draws. In selecting the senior underwriter, issuers sometimes set a cap on this fee.
2. **Expenses** are the costs incurred by the underwriters in the sale process such as Municipal Securities Rulemaking Board (MSRB) fees, travel, computer fees, and other direct costs. Underwriters' counsel, if employed, is a component often included in this category. In some cases, bond counsel, rating agency fees, and the cost of printing offering documents and bonds are included. This variation at times makes it difficult to compare expenses among different bond offerings. As with management fee, expenses are often capped at the time a senior underwriter is selected.
3. **Underwriting Fee** is the compensation to the underwriters for the risk involved in committing to buy and place the issuer's securities.
4. **Takedown**, sometimes referred to as sales commission, is the compensation to the underwriters for selling the bonds. Takedown is determined by market conditions, the investors to which the securities are being marketed, and the type and maturity of the securities. Because takedown is the largest element of the underwriting spread, an issuer should pay close attention to the factors that influence it.

Unfortunately, in the debate between competitive and negotiated selling, much of the attention and statistical evidence has dealt with the underwriting spread. Less attention has been paid to the question of how aggressively bonds are priced by the underwriter given market conditions.

¹ *Understanding the Underwriting Spread*, written by the California Debt Advisory Commission, is an excellent, detailed explanation of the components of the underwriting spread.

Issuers should be at least as concerned with the aggressive pricing of their bonds as they are with the underwriting spread. Paying as little as an extra 10 basis points (one basis point is 1/100th of one percent) over the life of the bonds can be very costly. This is particularly true in the case of long-term bonds outstanding for 20 or 30 years. For example, consider an issuance of bonds that includes \$1 million in principal maturing in 30 years. Assuming semiannual interest payments, a discount factor of seven percent, and present valuing to the day of issuance, the cost of mispricing this \$1 million of bonds at a yield ten basis points too high is approximately \$12,500.

Government finance officers must understand why underwriters are recommending certain interest rates and takedowns. They need to be comfortable with the final pricing, since many will have to explain and defend the outcome to a legislative body when seeking final, written approval for the bond sale. To ensure low up-front fees and the lowest possible interest costs, finance officers must be effective negotiators. They should not passively observe the underwriting process, but instead be active participants who develop an understanding of the market by gathering, analyzing, and using relevant information to obtain a favorable pricing outcome. Moreover, the issuers most successfully using the negotiated method of sale discuss factors affecting price with their underwriters before, during, and after the actual pricing period.

BEFORE THE DAY OF PRICING

Long before the day of pricing, an issuer should prepare a written checklist of tasks to be accomplished and decisions to be made. This checklist should focus on the issuer's goals and how the issuer expects these goals to be achieved. In addition, the issuer should prepare a plan and timetable for completing the financing. Among the elements to consider are:

1. the structure of the bond issue,
2. the mix between institutional and retail investors,
3. the firms to be in the syndicate or selling group,
4. specific policy goals regarding distribution of bonds to investors and allocation of bonds to underwriters,

5. the underwriting spread, and
6. expected interest costs.

In the weeks before the scheduled pricing, it is important to announce the proposed, upcoming sale in *The Bond Buyer*, the municipal market's trade journal, and to broadcast the same on *Munifacts*. *Munifacts* is a service provided by *The Bond Buyer* that serves the municipal bond industry by providing current news articles pertaining to the municipal market and the financial community in general. If the transaction is a refunding, broadcasting the news of an imminent offering may be particularly appropriate to avoid the potential of insider trading -- the use of non-public information to make buy or sell decisions on securities. To avoid insider trading, it is important to reference the outstanding bond issue and particular maturities to be refunded. This is typically done by the senior managing underwriter, but may be done by the issuer.

A successful pricing outcome is more likely to occur when an issuer and underwriter are working in a cordial and professional manner that maintains certain checks and balances. The issuer should not hesitate to ask for reasonable information from the underwriter and to work with the underwriter to understand how that information can be useful in making decisions regarding the pricing of bonds. Furthermore, prior to the pricing day, the issuer should restate to the underwriter any particular goals or priorities regarding the distribution of the bonds. For example, the issuer may want to target specific types of investors, such as retail or in-state investors, to receive order priority in obtaining bonds. Alternatively, the issuer may have goals pertaining to the allocation of bonds among the underwriters. It should be noted, however, that there often is a trade-off between policy goals and costs. Generally, special distribution requirements run counter to efficient distribution, adding to the issuer's cost of borrowing.

One of the important advantages of the negotiated method of sale is flexibility. The structure of the issue and the timing of the sale can be adjusted to properly respond to changing market conditions. In the week or two prior to the expected pricing of bonds, an issuer should begin to gather information on the economy in general and the bond market in particular.

This information can be collected directly by the issuer. However, it may be more efficient to request this information from the senior managing underwriter and/or financial advisor if one is being utilized. By requesting and analyzing information about the economy and markets, an issuer is accomplishing at least two very important goals prior to the actual pricing.

1. **The issuer is developing an understanding of the market** in which bonds will be priced. This will be necessary should there be discussions related to entering the market early or delaying the pricing due to real or expected market conditions. Also, it is important for the issuer to have a sense of supply and demand factors in the market and the rates at which its bonds are likely to be priced.
2. **The issuer is sending an important signal to the underwriter** regarding the issuer's focus on the pricing process and involvement in certain aspects of the process. Communication between the issuer and the underwriter at this time is helpful in setting a realistic expectation about the market and the level of interest rates attainable.

Some of the specific information an issuer should gather and evaluate in the week or two prior to the actual pricing of its bonds is described below.

Underwriting Spread

To help evaluate the up-front costs of issuing debt, an issuer should review underwriting spreads on previous deals it has sold. In addition, underwriting spreads of deals in the current market can be supplied by the underwriter from Securities Data Company (SDC). SDC maintains an up-to-date database of all municipal market debt offerings. Unfortunately, there are data elements missing for some deals and the underwriting spread is one data element that is often lacking. However, by directly contacting senior underwriters on previous deals, an issuer can get the necessary information to fill any gaps. Generally, an issuer will find it informative to have underwriting spread information on recent (e.g., past two weeks) deals of similar size, structure, security type, and rating. It is of particular value to have the spread information broken down into the four components. This gives the issuer a

Municipal Market Supply and Demand

feel for the sales commission or takedown levels in the market for similarly structured deals.

When requesting this information, an issuer should discuss with the underwriter the database search criteria (e.g., size of issue, credit rating, final maturity) desired, and the underwriter should be directed to provide information about all deals that meet the decided upon search criteria. Do not allow the underwriter to provide a subset of deals that it has decided to submit for review. An issuer may also find it useful to gather this information directly or through its financial advisor.

An issuer's bonds will be priced to attain lower yields the greater demand is relative to supply. On the other hand, if there is a glut of bonds in the market, investors will pay less for bonds and lower bond prices result in higher yields or borrowing costs to issuers.² Therefore, a week or two prior to the pricing of its bonds, an issuer should evaluate the supply and demand situation in the market and the expected supply of new offerings entering the market in the near term.

A number of sources for this type of information exist. Four readily available sources of information about supply and demand published in *The Bond Buyer* are **Visible Supply**, the **Placement Ratio**, **New-Issue Balances**, and Standard & Poor's Corporation's **The Blue List**.

1. *The Bond Buyer Visible Supply* is compiled daily from *The Bond Buyer's* "Sealed Bids Invited" and "Proposed Negotiated Offerings" columns. It is an estimate of the dollar volume of long-term (maturities greater than 13 months) bonds expected to be in the market within the next 30 days. The offerings columns can also be helpful to an issuer trying to identify the likelihood of bonds with similar characteristics

² This inverse relationship between bond prices and borrowing costs is an important one to remember. As demand for bonds increases, the price of bonds is driven upward; and, as prices increase, yields to investors and borrowing costs to an issuer decrease. Similarly, as the price of bonds is lowered, borrowing costs increase. This can be especially confusing during the pricing process. An issuer must remember that an underwriter recommending a lower price on bonds (i.e., marking the bonds down) is encouraging an increase in yield to investors, hence, an increase in borrowing costs for the issuer.

competing for investors in the market in the next few weeks.

2. **The Bond Buyer Placement Ratio** is compiled every Friday. It represents the percentage of that week's dollar volume of new competitive issues of at least \$10 million that were placed with final investors. The Placement Ratio is a good indicator of demand forces in the market. A low or declining Placement Ratio would suggest low demand relative to supply and that an issuer may be entering an unfavorable market.
3. **The Bond Buyer New-Issue Balances** shows the amount of bonds still unsold from specific debt offerings recently in the municipal market. As a "bull" market starts, New-Issue Balances drop to zero. A "bull" market is one of increasing demand for bonds that results in decreasing yields or interest rates. A "bear" market is one of decreasing demand for bonds resulting in increasing yields.
4. **The Blue List** is available daily and lists yields or prices of bonds and notes offered by security dealers. It reflects the supply of bonds that dealers have available in the secondary market. Generally, the greater the supply of bonds available for sale in the secondary market, the lower the demand for bonds in the primary market.

Economic Statistics and Indicators

Issuers must be aware of the potential benefits and risks of timing the bond offering near the release of significant economic information. An array of economic data is frequently reported by the federal government or other organizations attempting to track economic activity and sentiment. An issuer should ask its underwriter to provide a calendar showing the economic statistics and indicators that will be reported in the days and weeks prior to the planned bond sale. Calendars of upcoming economic announcements are also available in various business publications. For example, *The Wall Street Journal* provides a daily column titled *Today's Economic Indicators*. Reports of economic information can be found in newspapers the day following an announcement. Alternatively, the information is more immediately accessible for an issuer subscribing to any one of

several on-line information packages such as *Prodigy*, *America Online*, and *CompuServe*.

Of course, this information is of no value unless an issuer has an understanding of how economic news will impact yields in the municipal bond market. Creating a chart of various indicators and how their movements might affect an issuer's bonds is useful. For example, high economic growth and lower unemployment may be a positive announcement for the economy, but it is likely to have an adverse effect on interest rates if financial markets begin to worry about inflation. Knowing the expected range of soon-to-be-reported indicators and the impact on financial markets is vital. Equally important is the ability to understand the implications for bond prices and yields when indicators fall outside their expected range.

Interest Rate Levels

An issuer should have the senior underwriter get information about yields obtained on recently priced bonds with similar characteristics. Additionally, it is useful to gather information on market interest rate levels and to discuss internally or with a financial advisor how the issuer's bonds should be expected to price relative to those market levels. As with supply and demand indicators, there is no shortage of interest rate indicators to consider. The key factor is knowing how to use the indicators. Once again, *The Bond Buyer* is a summary source for interest rate information. At the time of this publication, its **Market Statistics** pages provide information on **Treasury Bond Yields**, **Treasury SLG Rates**, **Municipal Market Data** **General Obligation Yields**, **Delphis Hanover Corporation Market Yields**, and various indexes computed by *The Bond Buyer* itself.

1. **Treasury Bond Yields** are listed daily for many different maturities. A commonly watched measure of interest rate levels is the 30-year U.S. Treasury Bond. Long-term tax-exempt bond yields tend to move in the same direction as the 30-year Treasury Bond. However, the magnitude of change is generally lower for tax-exempt yields. Studying Treasury bond yields can also be important if an issuer is undertaking a refunding in which bond proceeds will be used to purchase U.S. Treasury securities for an escrow.

2. **Treasury SLG Rates** are also listed daily for many different maturities. SLGS, for State and Local Government Series, are U.S. government securities sold by the Treasury to state and local governments. SLGS are available to issuers to accommodate arbitrage yield restriction problems they may be facing in investing tax-exempt bond proceeds. As with U.S. Treasuries, SLG Rates may be particularly relevant if an issuer is evaluating the economics of a refunding issue.
3. **Municipal Market Data G.O. Yields** are provided daily in *The Bond Buyer*. A 30-year interest rate scale is shown for four different representative ratings: AAA, AAA(insured), AA, and A.
4. **Delphis Hanover Corporation Market Yields** are provided each Monday in *The Bond Buyer*. Yields at five-year intervals along the 30-year interest rate scale are shown for representative Aaa, Aa, A, and Baa rated securities.
5. **Bond Buyer Indexes**, available daily in *The Bond Buyer*, are computed weekly for long-term general obligation and revenue bonds as well as for one-year notes. Three of the more frequently monitored indexes are described below.
 - i. **The 20 Bond Index** is the average yield on 20 general obligation bonds with 20-year maturities. The average rating for the bonds is A.
 - ii. **The 11 Bond Index** is the average yield on 11 of the 20 general obligation bonds described above. The average rating for these bonds is AA.
 - iii. **The Revenue Bond Index** is the average yield on 25 revenue bonds with 30-year maturities. There is no rating equivalent for the index but bonds used in the index have ratings in the A to AA+ categories.

An important caution regarding these three indexes provided by *The Bond Buyer* is that each is averaging the yields of 20- or 30-year maturities of different bonds. This is not comparable to the blended yield as measured by net interest cost (NIC) or true interest cost (TIC) for a particular issue with a 20- or 30-year final maturity. In a normal, upward sloping yield curve environment, the blended yield for a particular bond issue will always be lower than the yield on the final maturity.

An issuer should ask its underwriter to provide several different indicators of interest rate levels and evaluate their movement not only over the most recent days and weeks, but also over several months. It also is helpful to evaluate the ratio between some of the interest rate levels discussed above. For example, the ratio of municipal interest rates to Treasury rates is monitored by some. Generally, tax-exempt rates are 80-90 percent of Treasury rates. Should this ratio fall into the 70 percent range, a downward adjustment in tax-exempt prices and an increase in tax-exempt yields may be likely.

Studying interest rate levels and relationships can be helpful in making a determination as to whether entering the market in the near future makes sense. Evaluating market forces, trends in interest rates, and economic statistics and indicators may push an issuer into entering the market sooner than planned, or it may convince the issuer to wait until rates fall back down after what may have been a temporary surge.

Levels of Investor Interest

A week or two prior to the actual pricing of bonds, an issuer may attempt to directly gauge investor interest in its bonds. A tactic used by some underwriters is to write a "talking scale" to obtain early feedback from major investors. A talking scale is simply a hypothetical interest rate scale for the issue. Unfortunately, these scales can become constricting and self-fulfilling. Issuers should not let the underwriter go out with unauthorized "price talk." Price talk in advance of preliminary pricing is best done by suggesting to an investor that the issuer believes specific key maturities are worth certain yields. Alternatively, an issuer can gauge investor interest by suggesting where yields on specific maturities should be relative to a specific bond issue recently in the market.

SELLING THE BONDS

Showing an entire scale to an investor before the formal pricing period should be avoided.

It is important for an issuer to retain flexibility as long as possible. An issuer should try to avoid locking itself into a particular pricing date too far in advance. However, after evaluating appropriate pre-pricing information, there comes a time when the issuer will make a decision to enter the market. Moreover, there are issues that may be timed to certain legislative requirements.

Generally, it is not wise to price deals on Mondays or Fridays. Mondays are avoided because the market tends to be unsettled due to the weekend break as investors evaluate the events of the previous two days. Fridays are avoided because market activity wanes in the afternoon. Moreover, it may be prohibitive to significantly reprice, resize, or restructure the issue, if necessary, in one day. Potential overnight market developments make it risky to carry a deal overnight into the next business day. Most underwriters do not want to extend that risk by initially pricing on a Friday.

As the issuer approaches the pricing day, it must decide upon the preliminary structure of the issue. There are many factors that determine the structure of a bond issue. Among them are:

1. the principal maturity schedule,
2. the use of serial and term bonds at different maturities,
3. the inclusion of capital appreciation bonds (CABs),
4. the inclusion of call provisions, and
5. the use of derivative products.

Many issuers prefer to be take the offensive position in the initial pricing negotiations with the senior underwriter. At the close of the market on the day prior to the expected pricing, such an issuer will give its views on the next day's anticipated interest rate levels and takedowns to the senior underwriter. As defined earlier, the takedown is the compensation to the underwriters for selling the bonds. Often times the underwriter will talk about the takedown as if it is one number

or cost associated with selling all of the bonds of an offering. This is called the "average" takedown. In fact, there is a specific takedown for each maturity in a bond issue. Generally, takedowns are lower for higher quality bonds, higher for longer maturities, and higher if bonds are being sold to the retail market.

A question many issuers have is whether they should be present on the senior underwriter's trading floor the day of pricing. There are differing opinions on this. Regardless of the issuer's decision, it is essential for issuers to be completely focused on the day of a bond pricing.

Among the reasons cited for an issuer to be present on the trading floor are to:

1. signal the underwriter that the issuer will be actively involved in the pricing of the bonds,
2. ensure that the underwriting desk and sales force are focusing sufficient attention on the issuer's bonds, and
3. be available to respond quickly to market forces and underwriter recommendations.

Those issuers believing it is better for an issuer to work from his/her own office on the day of pricing accept the three points outlined above. However, they believe those goals can be met by visiting with the underwriter and sales force shortly before the sale, by having a financial advisor on the trading floor who can provide frequent and complete updates, and by setting up dedicated phone and facsimile machine lines with the underwriter.

Proponents of staying off the trading floor believe an issuer is at a disadvantage when negotiating under pressure with distractions in the senior underwriter's home environment. Staff, data sources, and computers are all available at an issuer's office, in most cases they are not available at the trading floor of the senior underwriter. Having eyes and ears on the trading floor in the form of a financial advisor coupled with a fully functioning command center back home allows an issuer to conduct its own analysis, away from the pressure of the underwriter, of information as it is gathered during the pricing process.

Initial Order Period

Just before the market opens on the pricing day, another meeting with the senior underwriter should occur to determine the prices and interest rate levels at which bonds will initially be offered. Some issuers also find it useful to talk individually to each of the underwriting firms, or to receive written views from each on the market. This allows the issuer to receive potentially varying perspectives on the market and investor appetite for its bonds. At this final meeting before entering the market, the senior underwriter will review national and international market activity and discuss its expectations about the market into which the bonds will be sold. The underwriter will end the discussion by recommending an interest rate scale and takedown for the bonds. Then the underwriter will seek the issuer's approval to enter the market to take investor orders at those interest rate levels for a specific span of time. This time period is known as the order period. Legally, the process is one of seeking "indications of interest." The issuer should remember that it is not legally bound until it makes the "verbal award" or signs the Bond Purchase Agreement (BPA).

Once the initial offering scale is agreed upon, the senior underwriter will communicate the scale and other information about the offering to the bond syndicate and selling group. An underwriting syndicate is a team of underwriters that is often formed, either by the underwriting firms themselves or by the issuer, to purchase bonds and redistribute them to final investors. A selling group is a group of firms that are not members of the syndicate assisting in the distribution of bonds. Underwriters often utilize the *Munifacts* wire or the *Dalcomp/Downet* wire, another syndicate service, to transmit information to those firms engaged in selling the bonds.

The initial order period is usually three to four hours if the primary targeted investors are institutions (e.g., bond funds, insurance companies). The initial order period may be one to two hours longer if a significant amount of the bonds are targeted to be sold to retail investors (e.g., households), especially those further from the East Coast. Retail investors place smaller orders than do institutional investors. As a result, it is necessary to provide underwriters with enough time to contact a sufficient number of retail buyers.

If there has been an active dialogue with the underwriter, an issuer should not be surprised by the recommended scale and

therefore be willing to let the underwriter solicit orders for the bonds. However, even though the issuer and underwriter have been gauging investor demand for the bonds for some time, it is impossible to know exactly which investors will actually place orders at specific levels until bonds are in the market. Yields may be raised if the issue is not selling well, and they may be lowered if the issue is oversold. Hence, it is very common for a repricing of some or all maturities to occur during the day in response to various market forces.

It is important, however, that the pricing process be orderly. If yields are set at levels that are either far above or below the market, the issuer will suffer. Obviously, if the yields are set below the market level for that day, there will be a limited number of investors and an increased likelihood that some or all of the issuer's bonds will not be purchased. An underwriter facing this situation will recommend a repricing of the bonds to higher yield levels. At higher yields, more investors will place orders for the bonds.

Pricing at yields that are too low initially and then trying to adjust later can be a risky strategy. By the time a repricing occurs, it is possible that many investors have already placed orders for other bonds. During the pricing day, those investors are likely to remain focused on orders already placed. Furthermore, if bonds are being repriced to higher yields, investors may sense that remaining on the sidelines will result in additional repricings at even higher yields.

For the reasons above, as well as for others to be discussed below, underwriters have a tendency to initially price bonds at yields that are slightly above their perception of where the market is. This strategy ensures that investors interested in holding the bonds are identified and that there are a sufficient number of investors to have a successful pricing that day. If at the end of the order period there is excessive demand for some or all the maturities -- described as an oversubscribed maturity or issue -- in the bond offering, the underwriter may recommend a repricing to reduce the yield on the oversubscribed maturities. Generally, adjustments to lower yields are never more than 10 basis points.

Whether a change in yields is warranted and by how much depends on how undersubscribed or oversubscribed maturities are and on how sensitive investors are to yield changes. At the

Repricing the Issue

end of the initial order period, the issuer should ask to see the order sheet. At that time, the underwriter should make and support recommendations regarding ending the pricing activity, extending the order period at initial levels, repricing, or slightly restructuring the issue.

Unfortunately, some issuers boast when demand for their bonds is high. They incorrectly take pride in stating that a bond offering was oversubscribed by two or three times. In fact, a significantly oversubscribed bond offering probably means the bonds were priced at yields above the appropriate market level resulting in higher borrowing costs for the governmental entity. At the same time, it is important for an issuer to remember that demand exceeding supply for a particular maturity does not guarantee a successful repricing to a lower yield. Reducing yield by as little as five basis points can result in some, most, or all potential investors walking away. This is particularly true for institutional investors who are more yield sensitive than retail investors. However, if a maturity is oversubscribed by a factor of at least two or three, it is very likely that bonds can be priced at a lower yield. In this case, an issuer should pressure an underwriter to push for a lower yield or to explain why it does not recommend doing so in the face of what appears to be strong excessive demand by investors.

Exhibit 1 illustrates a simple status report the senior underwriter might use to review the bond orders that have been placed during the initial order period. The maturity schedule is based on the issuance of \$20 million in bonds to be retired over 15 years with level annual debt service payments, interest paid semiannually and principal paid annually.

During repricing discussions an issuer must understand the impact of adjusting yields in different maturities. Due to the number of years a bond is outstanding, a five basis point adjustment in yields is worth more in later maturities than in earlier maturities. For example, in Year 4 increasing the price to reduce the yield by five basis points is worth \$1.80 per \$1,000 in par amount of Year 4 bonds sold; in Year 15 the same yield adjustment is worth \$4.90 per \$1,000 in par amount of Year 15 bonds sold.

Exhibit 1

BOND ORDER STATUS REPORT

Maturity	Par Amount of Bonds Sold (000s \$)	Total Orders (000s \$)	Initial Balance (000s \$)	Yield (%)	Initial Takedown ³
Year 1	935	1,000	- 65	3.40	3/8
Year 2	965	1,500	- 535	4.25	3/8
Year 3	1,010	3,000	- 1,990	4.70	1/2
Year 4	1,055	2,150	- 1,095	4.85	1/2
Year 5	1,105	1,550	- 445	5.00	1/2
Year 6	1,160	1,100	+ 60	5.15	1/2
Year 7	1,220	1,200	+ 20	5.25	1/2
Year 8	1,285	1,100	+ 185	5.40	1/2
Year 9	1,355	1,400	- 45	5.50	1/2
Year 10	1,430	1,500	- 70	5.65	1/2
Year 11	1,510	1,500	+ 10	5.75	5/8
Year 12	1,595	1,500	+ 95	5.90	5/8
Year 13	1,690	2,000	- 310	5.95	5/8
Year 14	1,790	2,500	- 710	6.00	5/8
Year 15	<u>1,895</u>	4,500	- 2,605	6.05	5/8
	20,000				

³ This column shows the takedown associated with selling bonds of each maturity. For example, the sales commission for the bonds maturing in Year 1 is 3/8ths of one percent, or \$3.75 for every \$1,000 in par amount of bonds sold. Similarly, a takedown of 1/2 represents a sales commission of \$5.00; and a takedown of 5/8ths represents a sales commission of \$6.25. As is normally the case, in this example the takedown is higher for longer maturities.

A quick scan of the status report identifies four maturities -- Year 3, Year 4, Year 14, and Year 15 -- where there is a significant amount of orders in excess of the amount of bonds being offered. If the underwriter does not propose a downward adjustment to the yields on these maturities, the issuer should push for such an adjustment. Assume the underwriter agrees to lower the yields by 10 basis points on the Year 3 maturity and five basis points on the Year 4 maturity. However, the underwriter does not advise lowering the yields on the Year 14 and Year 15 maturities because many investors view the 6 percent yield on the Year 14 maturity as critical. Based on conversations with investors, the senior underwriter is convinced that most or all of the orders would go away if the yield fell below 6 percent. Additionally, dropping the yield below 6 percent is likely to impact the pricing and orders for the previous two maturities because it

would be difficult to lower the yield on the Year 14 maturity without adjusting downward the Year 13 and Year 12 yields. Similar logic could be applied to the yield on the Year 15 maturity. Even though the maturity is oversubscribed, a downward adjustment in yield would disrupt the orders for the three previous maturities.

When market forces make adjusting yields difficult, an issuer may want to consider adjusting the takedown. When maturities are oversubscribed, the issuer can make a case to lower the originally proposed takedown amount based on the apparent fact that investors are readily available. In the case above, there were legitimate reasons why the yield on the Year 15 maturity could not be lowered; however, the issuer may be successful in pushing the underwriter to lower its sales commission from \$6.25 to \$5.00 per \$1000 par amount of bonds on this oversubscribed maturity.

Of course, it may be useful to increase takedown in certain situations. Increasing takedown on undersubscribed maturities instead of increasing yield may be a cost-effective way to provide an added incentive for sales people to find buyers.

One final note regarding bond orders and repricing. In addition to the amount of orders, the type of orders that have been placed may be important. Generally, there are three types of orders that can be placed: (1) **Group Net Orders**, (2) **Net Designated Orders**, and (3) **Member Orders**. Each of these will be discussed in detail in the section on bond allocation. Investment banking jargon refers to Group Net Orders and Net Designated Orders as "priority orders," meaning they get filled before Member Orders.

Priority orders tend to be submitted by final investors who are buying the bonds to place into a portfolio. This type of order is called "going away business," meaning the bonds will be held by the buyer and not resold in the market. On the other hand, Member Orders are more likely to be placed by firms wanting to hold bonds in inventory or to quickly sell bonds in the secondary market. Priority orders are preferred for two primary reasons.

1. Placing bonds with investors who are likely to retain the bonds ensures a more orderly secondary market for those bonds. An orderly secondary market for a

Restructuring the Issue

particular issuer's bonds is important to investors because volatility caused by the selling of large amounts of an issuer's bonds drives the price of those bonds down. This poor price performance hurts those investors holding an issuer's bonds and makes those investors less willing to buy outstanding and future bonds offered by that issuer.

2. Investors placing orders for bonds to be placed in portfolios may be slightly less yield sensitive than buyers placing orders to hold bonds in inventory or to quickly resell at a profit. Hence, successfully repricing a maturity to a lower yield is more likely when there are significant amounts of priority orders placed.

At times during the initial order period, the underwriter may uncover an investor who is not interested in the offering as it is initially structured, but who would be a buyer if a slight adjustment was made. For example, perhaps a 20-year bond issue was initially structured with 12 years of serial bonds, a term bond 15 years out, and another term bond 20 years out all priced at par. The underwriter may find that there is weak demand for the serial bonds 11 and 12 years out, but there is interest in a mini-term bond 12 years out or CABs in the 11- and 12-year maturities. After the underwriter analyzes the cost of this type of minor restructuring, the issuer can make an informed decision about whether to respond to the investor appetite for particular securities on that day.

Many other fine tunings of the offering may make sense during the pricing of an issuer's bonds. One may be responding to investor desires by selling long-term bonds at a discount or premium to lower the cost of borrowing to the issuer. For example, in certain market conditions investors may be willing to accept a lower yield for a deeply discounted, coupon bond because it offers more call protection or price performance. The market may determine the yield on a 30-year coupon bond priced at par to be 7.25 percent. That same maturity with a 6.00 percent coupon may be priced in the market at 86.417 percent to yield 15 basis points less, or 7.10 percent.

Slight adjustments an issuer can make to a bond offering are legitimate and prudent responses to information the underwriter is receiving from investors on the day of the

pricing. Hence, an issuer should be receptive and evaluate options that are consistent with its own debt constraints or policies. Prior to agreeing to any adjustment, however, evaluate fully its impact. An issuer should do this analysis on its own or ask its financial advisor or senior underwriter to illustrate the impact of the change in terms of up-front costs of issuance, total borrowing costs by a TIC calculation, and available bond proceeds. The underwriter should have an analyst available on the trading floor to calculate the impact of new structures.

Resizing the Issue

At times, market conditions may affect the amount of debt issued. This is most common when refundings are undertaken because the economic benefit of refunding certain issues or particular maturities is dependent upon current interest rates in the market. If interest rates are particularly low on the day of pricing, it may be prudent to take advantage of the market opportunity by offering more bonds. As with restructuring decisions, an issuer should require the underwriter to illustrate the impact of any resizing decisions. Depending upon the purpose of the bond issue, the decision to increase the amount of bonds issued should also be reviewed by the issuer's legal counsel to ensure there is not an overissuance of tax-exempt debt.

The Verbal Award

After deciding upon a final structure for the bond offering and working with investors on any adjustments in yield, the underwriter will provide the issuer with the final interest rate scale. The underwriter will then offer to buy the bonds. The dollar bid price for a fixed rate standard bond issue is a percentage calculated as follows:

Net Bond Proceeds/Par Amount of Bonds

$$\begin{array}{l} \text{where:} \quad \text{Par Amount of Bonds} \\ \quad \quad + \text{ Original Issue Premium (less Discount)} \\ \quad \quad - \text{ Underwriters' Discount} \\ \quad \quad = \text{ Net Bond Proceeds} \end{array}$$

Many issuers also ask for the bid to be presented in total dollars. If the issuer is agreeable to the underwriter's bid, it will give the underwriter a verbal award of the bonds. Usually within 24 hours of the verbal award, the issuer will take

ALLOCATING THE BONDS

whatever steps are necessary to have a written award of the bonds. At that time the senior underwriter will begin the bond allocation process. Many issuers require the senior underwriter to review recommendations with the issuer before final allocations are made. Sometimes this is done to enable the issuer to direct the distribution of some bonds among the underwriters. Other times it is done to ensure the issuer is aware of how and why bonds were allocated should it need to explain or defend the outcome.

The acceptance of bond orders, the allocation of bonds, and the corresponding payment of takedown among the firms in the underwriting syndicate or selling group is handled by the senior managing underwriter. It is designated to handle the affairs of the syndicate or selling group (i.e., to "run the books" of the account) and is known as the "book-running" senior managing underwriter. Other firms in the syndicate are known as co-managers. In accepting orders for bonds, the senior underwriter follows specific rules spelled out in the *Agreement Among Underwriters* and any subsequent syndicate pricing notices prior to the marketing of bonds.

The *Agreement Among Underwriters* is a document most issuers do not see because they are not a party to the agreement. It determines the liability of each firm in the syndicate and how bonds will be allocated. Therefore, an issuer most likely has an interest in the agreement and should have input if it has any special goals or practices the underwriting team is to meet or follow regarding bond allocation or takedown distribution. Some issuers require that they review the *Agreement Among Underwriters* before it is disseminated among the members of the syndicate.

Most often, the *Agreement Among Underwriters* will be the standard form set by the Public Securities Association (PSA) or a slight variation from that document. One of the important elements of the standard PSA agreement is the priority established for the filling of orders. Unless otherwise specified by the issuer, the priority of orders filled, from highest to lowest, is **Group Net Orders**, **Net Designated Orders**, and **Member Orders**.

1. **Group Net Orders** - Investors placing Group Net Orders are most likely to have their orders for bonds

filled. With Group Net Orders the sales commission is shared among all the firms in the syndicate according to their liability as specified in the *Agreement Among Underwriters*. The sales commission from such an order benefits all members of the syndicate. Generally, investors prefer to have specific firms receive the commissions associated with their orders. Hence, Group Net Orders are the rarest type of order.

2. **Net Designated Orders** - Investors most often place Net Designated Orders for bonds. This type of order allows for investors to control which underwriting firms will receive the sales commission associated with orders. However, to ensure that the order is shared by the firms in the syndicate, there generally are limits to the amount of bonds that can be designated to any one firm from a specific investor's order. Most often, designated orders must identify at least three designees per order, and no more than 50 percent of the order can be allocated to any one designee. Unless a special agreement has been made to allow members of the selling group to place priority orders and receive designations, a designee must be a member of the syndicate.
3. **Member Orders** - Firms in the syndicate place Member Orders for their own clients and receive the lowest priority because only the firm placing the order will receive the sales commission. A good example of such an order is one placed by an individual retail investor through his/her local broker. The investor is placing the order only through this one, particular broker. Hence, if the order is filled, all sales commissions for the order would go to the retail broker. Because retail orders normally receive last priority in the filling of bond orders, issuers wishing to provide access to local, retail investors may find it necessary to alter the standard PSA allocation rules.

At times a small portion of bonds -- usually no more than 15 to 20 percent of the longer maturity term bonds -- may be allocated as **retentions** to one or more of the firms in the underwriting syndicate. The purpose of retentions is to guarantee some bonds to specific firms so the underwriters have an incentive to work the deal knowing they will get

bonds to sell to their clients. This hopefully has a positive impact on the pricing of the bonds. However, some suggest that retentions are counterproductive. After meeting its targeted retention amount, an underwriter may reduce its efforts to find more investors for an issuer's bonds.

When there is a variation from the standard *Agreement Among Underwriters*, it is most often to accommodate local, retail demand for bonds. This is accomplished by placing "in-state" retail orders at the top of the priority list. Issuers hope to achieve two benefits by placing "in-state" retail orders at the top of the list.

1. **Yield Benefits** - Bonds issued by state and local governmental entities are generally exempt from federal income tax. Furthermore, many of these federally tax-exempt bonds are also exempt from state and local income tax in the states in which they are issued. This is particularly important in states such as California which have high state income taxes. For example, a resident of California values holding tax-exempt California bonds more than a resident of Illinois who would have to pay state income tax on the interest earned from the California bonds. Because in-state investors may have a higher demand for the bonds, such investors will be willing to receive a lower yield on their investment. Therefore, by placing as many bonds as possible with in-state investors, an issuer can lower its borrowing costs.
2. **Community Involvement** - More issuers are interested in giving residents of their jurisdictions the opportunity to buy bonds issued to finance a local capital project. In many cases, taxes or fees paid by residents secure the financing. As a result, it is politically prudent to provide those residents with an opportunity to benefit from the interest earnings on the bonds. Moreover, resident awareness and support of the project may be enhanced by providing an opportunity for residents to "own" a part of the project.

When there are significantly more orders than there are bonds to be sold, the result often can be many unhappy underwriters complaining to the issuer. Because of this and reasons related

to policy goals such as participation of Disadvantaged Business Enterprises (DBEs), more issuers are getting involved in the bond allocation process. This involvement has become a growing concern and source of disagreement among issuers and investors. The primary element of the discussion is who has the right to control the takedown -- issuers or investors. A brief discussion of each group's stance follows.

1. **Issuers Pay the Takedown** - As one of the components of the underwriting spread, the takedown is paid by issuers when they sell their bonds to underwriters. Because they pay the takedown, issuers feel they should have a right to determine which firms receive these revenues in order to meet policy or other goals. For example, many issuers have goals that require them to ensure DBE participation in the selling of bonds and receipt of takedown. Alternatively, the issuer may want firms providing ongoing analytical or secondary market support to be allocated a minimum amount of bonds.

Some issuers with specific goals regarding the splitting of sales commissions among underwriting firms have moved toward requiring investors to place orders on a group net basis only. Although this may ensure the takedown will be shared among all members of the syndicate according to a predetermined split, it may lessen the incentive of underwriters to aggressively market bonds. Furthermore, as will be discussed shortly, it may have an adverse effect on the number of investors interested in placing orders.

2. **Investors "Own" the Takedown** - Many institutional investors believe they "own" and should control the takedown. This view purports that the purchase of bonds by investors through particular underwriters in the new issue market is the investors' way to reward bond dealers for providing liquidity in the secondary market. Liquidity, the ability of the market for a particular bond to have buying and selling at reasonable prices, is important to investors because they adjust their portfolio holdings over time. The designation of orders to specific firms results in the those firms being paid the takedown, or sales commission, associated with those bonds.

AFTER THE SALE OF THE BONDS

Investors holding this view place Net Designated Orders. In cases where issuers specify only Group Net Orders to ensure a particular allocation of sales commissions, many institutional investors refuse to place orders. In fact, some large investors have specific rules prohibiting them from buying group net only deals. To the extent that such policies result in a lack of institutional investor demand, the issuer may end up with higher borrowing costs.

Generally, the actual physical sale of the bonds, called the bond closing, occurs one to three weeks after the verbal award is made on the day of pricing. After the hard work that goes into bringing to market and selling a bond issue, there is a tendency to relax after the pricing and closing date. However, it is important to reflect back on the transaction and evaluate both the process and outcome. This evaluation should occur for both negotiated and competitive bond sales. Building on successes and learning from mistakes will strengthen an issuer's position in dealing with underwriters in future bond offerings.

Shortly after the sale of a bond offering, the senior underwriter should prepare what is frequently termed an *Analysis of Distribution*. If not routinely provided by the underwriter, the issuer may need to formally request the senior underwriter to prepare this analysis. Despite its name, the document generally evaluates other important aspects of the selling of bonds in addition to distribution. An issuer should request a thorough analysis and ask specifically that certain aspects of the pricing be covered. The *Analysis of Distribution* should include the following information:

1. market conditions at the time of the pricing,
2. an evaluation of all borrowing costs including underwriting spread and a comparison of rates on the issuer's bonds with similar issues,
3. an analysis of the marketing performance of the firms selling bonds,
4. a review of the investors buying bonds, and

5. an evaluation of any other relevant items of interest determined by the issuer.

Many issuers find that a thorough *Analysis of Distribution* prepared to their specifications is a sufficient tool to evaluate the pricing performance of the underwriting team. Others prefer to augment the underwriter's analysis with an independent, internal study. Each issuer must decide which approach it prefers. The following discussion will address some of the more important elements that should be considered in evaluating pricing performance after the sale of bonds.

Market Conditions

Just as the issuer prepared for the pricing of bonds by studying general market conditions, it should also undertake a post-pricing evaluation of the economic conditions influencing the pricing outcome. Those factors to consider are among the same ones discussed earlier in this publication -- economic statistics and indicators as well as municipal market supply and demand levels. Analyzing general economic conditions to discern the tone of the market allows the issuer to more accurately evaluate the pricing performance of the underwriters.

Borrowing Costs

As discussed earlier, underwriters play an important role with respect to two components of an issuer's overall borrowing costs. One is the underwriting spread. This amount should be in line with spread numbers of similarly sized and structured deals in the market around the time of the pricing. Once again, this information is available through SDC, a municipal market database to which most investment banking firms subscribe.

The other component is the interest cost the issuer will be paying over the life of the bonds as determined by the pricing process. The issuer should focus on comparisons of rates between its bonds and the bonds of other issuers, and between its bonds and various indexes. An overly simple evaluation measure often used by underwriters is to compare the overall TIC on the bonds with a bond index such as **The 20 Bond Index** or **The Revenue Bond Index**. As pointed out earlier, however, this would be a biased comparison because a TIC is a blended yield and the indexes are based on the yields for final maturities. A better approach is to compare the issue's TIC to

the TICs of other issues of similar quality and structure sold in the same time period.

A more detailed technique involves analysis of each maturity of a bond issue to compare the pricing outcome to detailed yield scales provided by independent services. This approach, illustrated in a simplistic manner in Exhibit 2, can provide an issuer with information about how its bonds are being priced relative to the municipal market, as well as how its bonds are being received by the market over time. Among the providers of interest rate scales are Delphis Hanover, Municipal Market Data, and Applied Municipal Network. Each index is constructed differently. Therefore, an issuer must fully understand the index or indexes it decides to utilize for evaluating pricing outcomes.

The example used for Exhibit 2 is based on the issuance of \$20 million in bonds by a AA municipal credit. The issuer has chosen a 15-year structure with level annual debt service payments, interest paid semiannually and principal paid annually. The bonds were priced at yields ranging from 3.40 percent in 1995 to 6.05 percent in 2009.

Exhibit 2 illustrates a simple technique, computing a weighted average basis point differential, to compare the actual yields on the bonds priced to a specific market index for that same day. For each maturity, a yield differential between the actual and index yields is first calculated. Note that a negative differential is a good outcome -- the maturity is priced at a yield lower than the market index. This number is reported in basis points (1/100th of a percentage point). For example, the difference between 3.40 percent and 3.45 percent is 5 basis points. Next, the basis point differential by maturity is weighted by bond years, which is the product of the principal amount of bonds for a maturity and the number of years to maturity. Weighting takes into account the length of time over which an issuer is affected by the yield differential (e.g., a positive yield differential paid over a short amount of time will be less costly for an issuer than the same differential paid over a much longer time frame). The weighted differentials for each maturity are then summed to obtain a total weighted average basis point differential between the actual issue and the corresponding yield index.

As Exhibit 2 shows, the bonds were priced at yields below the market index in the early maturities, and at yields above the market index in the later maturities. The net unweighted differential is zero. However, the weighted-average yield

Exhibit 2

BENCHMARKING YIELDS

Maturity	Par Amount (\$)	Actual Yield (%)	AA Index Yield (%)	Yield Differential (basis points)	Weighted Average Yield Differential (basis points)
Year 1	935,000	3.40	3.45	- 5	- 0.026
Year 2	965,000	4.25	4.30	- 5	- 0.054
Year 3	1,010,000	4.60	4.65	- 5	- 0.085
Year 4	1,055,000	4.80	4.85	- 5	- 0.118
Year 5	1,105,000	5.00	5.05	- 5	- 0.154
Year 6	1,160,000	5.15	5.20	- 5	- 0.194
Year 7	1,220,000	5.25	5.30	- 5	- 0.238
Year 8	1,285,000	5.40	5.40	0	0.000
Year 9	1,355,000	5.50	5.50	0	0.000
Year 10	1,430,000	5.65	5.60	5	0.399
Year 11	1,510,000	5.75	5.70	5	0.464
Year 12	1,595,000	5.90	5.80	10	1.069
Year 13	1,690,000	5.95	5.90	5	0.613
Year 14	1,790,000	6.00	5.95	5	0.700
Year 15	1,895,000	6.05	6.00	5	0.793
	20,000,000			0	3.168

differential is calculated to be slightly over three basis points. The overall weighted-average yield differential outcome illustrates the greater impact of the yields on longer maturities. In general, the positive yield differential indicates that the bond issue was priced such that the yields, on average, were above the AA scale. This basic methodology can be applied to any and all yield indexes chosen by an issuer for evaluation purposes.

What is the significance of the yield differentials for each maturity or the positive three basis points weighted-average yield differential for the overall issue? On their own for a specific bond offering, there is little or no significance. Even though analysis as above can be helpful in evaluating the

pricing of bonds, an issuer needs to be cautious in interpreting results and taking actions based upon those results. The primary reason to exercise caution is that no scale or index can represent perfectly the factors that determine an issuer's reception by investors in the market. Bonds of different issuers with the same rating category frequently trade at different levels. For example, investors may perceive the credit quality of one AA issuer differently than some other AA issuer. This can easily explain deviations when comparing yields of identically rated issues. Some of the factors that might cause an issuer's bonds to price off a particular scale are:

1. whether it is a revenue or general obligation bond,
2. specific security considerations such as annual appropriation risk, debt coverage ratios, or additional bonds tests,
3. state income tax treatment of the interest and state income tax rates,
4. structuring factors such as the use of discount bonds, premium bonds, or CABs,
5. perception of the issuer's credit as improving or deteriorating,
6. whether there was a "bull" or "bear" market that day, and
7. the number of similar issues pricing in the market that day.

Evaluating actual yields to indexes becomes more meaningful when an issuer has a long established procedure for reviewing pricing outcomes relative to indexes. Even though no issuer's bonds are likely to price identical to particular indexes, the issuer can ascertain how its bonds normally price relative to the indexes. For example, if the issuer in the illustration above normally has its bonds price 10 to 15 basis points higher than the AA index, the pricing displayed in Exhibit 2 appears to have been successful. On the other hand, if the issuer normally has its bonds price 10 to 15 points lower than the AA index, the pricing results would not have been favorable.

Sellers and Buyers

In summary, benchmarking to contemporaneous transactions and monitoring trends over the long run can be used to identify deviations from the normal pricing range and allows an issuer to evaluate pricing outcomes for an entire issue or on a maturity-by-maturity basis. Such a process improves the ability of issuers to evaluate the pricing performance of the senior underwriter on individual transactions.

In addition to evaluating bond pricing, the *Analysis of Distribution* often displays the location of investors for an issuer's bonds by state. Also of interest, particularly to an issuer targeting retail investors, is the breakdown of investor types among bond funds, trust departments, insurance companies, and the retail market.

Additionally, an issuer should study the performance of the individual members of the underwriting team. Is there evidence that all members worked hard to sell the issuer's bonds? This is often based on the amount of orders for different maturities placed by each firm. However, more important than number of orders reported, is the quality of the bond orders. Did co-managers generate priority orders? As discussed earlier, priority orders tend to result in bonds being held by final investors, contributing to an orderly secondary market. At what time were orders placed? Orders brought in early during the pricing process are important in setting yields. Were orders placed in maturities requiring more work from the sales force? Orders brought in by firms at maturities where investor demand was light are more valuable than orders for maturities where investor demand was high.

An issuer also wants to be sure firms that have aggressively marketed its bonds received a proper allocation of bonds for their clients. The "hogging" of bonds by the senior underwriter can result in less aggressive marketing activity by other underwriting team members during subsequent bond offerings. If DBE goals played a role in the selection of the underwriting team, the issuer may be particularly interested in the order and allocation breakdowns.

SUMMARY

For many issuers the pricing of their bonds in a negotiated sale is a mysterious process controlled by the senior underwriter. This should not be the case. An issuer should be actively

involved in the pricing process to ensure bonds will be priced aggressively in the market. The days spent managing the pricing process are a wise investment. The benefit of aggressive pricing is lower borrowing costs throughout the years bonds are outstanding.

Even though an issuer should actively manage the pricing process and stay on top of the underwriters, it is important that the issuer works in a professional manner with the underwriters. Underwriters are hired by the issuer to provide distribution of bonds at the best price. The issuer should solicit and evaluate the recommendations of its underwriters and challenge them to justify their advice. Doing so increases the knowledge of the issuer while setting up a process that ensures better performance and accountability from underwriters.