Training Packet

MUNICIPAL BONDS

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ISSUING MUNICIPAL BONDS:
A Primer for Local Officials

U.S. Department of Agriculture
Economics, Statistics, and Cooperatives Service
in cooperation with the
Department of Agricultural and Applied Economics,
University of Minnesota
Preface

This manual gives an overview of how bonds of small local governments are issued, underwritten, marketed, and serviced. The manual distinguishes the different types of bonds, discusses the appropriateness of each type for different purposes, and illustrates the effect of different repayment structures on interest costs. The types of documents that a community must prepare in connection with a bond offering are also discussed.

Acknowledgments

The author gratefully acknowledges the help provided by a number of municipal bond counselors, fiscal advisers, underwriters, dealers, and paying agents. It would have been very difficult to write this manual if they had not been willing to supply much of the information it contains. Special thanks are due to Thomas F. Stimson of the Economics, Statistics, and Cooperatives Service (ESCS) of the U.S. Department of Agriculture for his editorial suggestions. This report is an indirect product of a broad program of research on impacts of energy development in the Northern Great Plains on communities, people, and local governments. That research program is conducted by ESCS and partially supported by the Office of Research and Development, U.S. Environmental Protection Agency.

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July 1979
ISSUING MUNICIPAL BONDS
A Primer for Local Officials

Andrea Lubov*

Introduction

Issuing bonds is often the best (and only) way that a community can raise sufficient funds to undertake large capital projects. But mistakes can be costly. Overlooking a legal requirement could nullify the bonds. Marketing them on the wrong day could result in no purchasers. And, using a poorly designed debt instrument could saddle a community with high interest costs for 20 to 30 years.

Mayors and local officials are usually not financial experts, and small communities usually cannot afford to keep financial experts on the payroll. Although technical assistance is available, local officials need to understand the bond process so they can make informed decisions and explain their community's special needs to advisers. This manual is a general guide for officials of local governments who participate only occasionally in the debt market. It is designed to inform them of the basic steps involved in putting together a bond issue (offering) and to acquaint them with sources of more specific technical assistance.

Debt offerings pass through three phases: designing the offering, preparing official documents, and marketing the issue. Each of these phases and the types of professional assistance that are available are discussed below. A glossary of bond-related terms follows the text.

Designing the Offering

The design of a bond offering refers to the type of bond to be issued, its average maturity and repayment structure, and its call provisions. Each of those factors affects the ultimate cost of financing the project.

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Type of Issue

Most municipal offerings are either general obligation bonds, revenue bonds, or special assessment bonds. There are advantages and disadvantages to each. The type of bond issued to finance a community improvement depends in part on custom and in part on the circumstances of a particular offering. General information about the three principal types of municipal bonds follows.

**General obligation bonds** pledge the unlimited taxing power and the full faith and credit of the issuing government to meet the required principal and interest payments. Most States limit the amount of general obligation debt that a local government can issue to a specified fraction of the taxable value of property within its jurisdiction. Some States require voter approval to issue general obligation debt. The interest rates on general obligation bonds are frequently lower than on other types of bonds because general obligation bonds are considered less risky.

**Revenue bonds** are frequently used to finance city-owned utilities, industrial parks, toll bridges, golf courses, and liquor stores. The bonds pledge the revenue from a particular revenue source (usually receipts from the facility to be constructed) to meet the principal and interest payments. Revenue bonds are appropriate debt instruments when the project can be expected to generate sufficient revenue to meet both operating and debt service costs. In some States revenue bonds may become a general obligation of the government issuing them, if revenue is not sufficient to meet interest and principal payments.

Communities may have to pay higher interest rates on these bonds than on general obligation bonds because revenue bonds are considered riskier. But revenue bonds also have an important advantage over general obligation bonds: the amount of the revenue bonds is not included in the amount of indebtedness subject to State debt limitations. Voter approval is usually not required for revenue bonds.

The legal requirements for issuing revenue bonds are much more complicated than those for issuing general obligation bonds. When revenue bonds are issued, a special authority or commission must be established to operate the facility and a special revenue fund must be created for the deposit of all operating receipts. A trust agreement that describes the monthly disbursement of revenue and contains provisions to protect the bondholders must also be formulated.

**Special assessment bonds** are used to finance improvements where the property benefited can be identified. Special assessment bonds are frequently used to make capital improvements in a particular neighborhood. Principal and interest payments for these bonds are made by a special assessment on the property benefiting from the improvement. Before special assessment bonds are issued, a public hearing is usually held to allow the affected property owners to say whether or not they want the improvement. But, voter approval
is not generally required. Debt financed by special assessment bonds is not subject to debt limitations.

Maturity Structures

Communities must also decide on their bond issue’s maturity structure. That involves two questions: How much cash will be required each year? And, how long will the debt extend? States limit the maximum time for which communities may borrow. If the offering will be used to finance the construction or purchase of a facility, the bonds should be repaid while the facility still has some useful life left. A general principle of sound money management is that money should not be borrowed for longer than the life of the asset it will purchase.

A bond issue’s maturity structure has a major effect on its interest costs. The later the final maturity date, the higher the interest costs over the life of the issue. But once the final maturity date has been determined, the structure of the repayment plan can also affect interest costs. The principal of the loan is repaid more quickly under some repayment plans than others. The more rapidly principal is repaid, the lower the total interest costs. It may be to the community’s benefit, however, to repay debt slowly, especially if neither the revenue nor the benefits from the project will be realized until several years after the money is borrowed.

Maturity structure is measured by average maturity, defined as

\[
\text{Average maturity} = \frac{\text{Total bond years}}{\text{Total bonds}}
\]

To compute maturity, a bond is defined as $1,000 (regardless of the denomination in which the bond is actually issued). A $500,000 issue, then, is 500 bonds. A bond year is the number of bonds payable in a given year times the number of years from their issue to repayment. If, for example, $500,000 is to be repaid in two equal annual installments, it equals 750 bond years \((250 \times 1 + 250 \times 2)\). Bond years are calculated for each year in which any principal is repaid. The sum of all bond years is called total bond years.

Calculation of the average maturity of a 10-year, $500,000 bond issue using four different principal repayment patterns—straight serial, serial annuity, balloon, and irregular—is illustrated in tables 1 to 4. The average maturity ranges from 10 years for the balloon maturity to 5.5 years for the straight serial maturity. The maturity structure a community chooses should depend on the retirement structure of its existing debt, expected revenue during the repayment period, and State statutes. The rate at which the community will receive benefits from its new facility should also be considered. Ideally, debt repayment will not begin until after the first benefits have been received.

Straight serial maturity structures require an equal amount of the principal to be repaid each year, so annual interest costs decline. Because the
debt is repaid more rapidly than with other maturity structures, the municipality, in effect, tells investors that it is eager to establish a good repayment record which, in turn, may lead to lower interest costs. The disadvantage of straight serial bonds is that large principal repayments are required in the early years of the issue.

The annual cost of a 10-year, $500,000 issue with a straight serial maturity structure and 5 percent interest payable on all bonds is illustrated in table 1. The sum of principal and interest payments is higher in the early years than if the bond issue matured more slowly. The sum of principal and interest is lower in the later years than for other maturity structures. Total interest payments using this type of maturity are usually less than for other types.

**Serial annuity maturity** structures call for repayment of the loan in installments that are about the same throughout the life of the issue. The amount of principal repaid each year increases while annual interest payments decrease. (Most loans to individuals, like those for homes and autos, have serial annuity maturity structures.) Serial annuity bonds simplify long-term financial planning because an equal amount of revenue has to be raised annually. This feature is particularly important to municipally owned utilities. North Dakota statutes encourage cities to use serial annuity bonds.

The annual cost of a 10-year, $500,000 issue with a serial annuity maturity structure and 5 percent interest on all bonds is illustrated in table 2. The sum of principal and interest payments is approximately $65,000 in each year. In contrast, the annual cost of a comparable straight serial bond (table 1) declines from $75,000 in the first year to $52,500 in the 10th. The interest cost of serial annuity bonds is higher than the interest cost of comparable

<table>
<thead>
<tr>
<th>Year</th>
<th>Principal repayment</th>
<th>Interest payment</th>
<th>Total</th>
<th>Bond years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dollars</td>
<td></td>
<td></td>
<td>No.</td>
</tr>
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<td>75,000</td>
<td>50</td>
</tr>
<tr>
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<td>50,000</td>
<td>22,500</td>
<td>72,500</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>50,000</td>
<td>20,000</td>
<td>70,000</td>
<td>150</td>
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<td>50,000</td>
<td>17,500</td>
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<td>200</td>
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<td>450</td>
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<tr>
<td>Total</td>
<td>500,000</td>
<td>137,500</td>
<td>637,500</td>
<td>2,750</td>
</tr>
</tbody>
</table>

Average maturity = \( \frac{\text{Total bond years}}{\text{Total bonds}} = \frac{2,750}{500} = 5.5 \text{ years} \)
Table 2 – Serial annuity maturity: Interest cost and average maturity of a 10-year, $500,000 issue with 5 percent interest payable on all maturities

<table>
<thead>
<tr>
<th>Year</th>
<th>Principal repayment</th>
<th>Interest payment</th>
<th>Total</th>
<th>Bond years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No.</td>
</tr>
<tr>
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<td>40</td>
</tr>
<tr>
<td>2</td>
<td>42,000</td>
<td>23,000</td>
<td>65,000</td>
<td>84</td>
</tr>
<tr>
<td>3</td>
<td>44,000</td>
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<td>4</td>
<td>46,000</td>
<td>18,700</td>
<td>64,700</td>
<td>184</td>
</tr>
<tr>
<td>5</td>
<td>48,000</td>
<td>16,400</td>
<td>64,400</td>
<td>240</td>
</tr>
<tr>
<td>6</td>
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<td>7</td>
<td>53,000</td>
<td>11,500</td>
<td>64,500</td>
<td>371</td>
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<tr>
<td>8</td>
<td>56,000</td>
<td>8,850</td>
<td>64,850</td>
<td>448</td>
</tr>
<tr>
<td>9</td>
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</tr>
<tr>
<td>10</td>
<td>62,000</td>
<td>3,100</td>
<td>65,100</td>
<td>620</td>
</tr>
<tr>
<td>Total</td>
<td>500,000</td>
<td>147,000</td>
<td>647,000</td>
<td>2,950</td>
</tr>
</tbody>
</table>

Average maturity = \( \frac{Total \ bond \ years}{Total \ bonds} = \frac{2,950}{500} = 5.9 \) years

straight serial bonds, because money is borrowed for a longer period. The average maturity for the straight serial bond is 5.5 years (see table 1), compared to 5.9 years for the serial annuity.

Balloon maturity structures require only annual interest payments to bondholders; the principal borrowed is repaid in one lump sum when the bond matures. This maturity structure is used in two different situations. In the first, annual principal payments are made to a special fund called a sinking fund and annual interest payments are made to the bondholders. The community repays the entire debt when the issue matures by using the money set aside in the sinking fund. This type of debt structure, although once popular, fell out of vogue during the depression, when a number of municipalities failed to make their sinking fund payments and defaulted on their bonds.

In the second type, the bondholders receive annual interest payments and are repaid with newly borrowed money when the bond matures. This type of balloon maturity (called a term bond) is used when a community wants to borrow for longer than the State-imposed maximum borrowing period, or when it is unable to borrow on suitable terms but needs funds quickly. When the balloon payment is due, the community enters the market again hoping for more favorable terms than before. Repeated use of this method, although it is useful under certain circumstances, may lead to serious financial difficulty. Many States forbid bonds that mature with a single balloon payment, although many do allow bond issues with the last payment much larger than earlier ones.

The annual cost of a 10-year, $500,000 debt issue with a balloon maturity structure paying 5 percent interest is shown in table 3. The annual
cost of this type of bond is lower than for any other maturity structure until the balloon payment is due. The total cost for this type of issue, however, is higher than for any other maturity structure, since funds are borrowed for a longer period of time.

Irregular maturities may follow any pattern. Principal payments may, for example, be low in the early years and high in the later years, to fit the community's anticipated growth. The later the debt matures, however, the higher the interest costs for any given interest rate. Many investors favor debt issues with early maturities, so bond issues with a disproportionate amount of the debt maturing in later years often must pay higher interest rates than those with earlier maturities.

The repayment schedule of a 10-year, $500,000 bond issue with a slightly irregular maturity structure is illustrated in table 4. No principal is repaid until the third year after the bond is issued. The amount due then remains constant at $60,000 through the 8th year, increases to $65,000 in the 9th year, and to $75,000 for the final payment in the 10th year. Interest costs for irregular maturity issues can be greater or less than those for the comparable straight serial or serial annuity issues, depending on the average maturity of each.

Call Provisions

When a bond is callable, local officials have the right to repay all outstanding principal before it is due (but usually only after some agreed upon date). Call provisions allow the local government to take advantage of any significant drop in interest rates and refinance its debt.

Table 3 – Balloon maturity: Interest cost and average maturity of a 10-year, $500,000 issue with 5 percent interest payable on all maturities

<table>
<thead>
<tr>
<th>Year</th>
<th>Principal repayment</th>
<th>Interest payment</th>
<th>Total</th>
<th>Bond years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Dollars</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>25,000</td>
<td>25,000</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
<td>25,000</td>
<td>25,000</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
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<td>0</td>
<td>25,000</td>
<td>25,000</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
<td>25,000</td>
<td>25,000</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>25,000</td>
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<td>9</td>
<td>0</td>
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<tr>
<td>10</td>
<td>500,000</td>
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<td>525,000</td>
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<tr>
<td>Total</td>
<td>500,000</td>
<td>250,000</td>
<td>750,000</td>
<td>5,000</td>
</tr>
</tbody>
</table>

Average maturity = \frac{\text{Total bond years}}{\text{Total bonds}} = \frac{5,000}{50} = 10 \text{ years}
Table 4 – Irregular maturity: Interest cost and average maturity of a 10-year, $500,000 issue with 5 percent interest payable on all maturities

<table>
<thead>
<tr>
<th>Year</th>
<th>Principal repayment</th>
<th>Interest payment</th>
<th>Total</th>
<th>Bond years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dollars</td>
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<td></td>
<td>No.</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>25,000</td>
<td>25,000</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>0</td>
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<td>25,000</td>
<td>0</td>
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<td>3</td>
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<td>420</td>
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<tr>
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<td>Total</td>
<td>500,000</td>
<td>165,000</td>
<td>665,500</td>
<td>3,250</td>
</tr>
</tbody>
</table>

Average maturity = \[
\frac{\text{Total bond years}}{\text{Total bonds}} = \frac{3,250}{500} = 6.5 \text{ years}
\]

Communities also issue callable bonds when State statutes require that all bonds be paid off before new debt can be issued. Investors benefit from such a requirement, since they are assured that no debt exists with a prior claim to the facility, and the community gains the flexibility to obtain any additional long-term financing it may need.

Investors are usually willing to purchase callable bonds only at higher interest rates than similar noncallable bonds; or they may require a premium in excess of the principal amount borrowed if the bonds are called. Investors' willingness to lend is based, in part, on the assumption that the bonds will provide a fixed income for a stated number of years. If the bonds are called, investors will not receive interest for as long as they had anticipated, and they run the risk of being unable to find as attractive an investment. Generally, however, the more distant the call date is from the issue date, the closer are the interest rates for similar callable and noncallable bonds.

Preparing Official Documents

Community officials must prepare a number of documents in connection with a bond offering. Three of these documents – the capital improvement plan, the official statement, and the legal opinion – are discussed below.

The capital improvement plan (CIP) tells investors, underwriters, and rating agencies about the community's future plans so they can assess the risk associated with any particular bond issue. The CIP outlines the community’s
expected capital expenditures for the next 5 to 10 years and the manner in which they will be financed. Plans need not be presented in great detail — a simple listing of each year’s tentative plans for capital improvements and their financing is sufficient. Nor is the plan “cut in stone,” some deviation is expected. The CIP is prepared by local officials and based on an engineer’s estimate of the condition of the community’s present facilities (streets, sewers, buildings, and equipment) and the cost of the desired improvements.

The CIP is not part of the bond transcript, the record of legal documents associated with a bond offering. It is, nonetheless, an important document that should be revised regularly to reflect changes in the community’s needs.

The official statement describes the community, its financial resources, and the proposed bond issue in detail. Care should be taken in its preparation, since investors and underwriters base their decisions to commit funds to the issue on the information it contains.

An official statement is required whenever a bond issue is to be underwritten using competitive bidding. It is usually prepared by a fiscal consultant (see p. 15). The official statement should contain information about the maximum discount and the maximum rate of interest that will be allowed. (The discount is discussed in the section on underwriting.)

The official statement contains two sections. The first describes the community, its major industries, largest property taxpayers, outstanding municipal debt, and tax collection and bond repayment record for the past 5 years. It also includes a discussion of future borrowing plans. This section is supposed to inform underwriters and potential investors of the municipality’s ability to repay the money it borrows; it must be accurate and not contain any misleading statements.

The second section of the official statement describes the bond issue in detail: the purpose and amount of the issue, the type of issue, its maturity structure, the interest payment dates, call privileges (if any), when and where the bidding will take place, where the bonds will be delivered, and the name of the bond counsel. This section also states whether the municipality has applied for a bond rating.

Most States limit the maximum rate of interest that local governments can pay. There is some variation among States. Official statements should include a disclaimer permitting the community to refuse all bids. It is usually unwise to reject all bids, however, if they meet the terms set forth in the official statement. This is particularly true if the community plans to issue any debt during the next few years, because underwriters may then be reluctant to bid on the new issues.

The legal opinion certifies that the community has complied with the numerous and complex legal requirements governing municipal debt. Failure to comply with all of the requirements may invalidate the issue, making it worthless to investors. The legal opinion is prepared by a bond counsel and assures investors that the community has legal authority for the issue, that the
use of the revenue source is legal and irrevocable, and that the community is legally bound by all provisions in the bond. The legal opinion also states whether, in the opinion of the bond counsel, the interest paid by the city will be exempt from Federal and State income taxes. The bond counsel does not, however, offer any judgment on whether the community can repay the debt. The legal opinion is often printed on the bond certificate. The legal opinion of a local attorney might be satisfactory if the issue is small and will be purchased by local investors. The legal opinion should be furnished by a recognized bond counsel, however, if the issue is to be marketed outside the community that issued it. Underwriters may insist on another opinion, furnished by a bond counsel of their own choosing and at the community’s expense, if they are unhappy with the bond counsel chosen by the community. A list of recognized bond counsels can be supplied by the League of Cities, the State Bar Referral Service, or a fiscal consultant (see p. 15). Once the final legal opinion has been given, the bonds can be printed, usually by a banknote company selected by the bond counsel.

**Bond Rating, Underwriting, Marketing, and Servicing**

Communities do not borrow directly from bondholders. Sales to the public are typically handled by a middleman-broker, the underwriter, who purchases (underwrites) the entire offering, and then resells (reoffers) individual bonds to private investors. The underwriter guarantees the community that it will receive the dollar value for which the bonds have been underwritten, even if there are not enough investors to purchase the entire issue when it is reoffered.

The bond rating of the community offering an issue strongly affects the price at which the issue is underwritten and subsequently reoffered. The underwriting price determines the community’s interest cost for the life of the issue.

**The Bond Rating**

A bond rating is a shorthand description of the local government’s credit worthiness, as determined by a bond-rating agency. Ratings are provided by several firms located in New York City. Bonds are rated investment grade or below investment grade, and each of these ratings has several subgrades. Usually, the higher the rating awarded to a bond, the lower the interest costs to the issuer. The fee for a bond rating is based on the community’s population, the complexity of the bond issue, and the time the agency spends in rating it. Communities also have their bonds rated to increase the bonds’ marketability. Many purchasers of municipal issues are required to keep a large portion of their investment portfolio in investment grade bonds.
Many small cities choose not to have their bonds rated when the potential interest savings from offering rated bonds is less than the cost of obtaining the rating. Some small cities may choose not to obtain a rating if they feel a below-investment-grade rating is likely. Underwriters find it easier to reoffer an unrated bond than one with a below-investment-grade rating.

Small cities borrowing less than $2.5 million have tended not to receive the highest investment-grade ratings. One of the best ways a small community can get a good bond rating is to show evidence of careful long-term planning and good recordkeeping.

Bond Underwriting and Marketing

Most bond issues are larger than any single investor is willing to purchase, so an underwriter acts as an intermediary between the local government and the investors. The underwriter agrees to purchase the entire bond issue, hoping to sell the individual bonds to investors for a profit.

The underwriter deposits a part of the principal to be borrowed with the community at the time of the underwriting. The balance of the principal is not due until 30 to 60 days later when the bond certificates are delivered to the underwriter. The delay is because the bonds cannot be printed until the interest rate that will be paid for each maturity and the name of the paying agent who will service the bonds is known, and neither can be determined until the community accepts the underwriter’s bid. The underwriter uses the time until the bond certificates are delivered to select the paying agent and to obtain commitments from investors to purchase individual bonds. The underwriter is committed to purchase the entire issue, even if investors have not been found by the time he receives the bond certificates.

If an issue is too big for a single underwriter to purchase, several underwriters form an underwriting syndicate and together purchase the issue. Underwritings are either negotiated or competitive.

Negotiated underwriting. – When an underwriting is negotiated, the underwriter is selected as the issue is being designed. Local officials, the underwriter, and the fiscal consultant (if one is used, or if the fiscal consultant is someone other than the underwriter) all agree on the interest rate that will be paid on each maturity. The underwriter usually begins looking for investors while the issue is still being designed. Minor design modifications can be made to accommodate an investor. Negotiated underwritings are common for revenue bond offerings, particularly when the issue is large or otherwise difficult to market. Very small general obligation issues are also often underwritten on a negotiated basis.

A special type of negotiated underwriting occurs when a Federal or State agency underwrites an issue. The Farmers Home Administration, U.S. Department of Agriculture, is particularly active in underwriting bonds to construct or improve water and sewer facilities in small communities. The
Farmers Home Administration may underwrite all or part of an offering if the municipality is unable to get private financing at reasonable rates.

Some State agencies underwrite many municipal offerings. The model for this type of activity is Vermont. There, a State bond bank issues its own bonds and uses the proceeds to purchase local securities. The interest rate that borrowers pay is tied to the rate received by the State bond bank.

Competitive underwriting. — The underwriter for most general obligation bonds and many revenue bonds is selected by competitive bidding. The number of underwriters competing depends on the size and quality of the offering. Small issues are likely to attract only a few local underwriters, while a large offering by a city with a high investment-grade rating is likely to attract many bidders from all over the country. The underwriter selected is the one who offers to buy the bonds at the lowest interest cost. The community determines how much principal will mature each year, but the underwriter determines the rate of interest, or coupon, that will be paid. The underwriter’s bid states the annual interest rate the municipality will pay for bonds maturing in each year and how much of the principal the underwriter will provide to the community. The coupon the community pays on all bonds maturing in any single year should be the same, but it need not be identical for any 2 years. The underwriter’s bid is based on what he thinks investors will be willing to pay when the bonds are reoffered. The underwriter considers the characteristics of the community, its outstanding debt, its credit rating, features of the particular debt issue, and his need to make a profit.

The winning bid is the one that minimizes the community’s interest cost. There are two ways to judge the minimum cost, and the winning bid using one method generally will not win using the other. The first is called net interest cost and the second true interest cost.

Net interest cost is the traditional basis for choosing an underwriter by competitive bidding. It is computed by the formula:

\[
Net \text{ interest cost} = \frac{\text{Interest payable} \pm \text{discount (or - premium)}}{\text{Principal} \times \text{average maturity}}
\]

Net interest cost is the community’s average annual cost of the debt, including interest and any discount or premium, expressed as a percentage of the average outstanding principal.

The discount or premium is the difference between the amount that the underwriters provide to the community and the principal that must be repaid. The bond issue is underwritten at a discount if the underwriters provide the community with less than the principal amount borrowed. The difference is called the premium when underwriters provide the community with more than the face value of the bond (the principal amount borrowed). Bonds are underwritten at par when they are underwritten for the exact amount borrowed. Whenever bonds are not underwritten at par, the amount (gain) of the discount (premium) is spread out over the life of the issue. The maximum
Illustration of a Winning Bid

The net interest cost for the winning bid on a recent 15-year, $300,000 issue callable at par after 10 years is calculated in the following example. The State where the bonds were offered permitted discount bidding, so the bonds were underwritten with a $4,500 discount. The prices at which bonds maturing in any year could have been purchased when the bonds were reoffered are also shown. All the bonds were reoffered at par or at prices close to par.

<table>
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<tr>
<th>Year</th>
<th>Principal Dollars</th>
<th>Bond years No.</th>
<th>Interest rate Pct.</th>
<th>Interest payable Dollars</th>
<th>Reoffering price Index</th>
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Interest payable $143,320  
Bond discount $4,500  
Total $147,820

Average maturity = \[ \frac{\text{Total bond years}}{\text{Total bonds}} \] = \[ \frac{2,400}{300} \] = 8 years

Total interest payable + bond discount = 143,320 + 4,500  
Net interest cost = \[ \frac{\text{Total principal x average maturity}}{300,000 x 8} \] = 6.159%

\(^1\) A price of 100 means par. A $5,000 bond selling at par costs $5,000. If it sold at 110 (a premium), it would cost $5,500 (1.10 x $5,000), and if it sold at 90 (a discount), it would cost $4,500 (0.9 x $5,000).
discount, if any, that will be permitted must be included in the official statement.

Discounting enables underwriters to reoffer bonds at close to par, their stated value. The underwriter's profit is the difference between the amount advanced at the underwriting and the revenue obtained from reoffering the bonds. When bonds are underwritten at par, they generally will be reoffered at a premium, and when underwritten at a premium, reoffered at an even greater premium. Investors may be reluctant to purchase bonds at a premium, unless they can be convinced that even with the premium the bond represents a good value. Some States, like South Dakota, forbid underwriting at a discount and permit only par bidding.

The underwriter selected in nearly all competitive offerings is the one who offers to underwrite the bonds at the lowest net interest cost to the community. There is a drawback to using net interest cost, however. While it reflects the dollar value of interest payable, it does not reflect the time pattern of interest payments. Economists suggest that the early maturities should have lower coupons than the later maturities because a dollar today is worth more than a dollar a year from now. Such a result is usually not obtained when using net interest cost bidding.

A second basis for awarding competitive bids, called true interest cost, takes into account both the dollar cost and the time pattern of interest payments. True interest cost as the basis for awarding bids is generally limited to offerings in excess of $10 million, because a computer is required to compare the bids.

Servicing the Bond Issue

The only contact between the community and the investor, once the bonds are delivered, is through the paying agent. The paying agent sends interest payments and principal repayments to investors and keeps the accounting records of payments to investors. Holders of municipal bonds receive their interest payments semiannually, unlike holders of United States savings bonds who receive a single interest payment only when their bonds mature.

Municipal bonds are usually bearer bonds — bonds on which interest is payable to the bearer of the bond at the time interest is due. Bonds may be printed in two other forms: fully registered bonds, and bonds registered as to principal only. Holders of bearer bonds or bonds registered as to principal only will receive interest payments only when they clip the appropriate coupons from their bond certificates and send the coupons to the paying agent. Holders of fully registered bonds receive their interest payments automatically. Similarly, when the principal becomes due and payable, holders of bearer bonds will not receive their payment until they request it, and holders of fully registered bonds or bonds registered as to principal only will receive their payment automatically.
Paying agents are nearly always banks located in financial centers, although the job is handled by the State treasurer in Kansas. The paying agent is often a bank that purchases a large share of the bonds. The municipality should not insist that a local bank be designated as paying agent because most local banks are not equipped to perform the required services. Even a small issue like the one on page 12 entails 4,800 interest and 300 principal payments over 15 years, during which the paying agent must account for and handle some 5,150 coupons and bond certificates. Paying agents base their fee on the number of coupons and the number of bonds in an issue.

When Will the Community Get Its Money?

The length of time involved in preparing and issuing bonds depends on the size and complexity of the issue and on how well prepared the community was when it began the debt-issuing process. For a general obligation issue that will be competitively underwritten and for which no election is required, at least 6.5 months should be allowed between the time that local officials post notice of a meeting to consider the improvement and the time the money is received. Another 6 to 12 weeks should be added if a consulting engineer, fiscal consultant, or bond counsel must be selected. Another 6 months to 1 year must be added if an election has to be held to approve the issue.

A typical timetable for a municipality needing money by January 1 would begin with the city council’s posting notice the previous May 15 that a public hearing will be held on June 15 to consider the proposed improvement. A 30-day notice of a hearing is common, although some State laws may differ. At its next meeting, presumably the week following the public hearing, the city council can pass a resolution to order the project. The council is then ready to tell the consulting engineer to prepare the project plans by August 1. The council can advertise for construction firms’ bids after the construction plans are presented. A month should be allowed to collect all bids, and the construction contract can be awarded on September 1. At that time, the city council may pass a resolution to sell bonds. The bonds should be sold no earlier than October 15 in order to give underwriters adequate notice to prepare their bids and to allow the community enough time to prepare its official statement. Completing the final legal opinion, printing the bonds, and selecting the paying agent will take about 40 days from the time the bonds are sold to underwriters. The local government could receive its money and the underwriters their bond certificates the last week in December.

Sources of Professional Assistance

Cities, particularly small cities without any specialized financial and legal staff, may need professional help in designing a proposed bond issue and in obtaining a legal opinion. The kind of professional help a community will
need when it is issuing bonds depends on the size and complexity of its particular bond offering and on State laws and customs. In general, the larger and more complicated the bond offering, the more likely that professional help will be needed to design it. Help with designing an issue may be obtained from the local League of Municipalities, the bond counsel, or a fiscal consultant.

A good source of help in preparing a bond offering is the local League of Municipalities. The League can provide a great many services, often at little or no cost. Officials should check their local office. The League will often provide model official documents and consultant and legal help. The local League may also be able to furnish a list of recent municipal debt offerings in its State. Officials in those municipalities can describe the technical assistance they obtained and their satisfaction with those providing the services. If the League cannot provide such services, it will be able to suggest the names of firms that can help. Cities may also be able to obtain fiscal advice directly from their State Government (in North Carolina, for example). More specialized help is available from bond counselors and fiscal advisers.

Bond counselors often provide fiscal advice in addition to legal services. In New York, for example, fiscal advice is frequently provided by the bond counsel.

Fiscal consultants or fiscal advisers can help evaluate a community's long-term capital improvement plan, design the issue, prepare the official statement (if one is needed), prepare documents for the bond rating (if one is to be obtained), and time the marketing; sometimes they even underwrite the bonds.

Fiscal consultants are of two types: independent fiscal consultants and fiscal consultant/underwriters. Independent fiscal consultants are not affiliated with any underwriter, bond dealer, or investor. Fiscal consultant/underwriters frequently agree to remove themselves from bidding on the underwriting when they serve as fiscal consultants.

Some States permit municipalities to offer small issues of general obligation debt without competitive bidding. Local governments in Minnesota, for example, can use this option if they issue less than $100,000 of debt during any 3-month period. When competitive bidding is not required, many services provided by independent fiscal consultants (preparing the official statement, applying for a bond rating, and furnishing certain information) may not be necessary. It may be advisable under these circumstances to use a fiscal consultant/underwriter who will provide fewer services and may charge a lower fee than an independent fiscal consultant. Some fiscal consultant/underwriters offer fiscal consulting at no charge, making all their profit from underwriting the bonds on a negotiated basis.
Additional Reading

The following publications deal with issuing bonds and can be understood by a reader without special training in municipal finance.


Glossary of Financial Terms

Accrued Interest: Interest earned on a bond or security from its last interest date. The purchaser buys this interest at the time the bond is purchased and receives the entire interest on the next coupon date.

Ad Valorem Tax: A tax on the value (or assessed value or taxable value) of property.

Amortization: The systematic reduction of debt through use of serial bonds or term bonds with sinking fund on an actuarial basis. Also, the gradual and periodic reduction of premiums and discounts on bonds purchased and sold so as to show the true amount of assets or liabilities represented by the premiums or discounts.

Arbitrage Bond: A bond issued at a low interest rate, proceeds of which are invested at a higher interest rate. Interest earned on arbitrage bonds is fully taxed.

Average Maturity: The number of years from issue which marks the point at which half the principal remains unpaid. It is equal to the total bond years divided by the total number of bonds. The average maturity is important because it demonstrates how rapidly the issue is being paid off.

Average Net Interest Cost: see Net Interest Cost.

Balloon Payment: Final principal payment that is much larger than the other principal payments.

Basis Point: Hundredths of 1 percent of interest. If an interest rate is 5.25 percent, the 0.25 is referred to as 25 basis points.

Bearer Bond: A bond without an identified owner. The presumed owner is the person who holds it.

Bid: A proposition to purchase an issue offered for sale either in a competitive offering or on a negotiated basis.

Bidding Syndicate: One or more firms of underwriters that act together to underwrite a bond issue.

Bond: A written promise to pay a specified sum of money, called the face value or principal amount, at a specific date or dates in the future, called the maturity date(s), together with periodic interest at a specified rate. The difference between a note and a bond is that the latter runs for a longer period of time and requires greater legal formality.

Bond and Interest Record: The permanent and complete record maintained by a government for each bond issue. It shows the amount of interest
and principal coming due each date, the bond and coupon numbers, and all other pertinent information concerning the bond issue.

Bond Counsel: An attorney retained by the municipality who assures the purchaser that the bond was legally issued. The bond counsel's approving opinion is printed on each bond and states that in his opinion the municipality has complied with all legal requirements in issuance of the bonds and that interest paid on the bonds is exempt from income tax. Without such an opinion the bonds are not marketable.

Bond Record: see Bond and Interest Record.

Bond Transcript: All legal documents, including appropriate minutes of city council meetings, associated with issuing a bond.

Bond Years: The product of the number of bonds (1 bond=$1,000) and the period of time from issue to the stated maturity.

Callable Bond: A type of bond which permits the issuer to pay the obligation before the stated maturity date by giving notice of redemption in the manner specified in the bond contract.

Call Price: The price at which callable bonds will be redeemed if called.

Capital Improvement Plan: A plan for capital expenditures to be incurred each year over a fixed period of years to meet anticipated needs. It sets forth each project or other contemplated expenditure in which the government is to have a part and specifies the full resources estimated to be available to finance expected expenditures.

Competitive Bid: Basis for underwriting bonds in which the underwriting is awarded to the underwriting syndicate submitting the best bid according to the stipulated criteria.

Consulting Engineer: Engineering firm that provides engineering services to organizations, such as cities or counties, for a fee.

Coupon: The detachable part of a bond which serves as proof of interest due. Bondholders detach coupons, usually at semiannual intervals, and present them for payment to the issuer's paying agent.

Cumulative Bond Years: See Total Bond Years.

Current Yield: Annual interest payable on a bond divided by its current price, expressed as a percent.

Debt Limit: The maximum amount of debt that a governmental unit may incur under constitutional, statutory, or charter requirements. The limitation is usually some percentage of taxable valuation and may be fixed upon either gross or net debt. The legal provision in the latter case usually specifies what deductions from gross funded debt are allowed to calculate net debt.

Delivery Date: Date on which the bonds are exchanged for the principal; usually 30 to 60 days after the bonds are underwritten.

Discount: The difference between the par value (face value) of a bond, or other security, and the price for which it is acquired or sold. See Premium.
Fiscal Consultant: Person who offers a broad range of services to municipalities seeking debt financing, including preparation of capital improvement plan, official statement, and other documents; procurement of bond rating; and marketing evaluation.

Full Faith and Credit Bond: see General Obligation Bond.

General Obligation Bond: A bond for which the full faith and credit of the issuer has been pledged for payment.

Interest: Compensation paid or to be paid for use of money, including interest payable at periodic intervals or as a discount at the time a loan is made.

Investment Grade: A bond rated at least BBB by Standard and Poor’s Corporation or at least Baa by Moody’s Investor’s Service. Bank examiners require that most bonds held in bank portfolios be investment grade.

Maturity: The date on which the principal of a bond becomes due and payable.

Negotiated Underwriting: Contractual arrangements between an underwriter and an issuer of debt in which the underwriter is given the exclusive right to underwrite the issue.

Net Interest Cost: Total interest cost plus discount or minus premium divided by the product of average maturity and total bond years.

Net Interest Cost Bid: Basis of evaluating an underwriter’s bid which takes into account only the total dollar amount of the coupon payments.

Official Statement: Document that gives information on the bond issue, the financial, economic, and social characteristics of the issuing government, and specifies how the funds raised by the issue will be used. Potential bidders and investors use the information included in the statement to evaluate the credit quality of the bonds and to determine the interest rates at which they would purchase the bonds. The official statement reduces the cost to both bidders and investors of acquiring credit information.

Par Value: The face value of a security. In the case of bonds, it is the amount that must be paid at maturity. Although bonds are usually issued in denominations of $1,000 or $5,000, a quotation of 100 means at par. A $1,000 bond quoted at 98 costs $980 and is selling at a discount. A $1,000 bond quoted at 102 costs $1,020 and is selling at a premium.

Paying Agent: A bank or other institution, usually in a financial center, which acts as the agent for the municipality in making bond interest and principal payments.

Point: One full percent of interest. For example, 5 percent is expressed as 5 points.

Premium: The excess of the price at which a bond, or other security, is acquired over its par value. See Par Value.

Present Value Interest Cost Bid: see True Interest Cost Bid.

Principal: The face amount of a bond exclusive of accrued interest.
Rating: A designation used by analysts or by investors services to represent the relative quality of a bond.

Refunding Bond: Bond used to retire another bond already outstanding. A refunding bond may be sold for cash and an outstanding bond redeemed in cash, or the refunding bond may be exchanged with holders of outstanding bonds.

Registered Bond: A bond listed in the name of the holder. When sold, it must be transferred on the books of the issuer and its agent. When fully registered, there are no coupons attached to the bond and the interest is paid to the owner by the paying agent's check. Sometimes bonds are registered as to principal only.

Reoffering Yield: Yield (and implied price) at which the underwriter will sell bonds to investors. The difference between the underwriting yield and reoffering yield is the underwriter's profit or spread.

Revenue Bond: Bond issue for which principal and interest are payable from earnings of a public enterprise or special tax.

Serial Annuity Bonds: Bonds in which combined principal and interest payments are constant each year.

Straight Serial Bonds: Bonds in which an equal amount of principal matures each year.

Settlement: Exchange of bonds for money borrowed. Settlement occurs 30 to 60 days after the underwriting. The delay allows details of the legal record to be completed and the bonds to be printed.

Special Assessment Bond: Bond payable from the proceeds of special assessments against benefited property.

Total Bond Years: The sum of all the bond years of a particular issue.

True Interest Cost Bid: Method of evaluating an underwriter's bid which takes into account both the total dollar amount of coupon payments and the time pattern of coupon payments.

Underwriter: The investment house (or houses) that purchases a bond offering from the issuing government.

Underwriting Syndicate: Several underwriters who collectively underwrite a single issue.

Yield: The net annual percentage of income from an investment. See Current Yield and Yield to Maturity.

Yield to Maturity: Percentage return from a bond that takes into account current yield and amortization of any premium or discount.
Municipal Securities: Fact Sheet

Q. What are municipal securities?
A. Municipal securities are debt obligations issued by state and local governments or their agencies.

Q. What does it mean “to issue a bond”?
A. Municipal securities are issued by state and local governments and/or agencies or authorities of these governments. When state/local governments issue bonds they are actually borrowing money through the sale of bonds (or notes). A bond is an interest-bearing promise to pay a specified amount of money — the principal (or amount originally invested) — on a specific date.

Q. What are the purposes of municipal securities?
A. Municipal securities originally were used to finance large capital projects on a long-term basis (20 to 30 years). These projects have traditionally been basic public facilities such as schools, fire stations, police stations, roads, sewer systems, and water systems. More recently, short-term debt has been used to cover temporary deficits in operating funds caused by an uneven cash flow. In addition, short-term debt instruments have also been used recently as interim financing for capital projects. The use of short-term debt in this way occurs when long-term interest rates are high. When long-term rates drop, short-term debt is paid off with the proceeds of new long-term issues.

Q. Why are basic public facilities important to the economy of a community?
A. Basic public facilities provide the underpinning for economic development within the community. Little or no economic development will occur when there is not an adequate support system to provide utilities, roads, garbage disposal, and other necessary community services for industrial and commercial business establishments and other types of economic development. State and local governments use municipal securities to finance these important public facilities.

Q. Who invests in or buys municipal securities?
A. Commercial banks, casualty insurance companies and households (or individuals) purchased the bulk of all bond purchases during the 1960s and 1970s. Life insurance companies and pension funds, two other types of industrial (non-individual) investors, are no longer investing significantly in municipal securities.

Q. What attracts various types of investors to purchase municipal securities?
A. Commercial banks are heavy buyers of municipal securities when loan demand is relatively light and interest rates are low. They usually buy securities with short and medium-term maturities because these securities are fairly easy to resell in the event a bank needs ready cash. When profits are high, banks usually buy municipal securities in order to get higher after-tax returns on their investments. However, the 1981 Economic Recovery Act has removed some of the incentive for banks to buy municipal securities by allowing them to use other ways of reducing their income tax liability.

Casualty insurance companies like commercial banks are attracted to municipal securities by the tax-free interest income. In addition,
casualty insurance companies benefit from the fact that bonds (unlike stocks) are recorded on financial statements at cost rather than market value. Since the surplus on a financial statement determines how much insurance a company can write, investment in holding bonds rather than stocks will protect the insurance company from being penalized by fluctuation in market prices.

Casualty insurance companies usually favor long-term maturities in the bonds they buy because long-term bonds usually produce the highest returns.

Individual investors are attracted to municipal securities by higher interest rates as well as by the tax benefits (tax free income). In the past, studies have shown that municipal bond ownership is heavily concentrated among investors in tax brackets of 50 percent or higher. The Economic Recovery Act of 1981 has reduced the incentive for the individual investor to invest in municipal securities through the reduction of individual income tax rates and the All-Savers Certificate.

**Q.** What are the four general types of municipal securities?

**A.** The four categories of municipal securities are (1) general obligation bonds, (2) revenue bonds, (3) special tax bonds, and (4) new housing authority bonds. Bonds which are secured unconditionally by the full faith and credit of the issuing government are called general obligation bonds. With these bonds, the taxing power of the issuer is not limited by constitutional restrictions such as a ceiling on the tax rate for assessed property value.

Revenue bonds are bonds retired solely by the net or gross revenues derived from user charges paid by the users of the facility that was built with the proceeds of the bond. Revenue bonds have a variety of purposes such as the construction of sewer systems, bridges, hospitals, and other public facilities. In recent years, many states have amended their constitutions or passed new statutes expanding the use of revenue bonds into non-traditional areas such as restaurants and shopping centers. (Most of the non-traditional bonds fall into the industrial development [or revenue] bond group.) As already mentioned, revenue bonds are secured by user charges, not by the taxing power of the issuer (unless they are hybrid bonds). Consequently, they do not burden the credit capacity of the issuer.

**Special tax bonds** are debt obligations secured by a specific tax or series of taxes such as a gasoline tax.

**New housing authority bonds** are securities issued by local public housing authorities to finance the construction of low-rent housing projects; these bonds are issued under an agreement with the U. S. Department of Housing and Urban Development. Though issued by a state authority, they are not guaranteed by the state but are secured by rent or mortgage payments and payments from HUD to the housing authority.

(Short-term notes are a recent phenomenon in the municipal securities market. The use of short-term debt in the municipal market began in the 1960s. When New York City defaulted on a note issued in 1975, the use of short-term debt plummeted but has since made a comeback. Short-term debt may be defined as notes issued by a state or local government or agency thereof with maturities of less than a year.)

**Q.** How are municipal securities different from other securities?

**A.** The characteristic that distinguishes municipal securities from all other securities is the tax exemption. The interest income earned on municipal securities has always been exempt from Federal income tax. In addition, the interest income on local government issues is normally exempt from state income tax in the investor’s own state.

**Q.** What is the legal basis for the tax-exempt status of municipal securities?

**A.** The legal basis for the tax-exempt status of municipal securities is the reciprocal immunity doctrine in the U. S. Constitution. The reciprocal immunity doctrine specifies that states cannot interfere in the affairs of the Federal government, and the Federal government cannot interfere in affairs rightfully controlled by the states.

In 1913, the Sixteenth Amendment (which provided for the Federal income tax) was adopted. At this time (1913), the Internal Revenue Code expressly exempts interest on municipal securities (bonds) from Federal income tax. As its justification the reciprocal immunity doctrine. Currently, Section 103 of the Internal Revenue Code of 1954 provides the statutory exemption from Federal income tax for interest earned on municipal securities.
Q. How does the tax-exempt status of municipal securities benefit their issuers as a group?

A. The tax-exempt status of municipal securities benefits the issuer in two ways. First, municipal securities can command lower rates of interest than taxable securities (usually 65 to 70 percent of taxable rates) and still give the investor the same (or nearly the same) after-tax income that he would have had if he had invested in taxable securities. Secondly, the incentive of non-taxable income attracts individuals (as well as institutions such as commercial banks, pension funds, insurance companies, etc.) who are in the upper level Federal income tax brackets and who are seeking a means of reducing their taxable income. In other words, it enhances the demand for municipal securities.

Q. How has the individual investor demand for municipal securities been affected by recent tax law changes?

A. The tax legislation passed by Congress in 1981 has impacted adversely on the municipal market in two ways: (1) the 25 percent reduction in personal income tax rates (Federal) over a three-year period means that the tax-exempt rates must now be higher in order to attract individual investors since after-tax yields on taxable securities will be higher and (2) the All-Savers Certificate authorized by the 1981 tax bill will compete directly with municipal securities for the funds of individual investors. Since the individual investor has been the mainstay of the municipal market in the last few years, the All-Savers Certificate will compete with the investor group that is currently purchasing the bulk of the securities being marketed.

Q. What are industrial development bonds (IDBs) and why are they controversial?

A. Industrial development bonds are securities issued by a state or local government or agen-

cies and authorities thereof to finance the construction or purchase of industrial plans and/or equipment. The bonds are secured by the credit of the private company rather than by the credit of the issuer (the government or agency).

The basis for the controversy surrounding industrial development bonds is twofold. Initially, the "public purpose" of many of the industrial development bonds issued in recent years is questionable even though the laws of many states have permitted the use of tax-exempt financing for such commercial enterprises as fast-food franchises, health clubs, ski resorts, large discount outlets, etc. These "private purpose" uses (as they have sometimes been called) have drawn criticism from those who believe that small-issue and other types of industrial development bonds are "crowding out" the market for traditional state and local debt issues.

The controversy regarding IDBs has occurred as a result of the tremendous growth in the use of this type of financing in the last 15 years. In April 1981 the Congressional Budget Office released a study on small-issue industrial revenue bonds supporting the theory that the tremendous growth in the volume of IDB issues is causing the borrowing costs (interest rates) for all tax-exempt issues to rise. As the volume of municipal bond offerings soars, interest rates climb to new heights in order to attract investors to an expanded market. This upward pressure on interest rates in the municipal market creates a serious dilemma for localities forced to seek this financing for construction of public facilities.

The controversy demands that local officials and individual citizens must decide whether subsidizing private companies in order to encourage economic development should be given priority over the maintenance and construction of basic public infrastructure essential to the economic development of every community.
Helping Communities Improve Their Access To The Bond Market

Radical changes have occurred in the tax-exempt (municipal) securities market during the last few years. These changes have created uncertain market conditions characterized by unstable interest rates. As a result, many communities are reluctant to use municipal securities as a means of financing.

In order to make municipal securities more appealing to investors, issuers of tax-exempt securities have begun to employ a variety of alternative techniques with a heavy dependency on short-term debt. Short-term debt can be divided into two basic categories. The first category involves the use of short-term debt for temporary financing for capital projects, and the second involves using it to meet short-term operating cash flow deficits.

In response to the growing demand for short-term financing, there has been a rapid increase in the use of this type of instrument. A brief description of both the old and the new in short-term financing includes the following (“Notes” may be defined as short-term promises by a municipality to repay a sum of money using a specific source of revenue such as future bond issues, grants, taxes, or other types of revenue):

1. **BANs or bond anticipation notes** are a temporary form of financing for capital projects which are paid off at a later date by the issuance of long-term bonds.
2. **GANs or grant anticipation notes** are a form of interim financing used to cover cash flow deficits prior to receipt of a grant.
3. **RANs or revenue anticipation notes** are a form of interim financing used to cover cash flow deficits. They are secured by the receipt of future revenues.
4. **TANs or tax anticipation notes** (a specific type of RAN) are a form of interim financing used to cover cash flow deficits. They are secured by the receipt of future taxes.
5. **TECP or tax-exempt commercial paper** is defined as short-term, unsecured promissory notes issued by municipalities with good quality credit ratings and bank lines of credit.
6. **Project demand notes** provide interim financing for capital project needs. These short-term notes have a put (demand) feature which allows the investor to redeem his/her investment within a short time (sometimes within a week) even though the maturity period of the note may be as long as three years or in some cases longer.
7. **TRANs or tax/revenue anticipation notes** are a combination of TANs and RANs.

Each of these types of short-term debt has its advantages and disadvantages, but a closer look at the last three techniques could be instructive.

As stated previously, tax exempt commercial paper (i.e., short-term, unsecured promissory notes of a municipality with a good credit rating and a bank line of credit) is one of the alternatives being used by municipalities today to improve their access to the municipal securities (bond) market. Maturities for TECP generally range from 15 to 90 days but may be shorter or longer. Upon maturity, an issue is either rolled over or wholly or partly replaced by more permanent financing.

TECP offers the following advantages:

1. Shorter maturities
2. Credit strength (backed by bank commitments)
3. Financing flexibility (allows issuers to maintain an almost daily market presence which could prove advantageous to issuers when they sell long-term bonds)
4. Lower interest rates (rates on TECP are generally lower than other types of short-term, tax exempt financing).
However, certain factors tend to offset the advantages of tax-exempt commercial paper. Among these factors are the following:

1. Some state laws restrict the use of short-term debt.
2. Abuses or short-term debt have been linked to municipal fiscal crises in the past (classic example - New York City in 1975). As a result, some issuers as well as some investors are wary of this short-term debt instrument.
3. Establishment of a tax-exempt commercial paper program involves various legal, financial, and political considerations which are not uniform throughout the nation.
4. Excessive use of commercial paper can be a negative factor in the bond rating of an issuer.
5. The use of TECP is best suited to large agencies or governments which market rather large issues ($50 million or more) since the lower profit margins to dealers are not as competitive as those on other debt securities.

Despite the several disadvantages, the credit strength of tax-exempt commercial paper and the financing flexibility that TECP offers to the issuer are likely to ensure its continued use in the municipal market at least as long as the current uncertain conditions prevail.

Project demand notes (short-term notes that provide interim financing for capital projects) offer an alternative to commercial paper. In addition to offering interest rates similar to the rates on TECP, the principal advantage of project demand notes is that they provide the interest-earning capability associated with a bond anticipation note.

The unused proceeds from project demand notes, like bond anticipation notes, may be temporarily invested in high quality securities (e.g., Federal securities, very high quality bank certificates of deposit, or repurchase agreements that are fully collateralized) until such time as those funds are needed to pay construction notes.

Demand notes are placed with money-market funds (tax-exempt) at a floating rate tied to a percentage of the three-month T-bill or a money center bank prime rate. Though demand notes have maturities of up to three years (and in some cases longer), the put (demand) feature of the note allows the investor to "put" the note back to the issuer at short notice (demand periods generally range from 5 to 30 days). The issuer must have a letter of credit with a major bank in order to ensure payment of the note in the event that the put feature of a note is exercised. If a put feature is exercised, the issuer has several options: (1) place the note with another investor, (2) raise the interest rate to a level mutually acceptable to the issuer and the original investor, (3) issue another security to cover the original note which could be backed by the same letter of credit, or (4) draw upon the letter of credit at a predetermined interest rate.

The last short-term debt instrument to be more closely examined is the TRAN, an obligation backed by the future receipt of taxes and other types of revenues. The primary advantage of a TRAN issue is that it can be sold and the proceeds obtained at the beginning of a fiscal year before the funds are actually needed to cover a deficit. The proceeds from the sale of the TRAN issue can then be reinvested until such time as they are needed.

Though demand in the municipal market currently favors short-term debt, there are ways to improve access to the long-term sector of the market as well. One credit-enhancing technique used to facilitate access to the market for long-term bonds is the use of bond insurance. Bond insurance increases the marketability of municipal offerings in addition to lowering the interest cost to the issuer. At present, there are two companies which offer insurance coverage for municipal bonds - the American Municipal Bond Assurance Corporation (AMBAC) and the Municipal Bond Insurance Association (MBIA).

Insurance tends to lower interest costs because insured offerings receive higher bond ratings and consequently get more favorable treatment on interest rates. Beyond that, the name recognition associated with MBIA and AMBAC enhances the marketability of offerings brought to market by small and/or relatively unknown issuers. (Issuers that utilize bond insurance are usually those which have investment grade ratings of single A or lower.)

Bond insurance is most attractive when the spread between insured and uninsured interest rates is the greatest; this normally occurs during time when economic conditions are unsettled (and credit is tight).

The knowledge of the cost of bond insurance allows the issuer to determine whether or not the cost savings resulting from the lower interest rates are sufficient to justify the purchase. (Both MBIA and AMBAC charge a one-time fee when the insurance is bought.)

A long-term debt instrument that is returning to popularity is the zero-coupon bond, the ultimate in originaal issue discount bonds. This security is sold at a deep discount from the stated face value of the bond, and when the bond matures, it is redeemed at par value (face value) with the investor's return being the difference between the original sale price and face value of the bond. For
example, an investor might pay $100 for a $1,000 zero coupon with a 20-year maturity. When the bond matures in 20 years, the investor receives $1,000.

The zero-coupon bond is attractive to the individual investor who can live without the annual interest payments, e.g., an investor who is planning for his (her) child’s college education or for retirement. This type of security is desirable because it eliminates any chance of a decline in the yield to maturity of the bond since both interest and principal are paid only upon maturity. This allows the investor to lock in the return on his (her) investment at a pre-set rate.

The major obstacle to growth in the use of zero-coupon bonds is a recent series of rulings by the Treasury that the discount cannot be treated as interest and consequently is not tax-exempt.

The techniques described above will not solve the basic problem for issuers. This problem is the limited supply of available credit in the municipal market. However, used with discretion, one or more of the techniques may provide a partial solution to the financing problems of state and local governments and their agencies.
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January 1983
Municipal bonds used to be a dull and predictable investment, but times have changed and so have municipal bonds. One of the most controversial types of municipal bonds is the industrial development bond (IDB). These bonds are being used to finance construction of pizza theatres, ski resorts, private restaurants (e.g., McDonald’s, Wendy’s), and a host of other commercial enterprises. While this type of financing originally was viewed as a minor miracle for economic development, excessive use may have turned IDBs into a major menace for local governments dependent on the municipal securities market for financing public facilities construction.

Industrial development/revenue bonds are securities issued by a state or local government or one of their agencies to finance construction or purchase of an industrial facility and/or equipment. This facility or piece of equipment is then leased to a private company. Although the securities are issued by a government agency, the bonds are backed by the credit of the private company. The issuing government or agency retains title to the property financed by the securities (bonds), but it enters into a long-term lease purchase agreement with the private company. At the end of the lease period, the bond will be retired, and the title to the facility or equipment will be transferred to the company.

The principal attraction of industrial development bonds (IDBs) for industry is the low interest rates carried by the bonds. (The interest on IDBs is exempt from Federal income tax and, as a result, can command lower interest rates than taxable securities.) In addition, other possible benefits to industry often associated with industrial development bonds are (1) property tax abatement and (2) lower Federal income taxes resulting from the cost of leases.

Industrial development bond legislation was first passed in Mississippi in 1936, and other Southern states soon followed suit. The bonds were used as an incentive to attract industry to rural Southern communities where incomes were generally low and labor was plentiful. Until the 1960s, IDB financing was largely confined to the South with the states of Alabama, Arkansas, Kentucky, Mississippi and Tennessee dominating the scene.

In the mid-1960s, increased competition for industry prompted industrialized states in the North—Ohio, Delaware, and Michigan, for example—to pass legislation authorizing the use of industrial development bonds. By mid-1966, thirty-four states had authorized the use of IDBs. The stage was set for an explosion in the volume of industrial development bond financing, and that explosion occurred quickly. (Note. In 1957, the volume of IDB financing totaled $7.3 million; in 1965, the total volume for the year was $211.9 million; in 1967, the volume reached a staggering $1.39 billion!)

In addition to the tremendous growth in the dollar volume of IDBs, both the size of the average IDB issue and the size of the companies using this type of financing increased markedly.

Later in the 1960s, when small communities began to issue extremely large IDB offerings, the U. S. Treasury said that it would revoke its rulings regarding the tax-exempt status of various kinds of industrial bonds and would deny tax-exempt status to IDBs as a group. The Securities Exchange Commission, in turn, amended its rules to require that IDBs be registered (as corporate bonds and, therefore, taxable) under the Securities Act of 1933. These actions in effect eliminated IDB financing.

In 1968, Congress passed the Revenue and Expenditures Control Act which resurrected special purpose tax-exempt industrial development bonds without regard to dollar amount. The following
special purpose projects were allowed to have tax-exempt status by the 1968 legislation:

1. Air and water pollution control equipment
2. Airports, docks, wharves, and related storage and training facilities
3. Facilities for the local furnishing of electricity, gas and water.
4. Land acquisition and basic infrastructure for industrial parks
5. Mass transportation and parking facilities
6. Single and multi-family housing
7. Sewage and solid waste disposal facilities
8. Sports facilities
9. Convention centers
10. Plants and equipment for industrial facilities bought or built specifically to “assist small businesses in locating in a community.” (The face value of the bond could not exceed $1 million—later amended to $5 million. These are called “small issue” IDBs.)

In the 1970s the use of special purpose IDBs increased dramatically. In many states, the statutes governing the use of IDBs allowed the bonds to be utilized to finance commercial as well as industrial projects.

In April 1971 the first IRB (industrial revenue bond) used to finance pollution control equipment was issued in Duguesne, Pennsylvania (a $5 million issue). Pollution control revenue bonds (PCRBs) soon began to grow rapidly in both the number of issues as well as in total volume. In 1975 the volume of new issues of PCRBs totaled over $2.1 billion. (That same year the Internal Revenue Service issued new regulations designed to curb excessive use of IRBs for questionable pollution control projects.) However, even with the new regulations in effect, the volume of PCRBs swelled to $2.99 billion in 1977. Pollution control revenue bonds still constitute one of the larger sectors of the tax-exempt market. In 1981 PCRBS set a new record with a total volume of $4.3 billion.

In 1978 the ceiling on “small issue” IDBs was raised to $10 million. “Small issue” IDBs have become rather controversial because the private firms on whose behalf the bonds are issued are receiving a government subsidy.

Another type of IRB that has come under the scrutiny of the Treasury and Congress in recent years is the mortgage revenue bond. The issuance of an offering of single-family housing bonds by the city of Chicago in mid-1978 combined with an increasing scarcity of conventional mortgage revenue bonds in 1979. (The city of Chicago established a precedent when it issued its own housing bonds instead of going through the state housing authority.) Moreover, many of the housing issues marketed in 1979 were single-family housing bonds (some of which had no restrictions on the income level eligibility of recipients of the mortgages funded by the bonds).

In response to the surge in the volume of mortgage revenue bonds, the chairman of the House Ways and Means Committee, Rep. Al Ullman, combined efforts with other colleagues from the House of Representatives to try to limit the use of tax-exempt bond issues by state and local governments to provide financing for single-family homes. A moratorium was placed on the issuance of such offerings; later, those issues already “in progress” were allowed to be marketed. In 1980, Congress passed the Mortgage Subsidy Bond Tax Act of 1980 which restricted the use of tax-exempt mortgage bonds to finance single-family homes. The restrictions went into effect January 1, 1981. The intent of the 1980 legislation was to ensure that a limited number of low interest mortgages would be available to those families most in need of the subsidy. As a result of the 1980 legislation, the use of mortgage revenue bonds has declined markedly.

A third special purpose type of “small issue” industrial revenue bond (IRB) that has overshadowed traditional public purpose tax-exempt financing is hospital and health care facilities financing. In 1975 the total volume of hospital and health care facilities financing stood slightly under $2 billion. In 1977, a banner year for all sectors of the market, the total volume of hospital and health care financing reached an astounding $4.73 billion. The previous record high was broken in 1981 when the volume for the year reached $5.04 billion. This is another form of IRB financing that is absorbing an increasing share of the available tax-exempt capital.

The “small issue” IRBs are the last and perhaps the most controversial of the IRBs currently under scrutiny because of their recent rapid growth. According to the April 1981 Congressional Budget Office study on “small issue” industrial revenue bonds, “small issue” IRBs meet the “public purpose” requirements of states if they are used to “finance projects that create or save jobs or if they promote economic diversification.”

The results of a CBO survey indicate that five categories of non-traditional uses of industrial revenue bond financing are becoming increasingly widespread. These five categories are as follows:

1. Commercial real estate developments such as shopping centers, office building complexes, etc.
2. Retail outlets such as fast-food stores, grocery stores, auto dealerships, etc.
3. Recreational facilities such as golf courses, bowling alleys, etc.
4. Tourist facilities such as motels, ski lodges, beach resorts, etc.

5. Health facilities such as privately owned hospitals and nursing homes.

According to the CBO study, the Northeast and North Central regions of the country have the heaviest use of IRBs. In 1979 more than 66 percent of the total small issue IRBs came from these two areas. More specifically, four states - Pennsylvania, Minnesota, New Jersey and Ohio - accounted for 45 percent of the total "small issue" IRBs in 1979. Fifty-four percent of the IRB-financed projects in these four states were commercial projects, 32 percent were manufacturing projects, and the remainder were warehouses or related facilities.

The CBO study concluded that the most widespread use of "small issue" IDB/IRBs occurred in the middle Atlantic and North Central states. However, the Southern states are changing rapidly.

The rapid growth in the use of several types of industrial development bonds inspires the following question: Why should local government officials, the citizens of our communities, and other interested groups care whether or not IDB financing is allowed to expand in an uncontrolled manner?

According to written remarks and oral testimony presented to the House Ways and Means Subcommittee on Oversight in April 1981 by John T. Walsh, representative of the Municipal Finance Officers' Association, the MFOA firmly objects to the use of tax-exempt funds for financing commercial and industrial facilities as well as for industrial pollution control equipment. However, the major concern of the MFOA is whether the tax-exempt market has the capacity to absorb the non-traditional IDB offerings along with traditional state and local debt issues without driving up interest rates for all tax-exempt issues.

State and local governments share the concern of the MFOA regarding the extent to which "small issue" and other types of IDBs are "crowding out" traditional (conventional) state and local debt offerings.

As already indicated, the volume of various types of IDBs is increasing rapidly. Unless the present law is changed, according to the CBO, there is a possibility that the volume of small issue IDBs alone could reach $49 million by 1986. (In 1979, the total volume of the entire long-term market did not reach $49 billion.) As the volume of municipal offerings soars, interest rates climb to new heights in order to attract investors to an expanded market. This upward pressure on interest rates in the municipal market creates a serious dilemma for localities forced to seek this form of financing for construction of public facilities.

Clearly, local government officials and the citizens of the nation must decide whether subsidizing private companies in order to facilitate economic development should be given priority over the maintenance and construction of basic public infrastructure essential to the economic development of every community.
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January 1983
States Face Competitive Bond Market

BY PATRICK J. HENNIGAN*

States issuing bonds in 1983 will enter a competitive and turbulent securities market. Traditional state and local issuers increasingly are competing with the federal government and with tax-exempt corporate issues for a share of available credit.

In addition, reduced investor appetite for traditional tax-exempt bonds, changes in federal tax policies, and a general decline in the credit-worthiness of many states and cities are contributing to the turbulence in the market precipitated by record-high interest rates. Municipal bond interest rates averaged slightly over 6 percent in the 1970s, as measured by the Bond Buyer Index, compared to a record high 13.44 percent reached in January 1982.

Trends in the Bond Market

The bond market has experienced dramatic growth and significant changes during the past 20 years. From 1960 to 1981, the volume of state and local debt outstanding grew from $68.3 billion to $361.3 billion. By 1980, state debt accounted for more than one-third of the total.

As the volume of debt has grown, significant shifts have occurred in the character and uses of debt. During the 1970s, states issued more revenue bonds than general obligation bonds. They also incurred more contingent debt in the form of lease rentals and moral obligation pledges. Toward the end of the 1970s, more debt was issued for gas and electric utilities, hospital construction, housing, industrial development and pollution control, and lesser amounts sold for educational facilities, water and sewer, highways, and other capital projects. In another shift, individual investors increased their municipal holdings, while large institutional investors reduced the number of municipals in their portfolios.

Despite the enormous growth in the amount of state and local debt outstanding, the burden of debt in relation to the Gross National Product and personal income in 1981 declined to a level below that of 1970. Combined with a decline in tax burdens from 1973-80, this suggests that many states may be in a position to take on additional long-term debt if the recent decline in interest rates continues.

CSG Reviews Bond Market

Editor’s Note: The Eastern Regional Conference (ERC) and the Southern Legislative Conference (SLC) of The Council of State Governments have taken an active interest in public finance. At its annual meeting in Port Chester, New York (August 8-11), the ERC sponsored a workshop on the outlook for states going to the bond market. Speakers included Robert Muller, vice president, Municipal Research, Morgan Guaranty Trust Company; Hyman Grossman, vice president, Standard and Poors; Eugene Sullivan, director of debt management, Office of the Comptroller, Massachusetts; and Richard Seaman, vice president, Soudier, Stevens and Clark, (investment counselors).

During its annual meeting in Pt. Clear, Alabama, (October 5-7), the Fiscal Affairs and Government Operations Committee of the SLC sponsored a similar program. The following articles were contributed by participants speaking at the Southern meeting. Articles and responses by state bond finance directors will follow in another issue.

Competition in the Market

State issuers are facing competition from the federal government and from a variety of tax-exempt private issuers. The federal budget deficit of an estimated $110 billion to $150 billion for fiscal year 1983, plus substantial off-budget credit activities, require the federal government to claim from 30 to 50 percent of the credit market. In addition, federal tax changes in 1981 reduced taxes for high income individuals and corporations and created new or expanded existing tax shelters which attracted many investors who traditionally bought municipal bonds.

On the local level, revenue bonds, especially industrial revenue bonds (IRBs) and pollution control bonds (PCBs), compete with other state and local issues in the tax-exempt market. The Congressional Budget Office recently estimated that IRBs issued by private companies through public bodies increased from $1.3 billion in 1975 to $10.5 billion in 1981. Combined with the $3.9 billion of PCBs sold, the volume of non-traditional tax-exempt corporate issues placed publicly and privately exceeded the amount of general obligation bonds issued.

Tax-exempt corporate issues are not only competing with state issues for a share of the market but many banks are placing more IRBs and PCBs in their tax-exempt portfolios, thereby reducing demand for state and municipal bonds.

Credit Ratings

Reduced federal aid and the recession are adding to the fiscal pressure on states. (An article in the October 1982 (Continued on page 4)

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*Patrick J. Hennigan is an assistant vice president with the Municipal Securities Research Group, Public Finance Department, Morgan Guaranty Trust Company of New York.
States Face
(Continued from page 3)

State Government News examined the effects of the Economic Recovery Tax Act of 1981 and indicated that federal tax code changes will cost states about $5 billion by 1986. High unemployment, sluggish sales, and tax limitation statutes have reduced state revenues. In response, states are cutting expenditures and drawing down fund surpluses. Shrinking cash reserves and revenue shortfalls are contributing to a decline in the credit worthiness of many state and local issuers. Moody's Investors Service downgraded the ratings of eight states and upgraded only one in the last two years. The margin for fiscal error has grown slim.

Registration Requirements

Adding to the turbulence in the market is the federal requirement for registration of all new tax-exempt bonds issued after January 1, 1983. At least 14 states will have to change their laws authorizing the sale of bonds in registered form. Establishing and maintaining bond registration systems will involve additional costs to be borne by either the issuer or the underwriters. Uncertainties about the implementation and costs of registration were, in part, responsible for the doubling in the volume of issues brought to market during November and December compared to the same period in 1981. In addition, registered bonds sold in 1983 may be competing with older unregistered bearer bonds in the secondary market. (Congress in its lame-duck session was considering delaying the registration requirement until July 1, 1983.)

Conclusion

How will states cope with the turbulence in the bond market? If interest rates continue to decline, issuers will be able to refinance high interest debt with new issues having lower coupon rates, thus reducing annual debt service expenditures and easing fiscal strain. Short-term financing accounted for 43 percent of new issues in 1981, compared with 32 percent in 1978. With lower interest rates, many jurisdictions that have relied on repeated short-term financing for capital projects will be able to refinance their notes with long-term bonds. Lower interest rates also will encourage issuers to enter the market to address pent-up capital needs aggravated by cancelled or delayed bond sales.

Competition in the market could be ameliorated by reductions in the federal deficit and by states limiting the use of industrial revenue bonds (IRBs). Prospects for controlling the federal deficit look bleak. The Federal Tax Equity and Fiscal Responsibility Act of 1982 limits

Speakers on bonds at the SLC Fiscal Affairs and Government Operations Committee meeting in Point Clear, Alabama on Oct. 5-7, included (l to r): Fred Gaertner, vice president, Investment Portfolio Management, Morgan Guaranty Trust Company, New York; William Sweeney, director, Florida Division of Bond Finance, Tallahassee, and authors in this issue: Patrick J. Hensgan, Claire Cohen, and Arthur Abba Goldberg.

How State Bonds Are Rated

BY CLAIRE G. COHEN*

Most state bonds have a high rating—which means states can borrow the money they need on favorable terms. But, in the last two years, eight states have had their ratings lowered, most notably Michigan. Financial problems could hurt other state credit ratings as well.

Ratings are important for several reasons. All other things being equal, they provide the credit assessment in the fixing of an interest rate. In the secondary or trading market, they are a part of the pricing mechanism as well as providing identification. Considering that Moody's Investor Service alone has some 17,000 municipal ratings outstanding, identification is important, as the investor must choose among this large universe in making a purchase. Perhaps most important, a rating expresses a credit judgment by an impartial third party which has nothing to gain or lose by the monetary transaction.

Moody's long-term ratings are expressed by nine symbols—Aaa, the highest; Aa, A, Baa, Ba, B, Caa, C, and C. In all categories except the Aaa and C group, the strongest bonds within the category are designated by a symbol of 1, such as A1. Moody's also rates short-term debt, using a different rating scale—Moody's Investment Grade, or MIG, 1 through 4, with 1 the highest. Different symbols are used for short-term ratings because different considerations and risks are present.

States Rated Highly

The distribution of Moody's is interesting. Overall, only about 1 percent of its ratings are in the Aa category. The high grade obligations, Aaa and Aa, account for only about 15 percent of the total, the A group for nearly 60 percent and the Baa group, around 25 percent. Since municipal bonds as a whole are considered very credit worthy, the lower rating groups account for only some 1 percent of ratings. For the states, however, the distribution is nearly the opposite, with Aaa and Aa ratings accounting for about 80 percent of all ratings. Moody's rates general obligation bonds of only 41 states; the others have done no general obligation borrowing.

The last few years have provided a harsh credit climate, particularly for states. In the worst postwar recession, the federal government has lowered its financial commitment to the states and local governments, and local governments have turned to states for aid. As a result, several state ratings have been lowered. The lowering trends to have in common financial deterioration, often accompanied by economic distress. In some cases, predicted economic recovery did not materialize, creating unforeseen

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IRBs under $10 million and the public purposes for which IRBs may be issued. The new provisions are expected to reduce the use and, thus, the supply of industrial revenue bonds in the market. Legislators play a crucial role in adopting balanced budgets so that states can maintain credit worthiness and cope with a turbulent bond market.
budget pressure, particularly if any surplus was exhausted. In other cases, the economic recession was deeper than expected. All of this has been complicated by movements for tax relief and for tax limits.

In the last two years, eight state ratings have been lowered, some more than once. California was lowered from Aaa to Aa, Michigan from Aa to A to Baa 1, Minnesota from Aaa to Aa, New Hampshire from Aaa to Aa to A 1, Ohio from Aaa to Aa, Oregon from Aaa to Aa to A 1, Washington from Aa to A 1 to A, and Wisconsin from Aaa to Aa. All of these states, except New Hampshire, have been badly affected by the recession and all have financial problems of varying magnitude.

How Ratings Are Made

Although most people are generally familiar with what a rating is and know what the rating symbols are, more explanation is desirable on how ratings are determined and their use in the marketplace.

Credit analysis seeks to determine a borrower's relative ability and willingness to repay debt. In an analysis of debt supported by taxation (which includes so-called general obligation bonds, where the borrower's full faith and credit are pledged, as well as bonds backed solely by some form of taxation), four major areas are evaluated: debt, financial operations, administrative or governmental factors, and economic and social considerations.

A credit analyst will examine the debt structure to determine the purpose of borrowing, the provisions for repayment and the security pledged. The debt will be measured using such figures as debt per capita, debt in relation to the market value of real property, the ratio of debt to personal income, and the relationship of debt service to general and/or pledged revenues. The analyst defines debt as all debt supported by taxation of the borrower, whether the borrower or some other governmental unit issued the debt. These measurements can be compared with like units across the country as well as with accepted standards. Moody's annually calculates medians for the 50 states. Other debt areas investigated are the trend of debt and the history of past borrowing.

In assessing financial operations, the question is whether the revenue collected is adequate to cover money paid out and whether there is some remaining cushion. Of course, sophisticated methods are used to determine the answer, but this simple concept is the underlying thought. The diversity and stability of revenue sources are studied as are the purpose and flexibility of expenditures, in case adjustments are necessary. Some form of surplus cushion is desirable, although there is no fixed amount. Analysts used to look for a surplus equal to 5 percent of revenues, using the theory that revenues were not likely to fluctuate by more than that amount. With inflation, however, 5 percent of revenues can be a very large figure, and, as California's recent experience has shown, excess money can cause problems.

In evaluating the government or administrative factors, a credit analyst is interested in how well the government is organized to carry out the functions with which it has been charged by law. Moody's tries to use measurements that are as concrete as possible. For example, Moody's examines the quality, frequency, and timeliness of financial reporting, tax collection experience, and extent of disclosure statements. Increasingly important are limitations—whether on debt, taxes, or expenditures. Moody's policy is that limits are adverse credit factors in that they tend either to be so restrictive as to limit flexibility or so loose as to be meaningless.

The economic and social evaluation is in many ways the bedrock; economic activity provides the base for both debt and financial operations. Moody's tries to identify and quantify the wealth of the economy, its sources, its stability and its diversity. Both regional and national comparisons are made. Moody's relies on U.S. government data to assure national comparability, although locally compiled figures may be a second source of information.

When all these areas have been analyzed, their interrelationships are examined, weighted and modified by experience in order to determine the bonds' rating.

Since New York City's financial problems occurred, municipal credit analysis has focused on financial operations and risks in short-term borrowing. Recent experience has shown the wisdom of that concentration. Now, however, as financial problems are increasingly recognized and dealt with pragmatically, we may see more concentration on debt issues. Many of the current pressures on revenues and on intergovernmental relations leave fewer resources available for capital purposes. When that happens, you can expect to see a spate of creatively secured debt which imperil sound debt structure. The weakening of revenue collections may well produce increased short-term borrowing in anticipation of revenues which may or may not materialize.

The credit outlook for states right now is deteriorating in response to poor economic conditions and disappointing tax yields. Timely budget actions and a realistic approach to the developing situation will be necessary to avoid chaotic results.
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