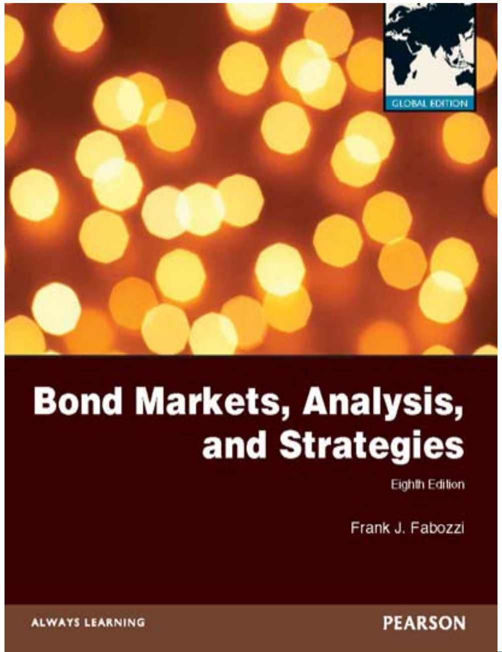


Global Edition

Chapter 8

Municipal Securities

Types and Features of Municipal Securities

- Two different types of municipal bond security structures:
  - i. tax-backed bonds
  - ii. revenue bonds
- There are also securities that share characteristics of both tax-backed and revenue bonds.

Tax-Backed Debt

- Issued by states, counties, special districts, cities, towns, and school districts
- Secured by some form of tax revenue.
- Tax-backed debt includes
  - general obligation debt,
  - appropriation-backed obligations,
  - debt obligations supported by public credit enhancement programs.

Tax-Backed Debt: *general obligation debt*

- The broadest type of tax-backed debt
- An *unlimited tax general obligation debt* is the stronger form of general obligation pledge as it is secured by the issuer's unlimited taxing power.
- A *limited tax general obligation debt* is a limited tax pledge because for such debt there is a statutory(法定的) limit on tax rates that the issuer may levy to service the debt.

Tax-Backed Debt
appropriation-backed obligations

- **Tax-Backed Debt**
  - The appropriation of funds from the state's tax revenue must be approved by legislature.
    - ✓ However, the state's pledge is not binding.
    - ✓ Debt obligations with this nonbinding pledge of tax revenue are called *moral obligation bonds*.

Revenue Bonds

- Issued for either project or enterprise financings
- The revenue of the project or enterprise is pledged to service the debt of the issue.
- The details of how revenue received by the enterprise will be disbursed are set forth in the trust indenture.

Trust Indenture in Revenue Bonds

- Various restrictive covenants
- A rate or user charge covenant dictates how charges will be set on the product or service sold by the enterprise.
- Other covenants specify that
  - i. the facility may not be sold
  - ii. the amount of insurance to be maintained
  - iii. requirements for recordkeeping and for the auditing of the enterprise's financial statements by an independent accounting firm
  - iv. requirements for maintaining the facilities in good order

Hybrid and Special Bond Securities

- Have the basic characteristics of both general obligation bonds and revenue bonds
- have more issue-specific structures as well.
- Some examples are

i. insured bonds
ii. bank-backed municipal bonds
iii. refunded bonds structured/asset-backed securities
iv. "troubled city" bailout (緊急(財政)援助) bonds

Hybrid and Special Bond Securities
Insured bonds

- In addition to being secured by the issuer's revenue,
  - backed by insurance policies written by commercial insurance companies.
- Because municipal bond insurance reduces credit risk for the investor, the marketability of certain municipal bonds can be greatly expanded.

Hybrid and Special Bond Securities
bank-backed municipal bonds

- Since 80s, municipal obligations have been increasingly supported credit facilities provided by commercial banks.
- Three basic types of bank support:
  i. A *letter-of-credit agreement:*
    - the strongest type of support
    - Bank is required to advance funds to the trustee if a default has occurred.

  ii. An *irrevocable line of credit:*
    - not a guarantee
    - but provide a level of security.

  iii. A *revolving line of credit:*
    - a liquidity-type credit facility
    - provides a source of liquidity for payment of maturing debt in the event that no other funds of the issuer are currently available.

Hybrid and Special Bond Securities
Refunded Bonds

- Municipals are sometimes refunded.
- when the original bonds are escrowed or collateralized by direct obligations guaranteed by the U.S. government.
- The escrow fund for a refunded municipal bond can be structured so that the refunded bonds are to be called at the first possible call date or a subsequent call date
  - ✓ known as *prefunded municipal bonds*.
- Some are structured to match the debt obligation to the retirement date.
  - ✓ known as *escrowed-to-maturity* bonds.

Hybrid and Special Bond Securities
Refunded Bonds(continued)

- Three reasons why a municipal issuer may refund an issue by creating an escrow fund.
  i. Refunded revenue bonds can eliminate the restricted bond covenants
    - motivation for escrowed-to-maturity bond

  ii. Some issues are refunded in order to alter the maturity schedule of the obligation.

  iii. When interest rates declined after bond issued,
    - issue a new municipals (at lower rates) and investing the proceeds in U.S. government securities paying a higher interest rate.
    - Similar to call back the bond
    - motivation for prefunded bonds

Municipal Money Market Products

- Tax-exempt money market products include:

i. notes
ii. variable-rate demand obligations

Municipal Money Market Products

Notes

- tax anticipation notes (*TANs*),
- revenue anticipation notes (*RANs*),
- grant anticipation notes (*GANs*),
- and bond anticipation notes (*BANs*).
- Temporary borrowings by states, local governments
- Usually, notes are issued for a period of 12 months,
  - can be as short as three months and for as long as three years.
- *TANs* and *RANs* (also known as *TRANs*) are issued in anticipation of the collection of taxes or other expected revenues.
- *BANs* are issued in anticipation of the sale of long-term bonds.

Municipal Money Market Products

Variable –rate demand obligations

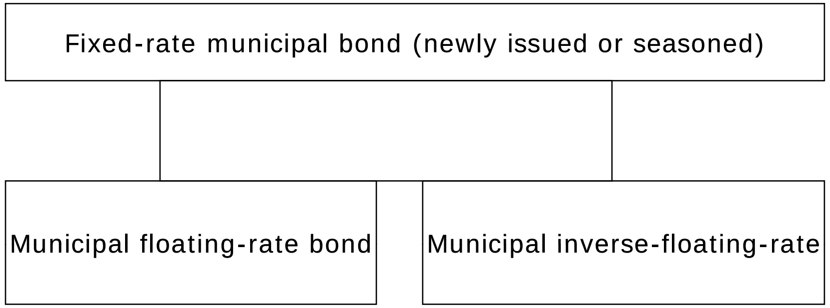
- floating rates obligations
- coupon rate is reset daily or weekly
- investor may put the issue back at par price plus the accrued interest

❖ Floaters / Inverse Floaters

- Created from a fixed-rate bond.
- ✓ The coupon rate on the floating-rate security is reset based on the results of a Dutch auction.
- ✓ Can be created in one of three ways:

i. Buy in the secondary market a fixed-rate municipal bond.
ii. Uses a newly issued municipal bond to create a floater and an inverse floater.(see next slide)
iii. Using the municipal swaps market, one creates an inverse floater without the need to create a floater. The structure used to create the inverse floater is called a **tender option bond** structure.

Exhibit 8-1 Creation of a Municipal Inverse Floater



Credit Risk

- Municipal bonds have little default risk.
- According to Moody's default record:
  - 41 defaults between 1970 and 2006.
- This was not always the case. Between 1939 and 1969, 6,195 municipal defaults were recorded.
- Some institutional investors in the municipal bond market rely on their own in-house municipal credit analysts
- Others rely on the nationally recognized rating companies.
- The two leading rating companies are Moody's and Standard & Poor's, and the assigned rating system is essentially the same as that used for corporate bonds.

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Risks Associated with Investing in Municipal Securities

- Investing in municipal securities is exposed to
  - the same risks affecting corporate bonds
  - plus the "labeled *tax risk*".
- Two types of tax risk to which tax-exempt municipal securities buyers are exposed:
  i. Federal income tax rate will be reduced.
  ii. A municipal bond issued as a tax-exempt issue may eventually be declared to be taxable by the Internal Revenue Service.

A loss of the tax exemption feature will decreases the municipal bond's value.

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Yields on Municipal Bonds

- A common yield measure used to compare the yield on a tax-exempt municipal bond with a comparable taxable bond is the *equivalent taxable yield*:

$$\textbf{\textit{equivalent taxable yield}} = \frac{\textbf{\textit{tax}} - \textbf{\textit{exempt}}}{(1 - \textbf{\textit{marginal tax rate}})}$$

- **Example:** Suppose that an investor in the 40% marginal tax bracket is considering the acquisition of a tax-exempt municipal bond that offers a yield of 6.5%. What is the *equivalent taxable yield*?

$$\textbf{\textit{equivalent taxable yield}} = \frac{0.065}{(1 - 0.04)} = 0.1083 \textbf{\textit{ or }} 10.83\%$$

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Yields on Municipal Bonds

- Due to the tax-exempt feature, the yield on municipal bonds is less than that on Treasuries with the same maturity.
- The yield on municipal bonds is compared to the yield on Treasury bonds with the same maturity by computing:

$$\textit{yield ratio} = \frac{\textit{yield on municipal bond}}{\textit{yield on same maturity Treasury bond}}$$

- *Yield spreads* within the municipal bond market are attributable to differences between
  - credit ratings (*quality spreads*)
  - sectors within markets (*intramarket spreads*),
  - differences between maturities (*maturity spreads*).

Municipal Bond Market
Primary Market

- Municipal obligations are brought to market weekly.
  - by offering bonds publicly to the investing community
  - by placing them privately with a small group of investors.
- Public offerings is marketed by
  - competitive biddings
  - direct negotiations with underwriters like investment bankers or municipal bond departments of commercial banks.
- ✓ Most states require that general obligation issues be marketed through competitive bidding, but generally this is not required for revenue bonds.
- An *official statement* describing the issue and the issuer is prepared for new offerings and legal opinions.

Municipal Bond Market
Secondary Market

- Traded in the over-the-counter market supported by municipal bond dealers.
- For smaller issuers (referred to as local general credits)
  - markets are maintained by regional brokerage firms, local banks, and by some of the larger Wall Street firms.
- For larger issuers (referred to as general names)
  - markets are supported by the larger brokerage firms and banks, many of whom have investment banking relationships with these issuers.

Municipal Bond Market
Secondary Market (continued)

- The convention for both corporate and Treasury bonds is to quote prices as a percentage of par value with 100 equal to par.
- Municipal bonds generally are traded and quoted in terms of yield (*yield to maturity* or *yield to call*).
- The price of the bond in this case is called a *basis price*.
- The *exception* is certain long-maturity revenue bonds.
- A bond traded and quoted in dollar prices (actually, as a percentage of par value) is called a *dollar bond*.

The Taxable Municipal Bond Market

- ❖ Taxable municipal bonds have their interest taxed at the federal level.
- ❖ Issuer must offer a higher yield than for a tax-exempt municipal bond.
  - ❖ higher than treasuries for compensating the credit risk,

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Municipal Bond Indexes

- ❖ Gauging portfolio and the market's performance.
- ❖ Used by portfolio managers of regulated investment companies for performance evaluation purposes and the benchmark for exchange-traded funds.
- ❖ The municipal bond indexes most commonly used by institutional investors are those produced Barclays (inherited from its acquisition of Lehman Brothers).
- ❖ The broad-based index is the Barclays Capital Municipal Bond Index. This index covers long-term tax-exempt bonds that are investment grade. Barclays also publishes a High-Yield Municipal Index and enhanced state-specific indexes.

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Why Issuing Taxable Municipal Bond than a tax-exempt one

i. Some activities do not benefit the public at large and municipalities have to finance these restricted activities in the taxable bond market. (see next slide)
ii. The U.S. income tax code imposes restrictions on arbitrage opportunities that a municipality can realize from its financing activities.
iii. Municipalities do not view their potential investor base as solely U.S. investors.
✓ When bonds are issued outside of the United States, the investor does not benefit from the tax-exempt feature.

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Common types of activities for taxable municipal bonds used for financing

i. local sports facilities
ii. investor-led housing projects
iii. advanced refunding of issues that are not permitted to be refunded because the tax law prohibits such activity
iv. underfunded pension plan obligations

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Build America Bonds

- In 2008 state and local governments and their agencies faced financial difficulties.
- To provide assistance, the American Recovery and Investment Act of 2009 authorized the issuance of a new type of taxable municipal bond, *Build America Bonds* (dubbed BABs).
  - a taxable municipal bond wherein the issuer is subsidized for the higher cost of issuing a taxable bond rather than a tax-exempt bond in the form of a payment from the U.S. Department of the Treasury.
  - The payment made by the federal government to the issuer is equal to 35% of the interest payments
- The program has been terminated, there is considerable supply of BABs outstanding