CHAPTER 1

Overview of the Municipal Bond Market

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INTRODUCTION

Municipal bonds, or municipal securities, represent a promise by state or local governmental units (called the *issuers*) or other qualified issuers to repay to lenders (*investors*) an amount of money borrowed, called *principal,* along with *interest* according to a fixed schedule. Municipal bonds generally are repaid, or *mature,* anywhere from 1 to 40 years from the date they are issued. At the end of 2010, there were $2.9 trillion in municipal bonds outstanding, representing the cumulative issuance of bonds over many years. These bonds have been used to finance a vast array of projects; a small sample includes:

- Elementary and secondary school buildings.
- Streets and roads.
- Government office buildings.
- Higher-education buildings, research laboratories, and dormitories.
- Transportation facilities, including bridges, highways, roads, airports, ports, and surface transit.
- Electric power-generating and -transmission facilities.
- Water tunnels and sewage treatment plants.
- Resource recovery plants.
- Hospitals, health-care and assisted living facilities, and nursing homes.
- Housing for low- and moderate-income families.

The municipal bond market is composed of thousands of dedicated professionals throughout the United States who have the diverse skills needed to raise money in the capital markets for state and local governments. Distinct roles are played by state and local government officials, public finance investment bankers, underwriters, salespeople, traders, analysts,

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lawyers, financial advisors, rating agencies, insurers, commercial bankers, investors, brokers, technology developers and vendors, the media, and regulators; yet all are working together toward the common goal of providing funds to state and local government units to build needed public projects and infrastructure.

Municipal securities are also commonly called *tax-exempt bonds,* because the interest paid to the investor is subject neither to federal income taxes nor (often) to state or local taxation. With regard to tax exemption, it must be noted that each household and organization's tax status is unique and different. Although this book delineates the general principles of municipal bonds, investors should consult with their own financial advisors when considering the purchase or sale of municipal securities.

The American Recovery and Reinvestment Act of 2009 created Build America Bonds and other categories of municipal bonds where the interest is taxable to investors. The issuing municipalities received a grant from the federal government equal to 35 percent of the interest payments, which meant that the effective cost to the issuer was comparable to, or sometimes better than, the rate they would pay on a conventional tax-exempt municipal bond. The Build America Bonds program expired on December 31, 2010, and at the time of this writing had not been renewed.

In addition, a small market exists for taxable municipal bonds typically issued for purposes that are not eligible for either tax exemption under the U.S. tax code or a federal interest subsidy. Throughout this book, references to municipal bonds are to tax-exempt securities or Build America Bonds, except where it is expressly stated that they are taxable bonds that do not qualify for the federal interest subsidy.

One statistic that is key to understanding the municipal bond market is the dollar volume of new bond issues that are sold each year. Fluctuations in volume can reflect national economic trends as well as events that are unique and specific to the municipal bond market. The causes and effects of volume changes in the municipal market will be examined in detail throughout this book, which also includes a general discussion of the overall level of interest rates. Table 1.1 tracks 25 years of new-issue volume.

The municipal bond market consists of the primary market, which deals in the new securities of issuers, and the secondary market, where securities are bought, sold, and traded after they have been issued. Figure 1.1 presents the flow of funds through the primary market.

The process begins when an issuer sees a need for money to pay for capital improvements or to fill gaps in its cash flow. The issuer then takes a series of steps that lead to the primary market. There, the municipal bond dealer, usually a securities firm or a bank, purchases the issuer's bonds through a process called *underwriting*. The bonds are resold to institutional

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TABLE 1.1 Total Long-Term and Short-Term Municipal Issuance 1986 to 2010 ($ billions)

Year	Long-Term Issuance	Short-Term Issuance	Total Municipal Issuance
1986	147.6	22.0	169.7
1987	101.6	20.5	122.1
1988	117.1	23.6	140.8
1989	122.3	29.6	151.9
1990	125.9	34.8	160.7
1991	169.8	44.4	214.2
1992	232.3	43.0	275.3
1993	290.3	47.5	337.8
1994	162.2	40.4	202.6
1995	155.8	38.4	194.2
1996	181.1	41.7	222.8
1997	214.0	46.4	260.4
1998	280.4	34.7	315.2
1999	219.4	36.7	256.0
2000	194.1	41.2	235.4
2001	284.2	56.9	341.1
2002	355.2	72.4	427.6
2003	378.5	69.8	448.4
2004	355.9	56.9	412.8
2005	406.4	50.5	456.9
2006	382.1	44.0	426.1
2007	424.2	57.9	482.1
2008	386.5	60.8	447.3
2009	406.8	64.7	471.6
2010	433.3	65.3	498.6

Source: Thomson Reuters.

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and individual investors, who pay the dealer directly for the debt they have purchased. The dealer uses these funds to reimburse itself for its capital that was used to purchase the bonds from the issuer. If an issue is underwritten and there are not enough buyers for all the bonds being issued, the underwriter assumes the risk of holding the bonds in inventory until they are eventually sold. Both principal and interest are paid to the investors by the issuer, usually through a bank acting as paying agent, on a fixed schedule.

The secondary market consists of the trading and other activity in securities after they have been sold as new issues. This market also supports the primary market by providing liquidity to investors who are more likely

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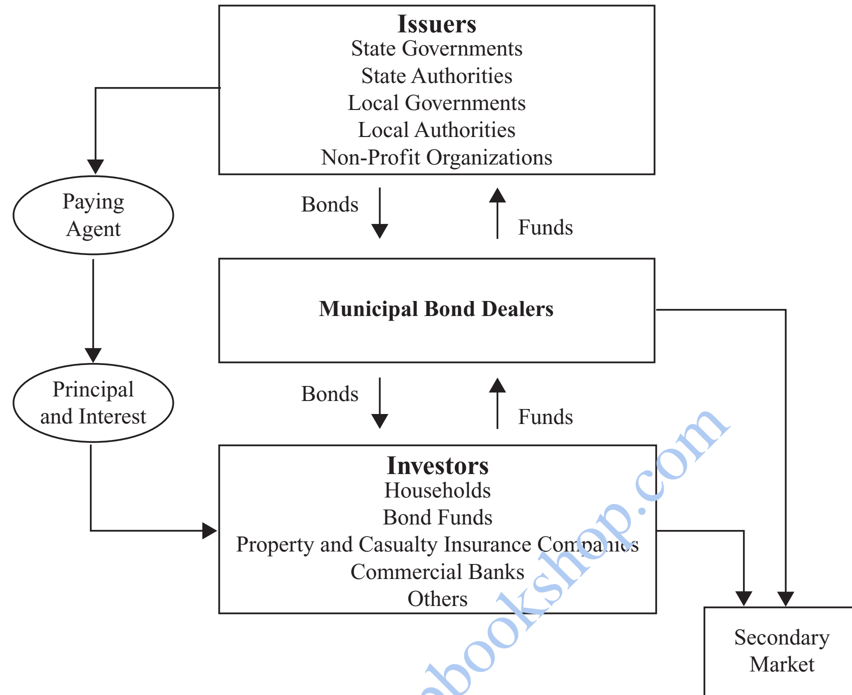

FIGURE 1.1 Flow of Funds in the Primary Market
Source: Securities Industry and Financial Markets Association.

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to buy a security if they know they can sell that security at a fair market price prior to its stated maturity. Most municipal bond dealers have trading departments that make secondary markets in outstanding bond issues.

THE ISSUERS

According to the 2007 U.S. Economic Census, there were more than 89,500 units of state and local governments. The Census categorizes governmental units as states, counties, municipalities, towns and townships, school districts, and special districts. Municipal bonds are issued by state and local governmental units, either directly under their own names or through a special authority. An *authority* is a separate state or local governmental issuer expressly created to issue bonds or to run an enterprise, or both. Authorities such as those for transportation or power can issue bonds on their own behalf. Other authorities can issue bonds for the benefit of other, qualified,

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nongovernmental parties, such as not-for-profit hospitals, private colleges, and certain private companies.

Municipal bonds are authorized and issued pursuant to express state and local laws, which impose restrictions on the size and financial structure of the debt. Moreover, each new issue usually requires the approval of the governing body of the issuer, sometimes through an ordinance or resolution. Bonds are generally sold to provide funds for capital improvement projects—for the bricks and mortar that make up the public infrastructure. With few exceptions, bonds are not sold to finance the normal, everyday operating expenses of government, such as employees' salaries and benefits. States and local governmental units—such as counties, municipalities (which include cities), and school districts—issue bonds for roads, parks, courthouses, and schools. These securities are usually general obligation bonds (GOs) for which the full faith, credit, and taxing power of the issuer is pledged to and obliged to be used for the repayment of the bonds. Depending on the governmental issuer, approval by voter referendum is frequently required for the issuance of GOs. The public purpose projects funded by GOs provide benefits for the common good and so are repaid by taxes on everyone who is subject to taxes in that governmental unit. There are times when it is not feasible or possible to provide a general obligation pledge, so other forms of *tax-backed* or *tax-supported bonds* have been developed to provide a financing structure. Tax-backed bonds are discussed in greater depth throughout the book.

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State and local governments also sell securities for which specific revenues, not governments' full faith, credit, and taxing power, are the source of repayment. These obligations are known as *revenue bonds*. The issuer can be the government itself or a separate authority. Revenue bonds are issued for the construction of facilities and plants that provide electric power, water, wastewater treatment, and resource recovery and transportation, among others. Revenues and user fees that can be pledged to the bonds include electric rates and charges, water and sewage usage fees, waste disposal and tipping fees, and tolls and landing fees.

Table 1.2 shows the average issuance in each of eight broad categories of state and local governmental issuers in the 10-year period from 2000 through 2009 as a percentage of the total new-issue market by dollar volume. State authorities, including housing, economic development, transportation, and other state-level authorities, were the largest category of issuers, followed by similar bodies created at the local or regional level. Cities, towns, and villages were the largest government issuers, followed by states and counties or parishes.

Although municipal bonds are issued for thousands of unique projects, they can be classified in a few broad categories, which may change over

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TABLE 1.2 Issuers of Long-Term Municipal Bonds, 2000 to 2009

Issuers	Issuance (%)
State authority	31.8
Local authority	18.3
District	16.0
City, town, or village	13.3
State governments	10.3
County/parish	6.3
College or university	2.5
Direct issuer	1.1
Total	100.0

Note: Average annual issuance as a percent of dollar volume.
Source: Thomson Reuters.

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time. Table 1.3 lists the purposes for which bonds were issued in 1989 compared to 2009. In 1989, the top two categories, "general purpose/public improvement" and "education," accounted for 40 percent of debt issuance. By 2009, the share of debt sold to support projects in these two categories had increased to 54 percent. The snapshots of issuance over 20 years clearly show that general governmental purposes and education have continued to dominate the market. These bonds have not always been issued with traditional general obligation security, however. Many novel tax-backed

TABLE 1.3 Major Uses of Municipal Debt, 1989 and 2009

Use of Proceeds	1989 (%)	2009 (%)
General purpose/public improvement	24.5	31.4
Education	15.6	22.3
Transportation	8.8	12.0
Health care	12.5	11.2
Water, sewer, and gas	12.6	10.2
Other	8.2	4.9
Public power	6.7	3.9
Housing	9.2	2.5
Pollution control	1.9	1.5
Total	100.0	100.0

Source: Thomson Reuters.

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security structures have evolved that permit issuers to raise money for general governmental purposes without a general obligation pledge.

MUNICIPAL BOND DEALERS

In order to raise money in the market, the issuer works with a municipal bond dealer. The *municipal bond dealer* is most often found in a department of a securities firm or bank that provides other financial services. Public finance investment banking, underwriting, marketing, and trading municipal securities are jobs undertaken by the municipal bond departments of securities firms and banks. Some municipal bond departments are fully integrated as one department, with all the functional areas organized as one business unit. In other firms, those areas are divided between a firm's fixed income division and the investment-banking division. Any number of other organizational combinations are possible, too. Because of the broad range and regional nature of the business, some dealers operate solely in the municipal bond market, and may even concentrate on a single market sector. Others do mostly retail business, working with individual or household investors.

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Public Finance

Public finance is the investment-banking arm of the municipal bond business. The investment bankers work with existing clients and develop new business with other issuers. Public finance specialists, with support from underwriters and traders, respond to the issuers' needs and the needs of investors with traditional and innovative financing structures. Investment bankers are responsible for coordinating and responding to the many written and oral Requests for Proposals (RFPs) that are sent to them by issuers. These RFPs, which include detailed plans and financial analyses of the issuer, form the basis of the issuer's selection of a municipal bond dealer in a negotiated underwriting (discussed in greater detail below in the underwriting section). This selection of underwriters for a negotiated sale is highly competitive, as many firms vie for an issuer's business.

Public finance departments can be organized along geographic, market-sector, or product lines. Sometimes they also perform financial advisory work.

Underwriting

The underwriters set prices and yields on new issues. The two main ways that an underwriter can purchase bonds from an issuer are through a competitive

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sale or a negotiated sale. A *competitive sale* is a type of auction where sealed bids for the bonds are submitted to the issuer at a specific time on a specific date. Normally, more than one underwriter will submit a bid to the issuer. The bonds are awarded to the underwriter who offers the issuer the lowest interest cost. Underwriters will often bid on bonds as part of a *syndicate,* a group of two or more firms who agree to make a bid together to an issuer in order to share underwriting risk. Competitive sales are also called *advertised sales* or *sealed bid sales.*

In a *negotiated sale,* the issuer, prior to the public sale date, selects the *lead underwriter* or *senior manager,* whose job is to coordinate and manage the financing through all its many stages. The selection process (sometimes for one transaction and sometimes for a series of transactions), which usually includes presenting a written response to the RFP, often also entails an oral interview at which the public finance investment bankers, underwriters, and other key members of the firm present and defend their proposed financing strategies. The issuer often selects other managers from competing firms to act as comanagers. The managers, acting together or with more firms through a syndicate, make an offer to purchase the bonds from the issuer at a price that will produce the lowest possible interest cost to the issuer while still enabling the underwriter to sell the bonds to investors. There is greater flexibility in structuring the bonds and in reacting to the most current market conditions in a negotiated sale. As in a competitive sale, the underwriters work closely with traders and salespeople to determine the right price for a new issue.

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Trading

Traders maintain the secondary market for securities by actively buying bonds from, and selling bonds to, other dealers and investors. A good trader is familiar at all times with the bonds available in the municipal market and factors affecting their prices as well as overall conditions in the other fixed income markets. Typically, traders specialize in one sector of the market, such as hospital bonds; in certain bond maturities, such as 1 to 10 years; or in *dollar bonds* (bonds that are quoted and traded in dollar prices rather than in terms of yield). Retail orders are sometimes executed on electronic trading platforms, but large institutional orders are typically handled in person by a conventional trading desk.

Sales

The salespeople develop and maintain direct contact with institutional investors. They sit in the trading room close to the underwriters and traders. In addition to selling new issues that the firm has underwritten, the

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salesperson is familiar with investors' portfolios and looks for opportunities to serve investors in the secondary market. The sales force can be organized in various ways: geographically, by client relationships, by the maturity of the bond, or by a combination of any of these.

Sales Liaison

Securities firms that have a client base with many individual investors often have a retail sales liaison force. The *sales liaison* staff is normally located in the trading room and works with the account executives (variously known as stockbrokers, registered representatives, financial advisors, account executives, or private client service representatives) in the firm's main and branch offices. The account executive calls the sales liaison with inquiries and orders, and the liaison works with the underwriter or trader to fill the investor's needs. Several securities firms also have regional trading departments similar to their main office trading operations on a smaller scale. The salespeople and liaison staffs in these regional offices work in much the same way as they do in the main office.

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Research and Credit Analysis

The complexity of the municipal market, the financial challenges of some state and local governments, and the post-2008 reduction in the use of third-party credit enhancement have led municipal bond dealers to place greater emphasis on the creditworthiness of municipal issuers. Dealers have *research and credit analysts* who are responsible for reviewing and monitoring issuers in the primary and secondary market. Research analysts may prepare a short opinion that can be distributed internally (within the firm) or externally to investors on competitive or negotiated issues coming to market, or they may write comprehensive reports on specific market sectors or on market strategy. In some firms, research and credit analysts work with the public finance investment bankers on responding to RFPs and, once the firm is awarded the negotiated business, on credit and rating issues as well. Research and credit analysts are responsible for reviewing official statements under the disclosure rules at many firms.

Rating agencies, bond insurers, and institutional investors also employ research and credit professionals.

Capital Markets

Capital markets blend investment banking and market expertise. They are responsible for creating financial and investment products such as derivatives, swaps, and synthetic products that are used by both municipal issuers

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and investors. These products are created with information from the users and with the firm's own risk management team. They may also create financial products for the firm's own proprietary trading. A firm will often have a special, more highly rated subsidiary that enters into derivative transactions to offer the issuer the most secure counterparty structure.

Operations

Operations involves the complex processing associated with the buying and selling of municipal securities. The adoption of industry-wide requirements for orders, record keeping, and confirmations has largely automated and standardized the functions of the operations group. Its duties include processing orders and payments, verifying and delivering securities, issuing confirmations, and maintaining customer accounts and other required documentation. The operations rules of the Municipal Securities Rulemaking Board (MSRB, a self-regulatory organization) are discussed in detail throughout this book.

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THE LAWYERS

Lawyers of various specialties play important roles in the financing process.

Bond Counsel

Virtually every municipal security is accompanied by an opinion of *bond counsel*, who represents the legal interests of the bondholders. That opinion addresses the main legal issues: that the bonds constitute legal, valid, and binding obligations of the issuer, and that interest on the bonds is exempt from federal income taxation under applicable tax laws (or, in the case of a Build America Bond, that the issue qualifies for the federal interest rate subsidy). In rendering the opinion, a bond counsel (1) undertakes a review and examination of all applicable laws authorizing the issuance of securities, (2) ascertains that all required procedural steps have been completed to assure proper authorization and issuance of the securities, and (3) determines that all federal tax laws governing the issuance of the bonds have been complied with. In connection with a review of laws and procedure, bond counsel assembles all relevant documentation into a *transcript of proceedings*. The transcript serves as a permanent record and reference of the steps taken to issue the bonds and of the underlying payment and security arrangements.

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Underwriter's Counsel

Underwriter's counsel represents the underwriters in a negotiated issue. The underwriter's counsel conducts a thorough due diligence analysis of the issuer. *Due diligence* involves questioning the issuer and any important related parties about their financial condition, plans, reports, and other factors that are important for a purchaser to know in order to make an investment decision. At the closing, underwriter's counsel provides a 10-b-5 certificate to the underwriter stating that nothing material to the transaction has been omitted from the disclosure process and that everything material to making an investment decision has been included. Underwriter's counsel also prepares the *bond purchase agreement* or *contract,* pursuant to which the debt is sold to the underwriter.

Other Counsel

Because of the diverse and complex nature of the municipal market, some issues may require opinions in addition to those normally provided by bond counsel and underwriter's counsel. These opinions may include those of special tax counsel, bank counsel, disclosure counsel, outside bond counsel, and/or borrower's counsel. Chapter 4 discusses in detail the roles of the counsels.

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FINANCIAL ADVISORS, SPECIALISTS, AND OTHER CONSULTANTS

State and local governments often seek the advice of a financial advisor and other professional experts. Financial advisors perform a variety of tasks, including (1) analyzing the financing needs of the issuer, (2) helping to choose an underwriter or organize a competitive sale, (3) structuring the issue, (4) working with the rating agencies and credit enhancers, (5) helping negotiate a purchase price on a negotiated financing, and (6) advising on other matters related to the issuer's debt and capital plans. Bond issuers sometimes retain dealers to serve as financial advisors.

Capital improvement projects often require the advice of specialists in addition to that given the financial advisors. Some consultants, for example, advise solely on the feasibility of health-care projects; others take on the financial, engineering, and architectural aspects of airports; still other specialists evaluate toll roads or public utilities. The issuer's accountants also play a part in the financing process. The opinions of consultants are important not only for establishing the merits of a particular project but

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also for attracting voter approval and promoting investor acceptance and confidence in the bonds.

Municipal derivatives specialists, or *swap advisors,* are financial advisors who specialize in advising on transactions involving derivatives. They provide advice on a wide range of services, including structuring transactions involving interest rate swaps and pricing swaps and other derivatives, among others. *Arbitrage rebate specialists* also may be part of a larger organization or stand alone; they advise on compliance with arbitrage regulations and offer reporting services. They work with issuers on bond rebate calculations, bond verifications, allocations of commingled funds, cash flow models, yield computations, and reporting systems.

A broker, dealer, or municipal securities dealer may also engage consultants on its behalf subject to MSRB Rule G-38. A written consultant agreement must be entered into before the consultant engages in any direct or indirect communication with an issuer on behalf of the broker, dealer, or municipal securities dealer. The use of a consultant must also be disclosed to the issuer and to the MSRB.

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THE RATING AGENCIES

There are tens of thousands of municipal issuers. Because of the large number of issuers and the variety of security structures in the market, bond or debt ratings play a prominent role in the municipal market. A *rating* is an alphabetic and/or numeric symbol used to give relative indications of credit quality. A rating is generally considered obligatory for the sale of any major issue. Some issues may be marketed on a nonrated basis if, for example, they are privately placed, their credit standing is well known to the investors buying the bonds, or they cannot achieve an investment-grade rating.

Underwriters or financial advisors are sometimes involved in preparing or making presentations to rating agencies on behalf of issuers prior to a bond sale. In addition to providing an initial rating, rating agencies review their ratings periodically and analyze issuers' ongoing financial and operational information. In addition, the agencies provide a review process for municipalities seeking an *upgrade* or improvement to their ratings; lists of bonds with potential rating changes; analyses of credit trends; and other rating services.

The three dominant rating agencies for municipal securities are Moody's Investors Service, Standard & Poor's, and Fitch Ratings. All three are headquartered in New York City. Moody's has been rating municipal bonds since 1909, Standard & Poor's since 1940, and Fitch since 1913. All three rate long-term issues, short-term notes, commercial paper, and obligations

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TABLE 1.4 Credit Ratings

Credit Risk	Moody's	Standard & Poor's	Fitch Ratings
Investment Grade	Aaa	AAA	AAA
Strongest	Aa	AA	AA
	A	A	A
	Baa	BBB	BBB
Noninvestment Grade	Ba	BB	BB
	B, Caa, Ca, C	B, CCC, CC, C	B, CCC, CC, C
Weakest	C	D	D

Source: Securities Industry and Financial Markets Association.

secured by insurance, bank, and other credit enhancements. Although each agency has unique features in its own rating scale, triple-A is the highest rating for each one, and each scale descends down the alphabet as the opinion of creditworthiness declines. Moody's ratings within certain categories are modified by numbers (1, 2, and 3), whereas those of Standard & Poor's and Fitch are modified by "+" and "–" symbols. The lowest investment grade rating for Moody's is Baa3, and for Standard & Poor's and Fitch it is BBB–.

Ratings can be classified in the general categories listed in Table 1.4.

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BOND BROKERS

Municipal bond brokers, or *brokers' brokers,* trade only for municipal bond dealers and dealer banks; they do not work directly with either institutional or individual investors. Brokers are sometimes able to facilitate trades in a more efficient way than if the dealers did the trades themselves. For example, dealers often try to sell bonds in their inventories through brokers by asking a broker to seek bids from other dealers. This is known as the *bid-wanted* process. In other cases, a dealer who is looking for particular bonds for a customer may tell the bond broker the specified yield or price at which he or she would be willing to buy the securities. In this instance, the broker will seek these bonds from other dealers.

THE CREDIT ENHANCERS

Credit enhancement is a term denoting the credit of a stronger, more highly rated entity that is used to strengthen or enhance the credit of a lower-rated entity. Credit enhancement grew substantially in the 1990s and early 2000s

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for many reasons, including (1) investor concerns about the credit quality of underlying issuers, (2) increasingly complex security features, (3) increased issuance in the short-term market, and (4) cost efficiency in the pricing of insurance. Its use has plummeted since 2008, when many bond insurers encountered financial difficulties that undermined the value of their credit enhancement. The major forms of credit enhancement are private bond insurance, bank letters of credit and lines of credit, which are discussed in this section. Public forms of credit enhancement are discussed in Chapters 3 and 7. A bond is said to be *unenhanced* if it carries only its own rating and not that of a third-party enhanced provider.

Bond Insurers

Bond insurance is a legal commitment by an insurance company to make payments of principal and interest on debt in the event that the issuer fails to make those payments on time. Generally, such payments will be made as originally scheduled, and the principal will not be accelerated (paid earlier than its scheduled date). Bond insurance typically covers the full maturity range of the bonds.

Although bond insurance provides significant additional security to the investor, the issuers are the first source for payment of principal and interest on their bonds. For that reason (and for other technical and tax-related considerations), not all insured bonds carry identical prices and yields. The perceived strength of the insurer by the market is a major determinant of that insurer's trading value. The relative quality of insurers is evaluated by their financial strengths and by the portfolios of bonds that they have previously insured.

The role of municipal bond insurance in the market is threefold: (1) to reduce interest costs to issuers, (2) to provide a high level of security to investors, and (3) to furnish improved secondary-market liquidity and price support. From 1985 through 2005, there was tremendous growth in the use of bond insurance, as shown in Table 1.5. Bond insurance grew from 16.2 percent of the $147.6 billion new-issue, long-term market in 1986 to more than 57.3 percent of the $406.4 billion new-issue, long-term market in 2005.

Beginning in late 2007, most of the major bond insurers encountered severe financial difficulties due to losses on structured debt and other instruments not related to municipal bonds. The rating agencies downgraded the major bond insurers, which they considered less capable of making investors whole in the event of issuer default. Investors refocused on the credit quality of underlying issuers and were no longer willing to pay a significant premium for most insured bonds. Issuers saw no reason to pay for insurance

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TABLE 1.5 Bond Insurance as a Percentage of the Long-Term New-Issue Market, 1986 to 2010

Year	Long-Term Issuance with Bond Insurance	Percentage of Long-Term Issuance Insured	Long-Term Issuance ($ billions)
1986	23.9	16.2	147.6
1987	19.3	19.0	101.6
1988	27.0	23.1	117.1
1989	31.0	25.3	122.3
1990	33.7	26.7	125.9
1991	51.9	30.6	169.8
1992	80.5	34.7	232.3
1993	107.5	37.1	290.3
1994	61.4	37.8	162.2
1995	68.4	43.9	155.8
1996	85.6	47.3	181.1
1997	107.0	50.0	214.0
1998	144.5	51.5	280.4
1999	104.8	47.8	219.4
2000	78.8	40.6	194.1
2001	134.0	47.2	284.2
2002	178.2	50.2	355.2
2003	190.2	50.2	378.5
2004	194.4	54.6	355.9
2005	232.8	57.3	406.4
2006	190.3	49.8	382.1
2007	200.3	47.2	424.2
2008	72.2	18.7	386.5
2009	35.4	8.7	406.8
2010	26.9	6.2	433.3

Source: Thomson Reuters.

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if the lower interest rate it achieved did not offset the cost. The use of bond insurance plummeted as a result; in 2010, insured bond issues accounted for just 6.2 percent of the new-issue long-term market.

Banks

Bank letters and bank lines of credit are other forms of credit enhancement. *Bank letters of credit* are typically written for a much shorter term (anywhere from 1 to 10 years) than bond insurance. A letter of credit pays the investor principal and accrued interest if an event of default has occurred. It

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is stronger than a *line of credit,* which has many more conditions that must be satisfied before the issuer can draw money to pay principal or interest to investors. Issues with bank letters of credit receive the rating of the bank. This may be the short-term rating, the long-term rating, or both. Issues with lines of credit do not necessarily get the bank rating. Analysts look at the conditions under which the line will pay in addition to the financial condition of the issuer.

The use of letters of credit has fluctuated greatly over the years, as shown in Table 1.6. Usage typically increases at times of stress in the overall credit markets, such as 1994, 2000, and 2008. Usage decreases when credit

TABLE 1.6 Letters of Credit as Percentage of the Long-Term New-Issue Market, 1986 to 2010

Year	Long-Term Issuance with Letters of Credit	Percentage of Long-Term Issuance with Letters of Credit	Long-Term Issuance ($ billions)
1986	12.2	8.3	147.6
1987	12.4	12.2	101.6
1988	15.2	13.0	117.1
1989	10.0	8.2	122.3
1990	11.2	8.9	125.9
1991	8.3	4.9	169.8
1992	7.4	3.2	232.3
1993	8.8	3.0	290.3
1994	15.1	9.3	162.2
1995	9.9	6.4	155.8
1996	10.4	5.7	181.1
1997	12.2	5.7	214.0
1998	10.3	3.7	280.4
1999	10.0	4.6	219.4
2000	13.6	7.0	194.1
2001	13.1	4.6	284.2
2002	15.5	4.4	355.2
2003	14.6	3.9	378.5
2004	23.3	6.5	355.9
2005	26.9	6.6	406.4
2006	21.1	5.5	382.1
2007	20.5	4.8	424.2
2008	71.2	18.4	386.5
2009	20.4	5.0	406.8
2010	11.8	2.7	433.3

Source: Thomson Reuters.

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is more readily available in the market, hitting cyclical lows in 1993, 1998, 2003, and 2007. High interest rates prompt issuers to rely on shorter-term financing such as variable rate demand notes, which require a letter of credit to assure investors that cash will be available if an event triggers their right to *put* the notes (sell the notes back to the issuer at 100 percent of par). The variability in bank credit enhancement is related to many factors, including (1) the credit quality of banks, making the credit substitution less cost efficient when credit quality declines; (2) cost of the letter of credit; and (3) availability of alternative forms of credit enhancement.

In late 2008, a severe credit crisis effectively shut down the new issue market for long-term municipal bonds for several weeks. The only way issuers could access the market was through short-term debt or variable rate demand notes. In addition, many issuers converted auction rate securities to variable rate bonds that required letters of credit. The proportion of issues backed by letters of credit soared, but quickly fell back to historical levels in 2009 when the fixed rate municipal bond market reopened. Financial pressure on the banks made letters of credit more difficult to obtain and more expensive, too.

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THE TRUSTEES AND PAYING AGENTS

The *trustee* is responsible for carrying out the administrative functions that are required under the bond documents. These functions include establishing the accounts and holding the funds relating to the debt issue, authenticating the bonds, maintaining a list of holders of the bonds, passing through principal and interest payments on the debt, and representing the interests of the bondholders in the event of default. There are times when a paying or fiscal agent carries out some of these functions.

The Depository Trust & Clearing Corporation (DTCC) is a securities depository and a national clearinghouse for the clearance and settlement of trades in corporate and municipal securities. DTCC is owned by banks and securities firms that use its services. Trustees and paying agents make a single interest and principal payment per maturity to DTCC, and DTCC distributes those payments to participating firms for the benefit of their clients.

THE INVESTORS

Three classes of investors dominate the municipal marketplace: (1) households, consisting of individuals acting directly or through investment advisors; (2) household proxies, that is, bond funds such as open-end mutual

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TABLE 1.7 Holdings of Municipal Bonds by Category of Investor, 1990 to 2010 (percent)

Category	1990	2000	2010
Households	55.0	35.9	37.1
Open-End Funds	9.6	15.6	18.7
Money Market Funds	7.1	16.4	11.6
Closed-End Funds	1.2	4.6	2.9
Commercial Banks	10.0	7.7	8.0
Property and Casualty Insurance	11.6	12.4	13.0
Other	5.6	7.5	8.8

Note: Includes mutual funds, money market funds, and closed-end funds.
Source: Federal Reserve System.

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funds, managed closed-end funds, and money market funds; and (3) institutions, particularly commercial banks and property and casualty insurance companies. The principal characteristic of all buyers of traditional municipal bonds is that they are subject to federal income tax so that they can benefit from the tax exemption.

Build America Bonds and similiar taxable securities attract different investors because the interest on these bonds is taxable. They appeal to pension funds, foundations, and endowments that are exempt from tax as well as life insurance companies and some foreign investors. Mutual funds buy these bonds, too, but not in traditional municipal bond funds; instead, BABs are bought by funds that hold taxable bonds, including federal government bonds and investment grade corporate bonds.

In 1990, there were $1.2 trillion in bonds outstanding; by the end of 2010, that figure had grown to $2.8 trillion. Table 1.7 illustrates the key trends in the holdings of municipal securities from 1990 to 2010. Two changes over this time are particularly striking. First, in 1990, households represented 55.0 percent of all municipal holdings, but by 2009, they had fallen to 37.1 percent of all holdings. Meanwhile, holdings of household proxies rose from 17.9 percent in 1990 to 33.2 percent in 2010. Taken together, the overall share of households and household proxies changed relatively little, declining from 72.9 percent in 1990 to 70.3 percent in 2010.

INFORMATION AND TECHNOLOGY

Like other markets, the municipal market has been transformed by the Internet and the growing use of electronic trading systems, which have

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improved both transparency and price discovery. The Municipal Securities Rulemaking Board has created the Electronic Municipal Market Access (EMMA) system, a comprehensive source for official statements, continuing disclosure documents, advance refunding documents, and real-time trade price information on municipal securities (http://emma.msrb.org). In addition, dealers and other market professionals have created web sites that offer extensive information and trading capabilities to investors. Both the primary and secondary markets make extensive use of technology and information, and a discussion of technology is included in Chapter 5.

THE REGULATORS

The municipal bond market is heavily regulated by a number of regulatory agencies.

The Securities and Exchange Commission

The Securities and Exchange Commission (SEC or the "Commission") is an independent, nonpartisan, quasi-judicial regulatory agency with responsibility for administering the federal securities laws. It was created by Congress under the Securities Exchange Act of 1934. There are five commissioners, all of whom are appointed by the President of the United States, with advice and consent of the Senate, for fixed five-year terms. The terms are staggered, with one expiring in June of each year. Not more than three members may be of the same political party. The president also designates the Commission's Chair.

The SEC enforces federal securities laws to provide protection for investors, to ensure that they have access to disclosure of material information, and to see that the securities markets operate fairly and honestly. The laws that are under the SEC's jurisdiction are the:

- Securities Act of 1933
- Securities Exchange Act of 1934
- Public Utility Holding Company Act of 1935
- Trust Indenture Act of 1939
- Investment Company Act of 1940
- Investment Advisors Act of 1940

The Commission also serves as advisor to federal courts in corporate reorganization proceedings under Chapter 11 of the bankruptcy statute. There are 11 regional and district offices of the SEC, staffed by lawyers, accountants, financial analysts, economists, and other professionals.

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The Municipal Securities Rulemaking Board

The Municipal Securities Rulemaking Board (MSRB) was established in 1975 by Congress to develop rules and set standards regulating securities firms and banks involved in underwriting, trading, and selling municipal securities. The MSRB is a self-regulatory organization that is subject to oversight by the SEC.

The board, which was composed of 21 members as of 2011, includes ten representatives from regulated entities—bank dealers, securities firms, and municipal advisors—and 11 representatives from the public. At least one public member must be representative of issuers and one of investors to ensure that all perspectives of the municipal securities market are represented. The MSRB has authority to make rules regulating the municipal securities activities of banks, securities firms, and municipal advisors only; it does not have authority over either issuers of municipal securities or investors.

The MSRB's rule-making authority includes the areas of professional qualification standards; fair practice; record keeping; confirmation, clearance, and settlement of transactions; the scope and frequency of compliance examinations; the nature of securities quotations; arbitration of disputes involving municipal securities transactions; and the dissemination by dealers of information supplied by issuers of municipal securities. The MSRB also provides support for the enforcement functions of The Financial Industry Regulatory Authority (FINRA) and other enforcement agencies. The MSRB's missions also include promoting market transparency, investor education and market research.

One of the first rules the MSRB adopted requires that all persons involved with "any transaction" in municipal securities must pass a qualifying examination.

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The Financial Industry Regulatory Authority

The Financial Industry Regulatory Authority (FINRA) is an independent regulator for securities firms doing business in the United States. It was formed in July 2007 from the merger of NASD Regulation, a subsidiary of the National Association of Securities Dealers, and the member regulation, enforcement and arbitration functions of the New York Stock Exchange. FINRA has a broad remit, including education, registration, and testing of securities professionals; field examinations of securities firms to determine their compliance with federal securities laws, the rules of the MSRB, and FINRA rules and regulations; surveillance of the Nasdaq Stock Market, the

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American Stock Exchange, the International Securities Exchange, and the Chicago Climate Exchange; and other services.

Continuing Education

In 1995, the SEC approved Rule 1120 of the NASD Membership and Registration Rules, which at the time set the requirements for the Securities Industry Continuing Education Program. NASD, the MSRB, the American Stock Exchange, the Chicago Board Options Exchange, the New York Stock Exchange, and the Philadelphia Stock Exchange developed a two-part continuing education program that is a uniform requirement across the securities industry. FINRA, the successor to NASD Regulation, administers the first part, the Regulatory Element, for municipal professionals. The rules were revised in 2005 to eliminate grandfather provisions that exempted certain individuals with long experience from the continuing education program. The Regulatory Element is a computer-based training program now required for all persons within 120 days of the second anniversary of their initial securities registration and every three years thereafter. This training relates to compliance, regulatory, ethical, and sales practice standards. The second part of the program is the Firm Element, which consists of annual, firm-developed and administered training programs designed to keep specified registered employees current regarding job- and product-related subjects.

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OTHER PARTICIPANTS

A number of other organizations and entities also play roles in the municipal bond market.

Information Repositories

Prior to July 2009, four companies acted as nationally recognized municipal securities information repositories (NRMSIRs): DPC Data Inc.; Securities Evaluation Inc.; Interactive Data Pricing and Reference Data Inc.; and Bloomberg Municipal Repository. On July 1, 2009, the SEC withdrew its recognition of these four entities and designated EMMA as the sole repository for information about municipal securities. EMMA displays information provided by issuers but does not verify its accuracy. In addition, state information depositories (SIDs) may collect and disseminate data about local issuers. Disclosure requirements are more fully discussed in Chapter 9.

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CUSIP

The Committee on Uniform Security Identification Procedures (CUSIP) Service Bureau was established in 1964 and is operated by Standard & Poor's for the American Bankers Association. The CUSIP Service Bureau assigns unique numbers and standardized descriptions to practically every sector of the financial markets, including the municipal market. A CUSIP number has a combination of nine numbers and letters.

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