Chapter 23: Mutual Fund Operations

A mutual fund is an investment company that sells shares and uses the proceeds to manage a portfolio of securities. Mutual funds have grown substantially in recent years, and they serve as major suppliers of funds in financial markets.

The specific objectives of this chapter are to:

■ explain how characteristics vary among mutual funds,
■ describe the various types of stock and bond mutual funds, and
■ describe the characteristics of money market funds.

Background on Mutual Funds

Mutual funds serve as a key financial intermediary. They pool investments by individual investors and use the funds to accommodate financing needs of governments and corporations in the primary markets. They also frequently invest in securities in the secondary market.

Mutual funds provide an important service not only for corporations and governments that need funds, but also for individual investors who wish to invest funds. Small investors are unable to diversify their investments because of their limited funds. Mutual funds offer a way for these investors to diversify. Some mutual funds have holdings of 50 or more securities, and the minimum investment may be only $250 to $2,500. Small investors could not afford to create such a diversified portfolio on their own. Moreover, the mutual fund uses experienced portfolio managers, so investors do not have to manage the portfolio themselves. Some mutual funds also offer liquidity because they are willing to repurchase an investor's shares upon request. They also offer various services, such as 24-hour telephone or Internet access to account information, money transfers between different funds operated by the same firm, consolidated account statements, check-writing privileges on some types of funds, and tax information.

A mutual fund hires portfolio managers to invest in a portfolio of securities that satisfies the desires of investors. Like other portfolio managers, the managers of mutual funds analyze economic and industry trends and forecasts and assess the potential impact of various conditions on companies. They adjust the composition of their portfolio in response to changing economic conditions.

Because of their diversification, management expertise, and liquidity, mutual funds have grown at a rapid pace. The growth of mutual funds is illustrated in Exhibit 23.1. Today, there are more than 8,000 different mutual funds, with total assets exceeding $10 trillion. The value of mutual fund assets more than doubled from
1993 to 2007. Over the last 25 years, total mutual fund assets have increased by more than 23 times. More than 88 million households now own shares of one or more mutual funds.

**Types of Funds**

Funds are classified as open-end, closed-end, exchange-traded, and hedge funds.

**Open-End Funds**  
Open-end funds are open to investment from investors at any time. Investors can purchase shares directly from the open-end fund at any time. In addition, investors can sell (re redeem) their shares back to the open-end fund at any time. Thus, the number of shares of an open-end fund is always changing. When the fund receives additional investment, it invests in additional securities. It maintains some cash on hand in case redemptions exceed investments on a given day. If there are substantial redemptions, the fund will have to sell some of its securities to obtain sufficient funds to accommodate the redemptions. There are many different categories of open-end mutual funds, allowing investors to invest in a fund that fits their particular investment objective. Investors can select from thousands of open-end mutual funds to meet their particular return and risk profile. When the term mutual fund is used, it normally refers to the open-end type just described.

**Closed-End Funds**  
Closed-end funds do not repurchase (re redeem) the shares they sell. Instead, investors must sell the shares on a stock exchange just like corporate stock. The number of outstanding shares sold by a closed-end investment company usually remains constant and is equal to the number of shares originally issued.

There are about 650 closed-end funds. Approximately 70 percent of the closed-end funds invest mainly in bonds or other debt securities, while the other 30 percent focus on stocks. The total market value of closed-end funds is less than $300 billion,
Price quotations for exchange-traded funds (ETFs) like those shown here are provided by The Wall Street Journal. The closing price, net change in price from the previous day, and year-to-date (from the beginning of the year to the present) return are provided for each ETF. Investors who own ETFs can monitor this table to assess the performance of their existing investments. In addition, they can monitor the performance of ETFs that they consider purchasing.

<table>
<thead>
<tr>
<th>ETF</th>
<th>Closing price</th>
<th>Change</th>
<th>Year-to-date return</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Pharm</td>
<td>55.29</td>
<td>1.10</td>
<td>4.2</td>
</tr>
<tr>
<td>U.S. REI</td>
<td>85.50</td>
<td>0.08</td>
<td>3.0</td>
</tr>
<tr>
<td>U.S. Reg. Banks</td>
<td>50.05</td>
<td>0.04</td>
<td>-3.6</td>
</tr>
<tr>
<td>U.S. Technology</td>
<td>55.13</td>
<td>0.49</td>
<td>1.3</td>
</tr>
<tr>
<td>U.S. Telecom</td>
<td>31.61</td>
<td>0.41</td>
<td>6.6</td>
</tr>
<tr>
<td>U.S. Total Market</td>
<td>70.53</td>
<td>0.26</td>
<td>2.7</td>
</tr>
<tr>
<td>U.S. Utilities</td>
<td>98.91</td>
<td>0.25</td>
<td>10.1</td>
</tr>
</tbody>
</table>

**iShares: FTSE**
FTSE/Xinhua Chn 25 FXI 107.00 0.09 -4.0

**iShares: Goldman Sachs**
GSCI Commodity GS1 41.80 -0.17 4.3
Natural Resources IGE 107.55 0.35 5.9
Networking IGN 32.03 0.77 2.1
Semiconductor IQW 61.63 0.00 1.0
Software IVV 45.99 0.26 3.2
Technology IEM 52.55 0.61 2.2

**iShares: iBoxx**
Invest Gr Corp Bond LQD 106.65 -0.23 —

**iShares: KLD**
KLD 400 DSI 51.43 0.37 0.6
KLD Select Social Index KLD 59.41 0.44 0.6

**iShares: Lehman Brothers**
10-20 Yr T-Bond THV 100.12 -0.28 -0.3
1-3 Yr T-Bond SHY 80.20 -0.04 0.3
1-3 Yr Credit Bond CSJ 100.53 -0.02 0.4
20-Plus Year T-Bond TLH 87.75 -0.37 -0.8
3-7 Year T-Bond IEL 100.62 -0.17 0.7
7-10 Year T-Bond IEF 82.71 -0.09 0.5
Agg T-Bd AAG 99.92 -0.09 0.2
Govt T-Bd CFT 100.57 -0.31 —

and, therefore, is much smaller than the total market value of open-end funds. In addition, the growth of closed-end funds has been smaller than that of open-end funds.

**Exchange-Traded Funds** Exchange-traded funds (ETFs) are designed to mimic particular stock indexes and are traded on a stock exchange just like stocks. They differ from open-end funds in that their shares are traded on an exchange, and their share price changes throughout the day. Also unlike an open-end fund, an ETF has a fixed number of shares. ETFs differ from most open-end and closed-end funds in that they are not actively managed. The management goal of an ETF is to mimic an
index so that the share price of the ETF moves in line with that index. Because ETFs are not actively managed, they normally do not have capital gains and losses that must be distributed to shareholders. ETFs have become very popular in recent years because they are an efficient way for investors to invest in a particular stock index.

The first ETF was created in 1993. By 2006, the total value of ETF assets exceeded $350 billion. Today, there are more than 900 ETFs, and they are commonly classified as broad-based, sector, or global, depending on the specific index that they mimic. The broad-based funds are the most popular, but both sector and global ETFs have experienced substantial growth in recent years.

One disadvantage of ETFs is that each purchase of additional shares must be done through the exchange where they are traded. Investors incur a brokerage fee from purchasing the shares just as if they had purchased shares of a stock. This cost is especially important to investors who plan to frequently add to their investment in a particular ETF.

Unlike open-end mutual funds, ETFs can be shorted. Investors who expect that a specific country or sector index will decline over time commonly short ETFs. ETFs can also be purchased on margin.

A popular ETF is the so-called Cube (its trading symbol is QQQQ) created by the Bank of New York. Cubes are traded on the Amex and represent the Nasdaq 100 index, which consists of many technology firms. Thus, Cubes are ideal for investors who believe that technology stocks will perform well but do not want to select individual technology stocks. Cubes are also commonly sold short by investors who expect that technology stocks will decline in value.

Another example of an ETF is the Standard & Poor’s Depositary Receipt (also called Spider), which is a basket of stocks matched to the S&P 500 index. Spiders enable investors to take positions in the index by purchasing shares. Thus, investors who anticipate that the stock market as represented by the S&P 500 will perform well may purchase shares of Spiders, especially when their expectations reflect the composite as a whole rather than any individual stock within the composite. Spiders trade at one-tenth the S&P 500 value, so if the S&P 500 is valued at 1400, a Spider is valued at $140. Thus, the percentage change in the price of the shares over time is equivalent to the percentage change in the value of the S&P 500 index.

Diamond ETFs are shares of the Dow Jones Industrial Average (DJIA) and are measured as one one-hundredth of the DJIA value. Mid-cap Spiders are shares that represent the S&P 400 Midcap Index. There are also Sector Spiders, which are intended to match a specific sector index. For example, a Technology Spider is a fund representing 79 technology stocks from the S&P 500 composite. Another type of ETF is the world equity benchmark shares (WEBs), which are designed to track stock indexes of specific countries. Barclays Bank has created several different ETFs (which it calls iShares) that represent specific countries.

**Hedge Funds** Hedge funds sell shares to wealthy individuals and financial institutions and use the proceeds to invest in securities. They differ from an open-end mutual fund in several ways. First, they require a much larger initial investment (such as $1 million), whereas mutual funds typically allow a minimum investment in the range of $250 to $2,500. Second, many hedge funds are not “open” in the sense that they may not always accept additional investments or accommodate redemption requests unless advance notice is provided. Third, hedge funds have been unregulated, although they are now subject to some regulation. They provide very limited information to prospective investors. Fourth, hedge funds invest in a wide variety of investments to achieve high returns. Consequently, they tend to take more risk than mutual funds.
**Comparison to Depository Institutions**

Mutual funds are like depository institutions in that they repackage the proceeds received from individuals to make various types of investments. Nevertheless, investing in mutual funds is distinctly different from depositing money in a depository institution in that it represents partial ownership, whereas deposits represent a form of credit. Thus, the investors share the gains or losses generated by the mutual fund, while depositors simply receive interest on their deposits. Individual investors view mutual funds as an alternative to depository institutions. In fact, much of the money invested in mutual funds in the 1990s came from depository institutions. When interest rates decline, many individuals withdraw their deposits and invest in mutual funds.

**Regulation**

Mutual funds must adhere to a variety of federal regulations. They must register with the Securities and Exchange Commission (SEC) and provide interested investors with a prospectus that discloses details about the components of the fund and the risks involved. Mutual funds are also regulated by state laws, many of which attempt to ensure that investors fully understand the fund.

Since July 1993, mutual funds have been required to disclose in the prospectus the names of their portfolio managers and the length of time that they have been employed by the fund in that position. Many investors regard this information as relevant because the performance of a mutual fund is highly dependent on its portfolio managers.

Mutual funds must also disclose their performance record over the past 10 years in comparison to a broad market index. They must also state in the prospectus how their performance was affected by market conditions.

If a mutual fund distributes at least 90 percent of its taxable income to shareholders, it is exempt from taxes on dividends, interest, and capital gains distributed to shareholders. The shareholders are, of course, subject to taxation on these forms of income.

**Information Contained in a Prospectus**

A mutual fund prospectus contains the following information:

1. The minimum amount of investment required.
2. The investment objective of the mutual fund.
3. The return on the fund over the past year, the past three years, and the past five years.
4. The exposure of the mutual fund to various types of risk.
5. The services (such as check writing, ability to transfer money by telephone, etc.) offered by the mutual fund.
6. The fees incurred by the mutual fund (such as management fees) that are passed on to the investors.

**Estimating the Net Asset Value**

The **net asset value (NAV)** of a mutual fund indicates the value per share. It is estimated each day by first determining the market value of all securities comprising the mutual fund (any cash is also accounted for). Any interest or dividends accrued from the mutual fund are added to the market value. Then any expenses are subtracted, and the amount is divided by the number of shares of the fund outstanding.
Newark Mutual Fund has 20 million shares issued to its investors. It used the proceeds to buy stock of 55 different firms. A partial list of its stock holdings is shown below:

<table>
<thead>
<tr>
<th>Name of Stock</th>
<th>Number of Shares</th>
<th>Prevailing Share Price</th>
<th>Market Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aztec Co.</td>
<td>10,000</td>
<td>$40</td>
<td>$400,000</td>
</tr>
<tr>
<td>Caldero, Inc.</td>
<td>20,000</td>
<td>30</td>
<td>600,000</td>
</tr>
<tr>
<td>Zurkin, Inc.</td>
<td>8,000</td>
<td>70</td>
<td>560,000</td>
</tr>
</tbody>
</table>

Total market value of shares today: $500,020,000

Interest and dividends received today: +10,000

Expenses incurred today: −30,000

Market value of fund: −$30,000

Net asset value = Market value of fund/number of shares

= $500,000,000/20,000,000

= $25 per share

The SEC monitors the reporting of the NAV by mutual funds. When a mutual fund pays its shareholders dividends, its NAV declines by the per-share amount of the dividend payout.

**Distributions to Shareholders**

Mutual funds can generate returns to their shareholders in three ways. First, they can pass on any earned income (from dividends or coupon payments) as dividend payments to the shareholders. Second, they distribute the capital gains resulting from the sale of securities within the fund. A third type of return to shareholders is through mutual fund share price appreciation. As the market value of a fund’s security holdings increases, the fund’s NAV increases, and the shareholders benefit when they sell their mutual fund shares.

Although investors in a mutual fund directly benefit from any returns generated by the fund, they are also directly affected if the portfolio generates losses. Because they own the shares of the fund, there is no other group of shareholders to whom the fund must be accountable. This differs from commercial banks and stock-owned savings institutions, which obtain their deposits from one group of investors and sell shares of stock to another.

**Mutual Fund Classifications**

Mutual funds are commonly classified as stock (or equity) mutual funds, bond mutual funds, or money market mutual funds, depending on the types of securities in which they invest. The distribution of investments in these three classes of mutual funds is shown in Exhibit 23.2. Stock funds are dominant when measured by the market value of total assets among mutual funds. Many investment companies offer a family of many different mutual funds so that they can accommodate the diverse preferences of investors. With one phone call, an investor can normally transfer money from one mutual fund to another within the same family.
Management of Mutual Funds

Each mutual fund is managed by one or more portfolio managers, who must focus on the stated investment objective of that fund. These managers tend to purchase stocks in large blocks. They prefer liquid securities that can easily be sold in the secondary market at any time. Since open-end mutual funds allow shareholders to buy shares at any time, their managers continuously seek new investments. They may maintain a small amount of cash for liquidity purposes. If there are more redemptions than sales of shares at a given point in time, the managers can use the cash to cover the redemptions. If the cash is not sufficient to cover the redemptions, they sell some of their holdings of securities to obtain the cash they need.

Since closed-end funds are closed to new investment or redemptions by shareholders, their portfolio managers do not need to plan for new investment. In addition, they do not need to hold cash because the fund does not allow redemptions. Shareholders of closed-end funds sell their shares in the secondary market rather than redeem their shares with the fund.

Expenses Incurred by Shareholders

Mutual funds pass on their expenses to their shareholders. The expenses include compensation to the portfolio managers and other employees, research support and investment advice, record-keeping and clerical fees, and marketing fees. Some mutual funds have recently increased their focus on marketing, but marketing does not necessarily enable a mutual fund to achieve high performance relative to the market or other mutual funds. In fact, marketing expenses increase the expenses that are passed on to the mutual fund’s shareholders.

Expenses can be compared among mutual funds by measuring the expense ratio, which is equal to the annual expenses per share divided by the fund’s NAV. An expense ratio of 2 percent in a given year means that shareholders incur annual
expenses reflecting 2 percent of the value of the fund. Many mutual funds have an expense ratio between 1 and 2 percent. A high expense ratio can have a major impact on the returns generated by a mutual fund for its shareholders over time.

Consider two mutual funds, each of which generates a return on its portfolio of 9.2 percent per year, ignoring expenses. One mutual fund has an expense ratio of 3.2 percent, so its actual return to shareholders is 6 percent per year. The other mutual fund has an expense ratio of 0.2 percent per year (some mutual funds have expense ratios at this level), so its actual return to shareholders is 9 percent per year. Assume you have $10,000 to invest. Exhibit 23.3 compares the accumulated value of your shares over time between the two mutual funds. After five years, the value of the mutual fund with the low expense ratio is about 20 percent higher than the value of the mutual fund with the high expense ratio. After 10 years, its value is about 40 percent more than the value of the mutual fund with the high expense ratio. After 20 years, its value is about 87 percent more. Even though both mutual funds had the same return on investment when ignoring expenses, the returns to shareholders after expenses are very different because of the difference in expenses charged.

Thus, the higher the expense ratio, the lower the return for a given level of portfolio performance. Mutual funds with lower expense ratios tend to outperform others that have a similar investment objective. That is, funds with higher expenses are generally unable to generate higher returns that could offset those expenses. Since expenses can vary substantially among mutual funds, investors should review the annual expenses of any fund before making an investment.

Sales Load

Mutual funds can also be classified as either load, meaning that there is a sales charge, or no-load, meaning that the funds are promoted strictly by the mutual fund of concern. Load funds are promoted by registered representatives of brokerage firms, who earn a sales charge typically ranging between 3 percent and 8.5 percent. Investors in a load fund pay this charge through the difference between the bid and ask prices of the load fund. Loads, commissions, and bid-ask spreads are not included in the expense ratio of a mutual fund.
Some investors may feel that the sales charge is worthwhile, because the brokerage firm helps determine the type of fund that is appropriate for them. Other investors who feel capable of making their own investment decisions often prefer to invest in no-load funds. Some no-load mutual funds can be purchased through a discount broker for a relatively low fee (such as 1 to 2 percent), although investors receive no advice from the discount broker.

As an example of the potential advantage of no-load funds, consider separate $10,000 investments in no-load and load funds. Assuming an 8.5 percent load fee, the actual investment in the load fund is $9,150. If the value of both funds grows by 10 percent per year, the investment in the no-load fund will be worth $2,204 more than the investment in the load fund after 10 years.

In recent years, some small no-load funds have become load funds because they could not attract investors without a large budget for national advertising. As a load fund, they will be recommended by various brokers and financial planners, who will earn a commission on any shares sold.

Types of Loads  Mutual funds charge different types of loads: front-end loads and back-end loads.

A front-end load is paid only once, at the time you invest money in a mutual fund. The legal limit on front-end loads is 8.5 percent, but most funds charge 5.75 percent or less. Mutual funds with a front-end load often offer discounts like breakpoints, right of accumulation, letters of intent, or free transfers. Breakpoints are basically volume discounts, which means that the percentage load becomes smaller as you invest more. Such discounts often start at $25,000. Many funds waive their loads entirely for investments of more than $1 million. A right of accumulation is a discount based on the total amount of money you invest in the fund family (as opposed to just the individual fund). Letters of intent are often used for investors who invest only a small amount today but commit themselves to additional purchases over the next year. With this setup, the investor is entitled to the breakpoint discount today even though he or she has not yet invested enough money to actually qualify for it. Of course, if the investor fails to invest the additional funds, the fund will retroactively collect the higher fee from the account. Free transfers allow investors to move money between funds with no additional load, provided the money stays in the same family.

A back-end load (also known as a rear load or reverse load) is a withdrawal fee assessed when you withdraw money from the mutual fund. Back-end loads are often between 5 and 6 percent for the first year but decline by a certain percentage each subsequent year. Some mutual funds have features that can minimize the back-end load. For example, some funds permit investors to withdraw dividends and capital gains at any time without a charge. Other funds allow a certain percentage withdrawal of the investment each year without incurring a load. Also, many funds allow for free transfers within the fund family without incurring additional charges.

12b-1 Fees

In 1980, the SEC allowed mutual funds to charge shareholders a distribution fee, also called a 12b-1 fee in reference to SEC rule 12b-1. In some cases, funds have used the proceeds from 12b-1 fees to pay commissions to brokers whose clients invested in the fund. In essence, the fee substituted for the load (sales charge) that was directly charged to investors in load funds. A fund that states that it does not charge a sales load may charge shareholders 12b-1 fees and use the proceeds to pay commissions to brokers. Some shareholders who believe that they are not incurring a cost on a no-load fund do pay a commission indirectly through the 12b-1 fees. The fees are generally included in a fund’s expense ratio as part of its marketing expenses.
fees are controversial because many mutual funds do not clarify how they use the money received from the fees.

**Governance of Mutual Funds**

A mutual fund is usually run by an investment company, whose owners are different from the shareholders in the mutual funds. In fact, some managers employed by mutual funds invest their money in the investment company rather than in the mutual funds that they manage. Thus, the investment company may have an incentive to charge high fees to the shareholders of the mutual fund. The expenses charged to the fund represent income generated by the investment company. Although valid expenses are incurred in running a mutual fund, the expenses charged by some investment companies may be excessive. Many mutual funds have grown substantially over time and should be able to capitalize on economies of scale. Nevertheless, their expense ratios have generally increased over time. Competition is expected to ensure that mutual funds will charge shareholders only reasonable expenses, but many investors are not aware of the expenses that they are charged.

**Connection between Fees and Agency Problems**
The large fees at some mutual funds are due to agency problems. Managers of mutual funds are expected to serve their shareholders. However, they may focus on serving their own interests rather than those of shareholders. The managers provide very limited information about how they spend the money that they receive from fees. Since many mutual funds that charge high fees do not outperform funds with lower fees, the way they use the proceeds from the fees deserves to be questioned. Unfortunately, many shareholders do not recognize all the fees that they are charged by some mutual funds or how the fees affect their investment. This may explain why some mutual funds that charge high fees continue to attract investments from shareholders.

Mutual funds, like corporations, are subject to some forms of governance that are intended to ensure that the managers are serving the shareholders. Each mutual fund has a board of directors who are supposed to represent the fund’s shareholders. The effectiveness of the boards is questionable, however. The SEC requires that a majority of the directors of a mutual fund board be independent (not employed by the fund). However, an employee of the company can retire and qualify as an independent board member just two years later. In addition, the average annual compensation paid to the board members of large mutual funds exceeds $100,000. Thus, some board members may be willing to avoid confrontation with management if doing so enables them to keep their positions. This same criticism is also leveled at boards of publicly traded companies. Another problem is that board members of a mutual fund family commonly oversee all funds in the entire family. Consequently, they may concentrate on general issues that are not particular to any one fund and spend a relatively small amount of time on any individual fund within the family.

Mutual funds also have a compliance officer who is supposed to ensure that the fund’s operations are in line with the fund’s objective and guidelines for trading rules. Until recently, however, some compliance officers reported to the investment company instead of the mutual fund’s board of directors. As a result of scandals, compliance officers are now reporting to the board.

**Mutual Fund Scandals**

BEHAVIORAL FINANCE In 2003, mutual funds received unfavorable publicity because some of the funds were allowing their large clients to buy or sell the fund’s shares after the stock exchange’s 4 P.M. closing but at the 4 P.M. prices. Thus, if favorable news about the market occurred after 4 P.M., the clients could buy fund shares at a price that was less than what was appropriate. This late trading, as it is called, is
distinctly different from night trading (or after-hours trading) in the stock market where trades occur at prevailing market prices. Late trading of mutual funds involves engaging in a trade on prices that are “stale” or no longer appropriate. It is a clear violation of laws established by the SEC in 1968. Other shareholders of the mutual fund who were not able to trade on the inside information are adversely affected by these actions. The scandal was a major blow to mutual funds because they were commonly viewed as a safe way to diversify among firms and avoid exposure to possible scandals such as accounting irregularities that could affect a firm’s stock price. Although many mutual funds were completely innocent, it was difficult for investors to identify the funds that had violated the rules.

As soon as this problem was publicized, the SEC began to investigate mutual funds and fined some of them heavily. The SEC was concerned that investors might come to mistrust all mutual funds (even those that were innocent) and withdraw their investments; massive redemptions could adversely affect the values of the securities that the funds invest in. Consequently, the SEC and other agencies of the federal government took steps to restore investor confidence in mutual funds including prosecuting managers of mutual funds who violated the rules.

Corporate Control by Mutual Funds

Regardless of whether mutual funds monitor their own management effectively, they have the power to monitor the management of the firms in which they invest. Since mutual funds invest large amounts of money in some stocks, they become major shareholders of firms. For example, Fidelity is the largest shareholder of more than 700 firms in which it owns stock. Portfolio managers of many mutual funds serve on the board of directors of various firms. Even when a fund’s managers do not serve on a firm’s board, the firm may still attempt to satisfy them so that they do not sell their holdings of the firm’s stock. To illustrate the importance of mutual funds, Fidelity typically accounts for at least 5 percent of all the trading on the New York Stock Exchange on a given day. Fidelity is commonly one of the first institutional investors to be asked whether it wants to invest in a firm’s new offerings of stock. Fidelity has more than 200 analysts who assess the financial condition of firms. Many firms discuss any major policy changes with analysts and portfolio managers of mutual funds to convince them that the changes should have a favorable effect on performance over time. In this way, a firm may discourage the funds from selling their holdings of the firm’s stock and may even persuade them to purchase more.

Stock Mutual Fund Categories

Because investors have various objectives, no single portfolio can satisfy everyone. Consequently, a variety of stock mutual funds have been created. Investors select stock mutual funds with characteristics that fit their preferences. Some investors need mutual funds that can generate income, while others do not. Some investors want to earn a high return and are willing to tolerate a high level of risk, while others need a fund that is very conservative and offers more stable returns. The more popular categories include

- Growth funds
- Capital appreciation funds
- Growth and income funds
- International and global funds
- Specialty funds
- Index funds
- Multifund funds
Growth Funds
For investors who desire a high return and are willing to accept a moderate degree of risk, growth funds are appropriate. These funds are typically composed of stocks of companies that have not fully matured and are expected to grow at a higher than average rate in the future. The primary objective of a growth fund is to generate an increase in investment value, with less concern about the generation of steady income. Growth funds may entail different degrees of risk. Some concentrate on companies that have existed for several years but are still experiencing growth, while others concentrate on relatively young companies.

Capital Appreciation Funds
Also known as aggressive growth funds, capital appreciation funds are composed of stocks that have potential for very high growth but may also be unproven. These funds are suited to investors who are willing to risk a possible loss in value. As the economy changes, portfolio managers of capital appreciation funds constantly revise the portfolio composition to take full advantage of their expectations. They sometimes even use borrowed money to support their portfolios, thereby using leverage to increase their potential return and risk.

Growth and Income Funds
Some investors are looking for potential for capital appreciation along with some stability in income. For these investors, a growth and income fund, which contains a unique combination of growth stocks, high-dividend stocks, and fixed-income bonds, may be most appropriate.

International and Global Funds
In recent years, awareness of foreign securities has been increasing. Investors historically avoided foreign securities because of the high information and transaction costs associated with purchasing them and monitoring their performance. International mutual funds were created to enable investors to invest in foreign securities without incurring these excessive costs.

The returns on international stock mutual funds are affected not only by foreign companies’ stock prices but also by the movements of the currencies that denominate these stocks. As a foreign currency’s value strengthens against the U.S. dollar, the value of the foreign stock as measured in U.S. dollars increases. Thus, U.S. investors can benefit not only from higher stock prices but also from a strengthened foreign currency (against the dollar). Of course, they can also be adversely affected if the foreign currencies denominated the stocks depreciate.

An alternative to an international mutual fund is a global mutual fund, which includes some U.S. stocks in its portfolio. International and global mutual funds have historically included stocks from several different countries to limit the portfolio’s exposure to economic conditions in any single foreign economy.

In recent years, some new international mutual funds have been designed to fully benefit from a particular emerging country or continent. Although the potential return from such a strategy is greater, so is the risk, because the entire portfolio value is sensitive to a single economy. For investors who prefer minimum transaction costs, mutual funds have begun to offer index funds. Each of these funds is intended to mirror a stock index of a particular country or group of countries. For example, Vanguard offers a fund representing a European stock index and a Pacific Basin stock index. Because these mutual funds simply attempt to mirror an existing stock index, they avoid the advisory and transaction costs that are common to other mutual funds. International funds are discussed further at the end of this chapter.
Specialty Funds

Some mutual funds, called specialty funds, focus on a group of companies sharing a particular characteristic. For example, there are industry-specific funds such as energy, banking, and high-tech funds. Some funds include only stocks of firms that are likely takeover targets. Other mutual funds specialize in options or other commodities, such as precious metals. There are even mutual funds that invest only in socially conscious firms. The risk of specialty funds varies with the particular characteristics of each fund.

Some specialty funds focus their investment on Internet companies. Internet funds performed extremely well in the late 1990s when stock prices of Internet companies surged, but poorly in the 2000–2002 period. Investors who want to invest in technology but do not have any insight about specific companies commonly invest in these mutual funds.

Index Funds

Some mutual funds are designed to simply match the performance of an existing stock index. For example, Vanguard offers an index fund that is designed to match the S&P 500 index. Index funds are composed of stocks that, in aggregate, are expected to move in line with a specific index. They contain many of the same stocks contained in the corresponding index and tend to have very low expenses because they require little portfolio management and execute a relatively small number of transactions.

Index funds have become very popular over time as investors recognize that most mutual funds do not outperform indexes. Furthermore, investors benefit because the expenses of index funds are much lower than the expenses of actively managed mutual funds. Index funds are very similar to exchange-traded funds. The primary difference is that index funds are not traded throughout the day, whereas ETFs are.
Multifund Funds

In recent years, multifund mutual funds have been created. A multifund mutual fund’s portfolio managers invest in a portfolio of different mutual funds. A multifund mutual fund achieves even more diversification than a typical mutual fund, because it contains several mutual funds. However, investors incur two types of management expenses: (1) the expenses of managing each individual mutual fund and (2) the expenses of managing the multifund mutual fund.

Bond Mutual Fund Categories

Investors in bonds are primarily concerned about interest rate risk, credit (default) risk, and tax implications. Thus, most bond funds can be classified according to either their maturities (which affect interest rate risk) or the type of bond issuers (which affects credit risk and taxes incurred).

Income Funds

For investors who are mainly concerned with stability of income rather than capital appreciation, income funds are appropriate. These funds are usually composed of bonds that offer periodic coupon payments and vary in exposure to risk. Income funds composed of only corporate bonds are susceptible to credit risk, while those composed of only Treasury bonds are not. A third type of income fund contains bonds backed by government agencies, such as the Government National Mortgage Association (GNMA, or Ginnie Mae). These funds are normally perceived to be less risky than a fund containing corporate bonds. Those income funds exhibiting more credit risk will offer a higher potential return, other things being equal.

The market values of even medium-term income funds are quite volatile over time because of their sensitivity to interest rate movements. Thus, income funds are best suited for investors who rely on the fund for periodic income and plan to maintain the fund over a long period of time.

Tax-Free Funds

Investors in high tax brackets have historically purchased municipal bonds as a way to avoid taxes. Because these bonds are susceptible to default, a diversified portfolio is desirable. Mutual funds containing municipal bonds allow investors in high tax brackets with even small amounts of money to avoid taxes while maintaining a low degree of credit risk.

High-Yield (Junk) Bond Funds

Investors desiring high returns and willing to incur high risk may wish to consider bond portfolios with at least two-thirds of the bonds rated below Baa by Moody’s or BBB by Standard & Poor’s. These portfolios are sometimes referred to as high-yield (or junk bond) funds. Typically, the bonds were issued by highly leveraged firms. The issuing firm’s ability to repay the bonds is very sensitive to economic conditions.

International and Global Bond Funds

International bond funds contain bonds issued by corporations or governments based in other countries. Global bond funds differ from international bond funds in that they contain U.S. as well as foreign bonds. Global funds may be more appropriate for investors who want a fund that includes U.S. bonds within a diversified portfolio, whereas investors in international bond funds may already have a sufficient investment in U.S. bonds and prefer a fund that focuses entirely on foreign bonds.
International and global bond funds provide U.S. investors with an easy way to invest in foreign bonds. However, these funds are subject to risk. Like bond funds containing U.S. bonds, these funds are subject to credit risk, based on the financial position of the corporations or governments that issued the bonds. They are also subject to interest rate risk, as the bond prices are inversely related to the interest rate movements in the currency denominating each bond. These funds are also subject to exchange rate risk, as the NAV of the funds is determined by translating the foreign bond holdings to dollars. Thus, when the foreign currency denominated the bonds weakens, the translated dollar value of those bonds will decrease.

**Maturity Classifications**

Since the interest rate sensitivity of bonds is dependent on the maturity, bond funds are commonly segmented according to the maturities of the bonds they contain. Intermediate-term bond funds invest in bonds with 5 to 10 years remaining until maturity. Long-term bond funds typically contain bonds with 15 to 30 years until maturity. The bonds in these funds normally have a higher yield to maturity and are more sensitive to interest rate movements than the bonds in intermediate-term funds. For a given type of bond fund classification (such as municipal or tax-free), various alternatives with different maturity characteristics are available, so investors can select a fund with the desired exposure to interest rate risk.

The variety of bond funds available can satisfy investors who desire combinations of the features described here. For example, investors who are concerned about interest rate risk and credit risk could invest in bond funds that focus on Treasury bonds with intermediate terms to maturity. Investors who expect interest rates to decline but are concerned about credit risk could invest in a long-term Treasury bond fund. Investors who expect interest rates to decline and are not concerned about credit risk may invest in high-yield bond funds. Investors who wish to avoid federal taxes on interest income and are concerned about interest rate risk may consider short-term municipal bond funds.

**Asset Allocation Funds**

Asset allocation funds contain a variety of investments (such as stocks, bonds, and money market securities). The portfolio managers adjust the compositions of these funds in response to expectations. For example, a given asset allocation fund will tend to concentrate more heavily on bonds if interest rates are expected to decline; it will focus on stocks if a strong stock market is expected. These funds may even concentrate on international securities if the portfolio managers forecast favorable economic conditions in foreign countries.

**Growth and Size of Mutual Funds**

Exhibit 23.4 shows how the number of mutual funds has grown over time. The number of stock and bond funds is substantially larger than it was during the 1980s. The popularity of stock funds is mainly due to the stock market boom periods that occurred during the 1990s, along with the relatively low returns offered by alternative short-term securities. The relative growth of investment in stock mutual funds versus bond mutual funds is illustrated in Exhibit 23.5, based on asset size. In the 1980s, investment in bond funds exceeded that of stock funds, but since the mid-1990s, investment in stock funds was higher, as investors substantially increased their investment in stock funds in response to unusually high returns in the stock market.

Growth funds, income funds, international and global funds, and long-term municipal bond funds are the most popular types of funds. Growth and income funds are
the most popular when measured according to total assets. Although mutual funds originally targeted more conservative investors, new kinds of funds have recently been created to accommodate all types of investors. Exhibit 23.6 shows the composition of all mutual fund assets in aggregate. Common stocks are clearly the dominant asset maintained by mutual funds.

**Performance of Mutual Funds**

Investors in mutual funds closely monitor the performance of these funds. They also monitor the performance of other mutual funds in which they may invest in the future. In addition, portfolio managers of a mutual fund closely monitor its performance, as their compensation is typically influenced by the performance level.

**Performance of Stock Mutual Funds**

The change in the performance (measured by risk-adjusted returns) of an open-end mutual fund focusing on stocks can be modeled as

\[ \Delta \text{PERF} = f(\Delta \text{MKT}, \Delta \text{SECTOR}, \Delta \text{MANAB}) \]

where MKT represents general stock market conditions, SECTOR represents conditions in the specific sector (if there is one) on which the mutual fund is focused, and MANAB represents the abilities of the mutual fund’s management.
Change in Market Conditions A mutual fund’s performance is usually closely related to market conditions. In fact, some mutual funds (index funds) attempt to resemble a particular stock market index. During the late 1990s, most mutual funds focusing on U.S. stocks experienced high performance because the U.S. market experienced high performance. Conversely, mutual funds focusing on Asian stocks experienced weak performance in the late 1990s because the Asian markets experienced weak performance. In the 2001–2002 period, weak economic conditions caused a major decline in stock prices, and most stock mutual funds performed poorly.
The attack on the United States on September 11, 2001, weakened economic conditions and caused stock prices to continue their decline. Stock valuations were weak because expected cash flows of firms had been reduced and were subject to much uncertainty. Since most stocks were adversely affected by the crisis, most mutual funds were adversely affected as well. Mutual funds that had a high concentration of travel services stocks or insurance stocks experienced larger declines in their prices. Even international mutual funds were adversely affected because stocks of most countries experienced a decline in price immediately after September 11.

However, in the 2003–2007 period, stock prices increased substantially in response to more favorable economic conditions. Consequently, stock mutual funds performed very well during this period.

To measure the sensitivity of a mutual fund’s exposure to market conditions, investors estimate its beta. A mutual fund’s beta is estimated in the same manner as a stock’s beta. Mutual funds with high betas are more sensitive to market conditions and therefore have more potential to benefit from favorable market conditions. If unfavorable market conditions occur, however, they are subject to a more pronounced decline in NAV.

### Change in Sector Conditions
The performance of a stock mutual fund focused on a specific sector is influenced by market conditions in that sector. Mutual funds focusing on small stocks had higher returns in the early 1990s, while mutual funds focusing on large stocks had higher returns in the late 1990s. When economic conditions weakened in 2001, small stocks typically performed worse, which resulted in very poor performance of growth funds.

In the late 1990s, many mutual funds that focused on U.S. technology stocks experienced very high performance because most technology companies performed well...
The Wall Street Journal summarizes the performance of various types of mutual funds. Lipper, Inc. classifies mutual funds by size, growth objective, and other characteristics. It has created an index for each classification in order to monitor the performance of each type of mutual fund. Some of its popular indexes include large-cap growth, large-cap value, equity income, science and technology, international, and balanced. It has also created indexes for bond mutual funds. For each stock or bond index created by Lipper, The Wall Street Journal provides the closing price and the return on the index since the previous day, the previous week, and the beginning of the calendar year. Market participants can use this table to compare the performances of different types of mutual funds. All types of mutual funds are generally driven by market conditions, as can be verified by the high correlation in returns among the types of funds. Nevertheless, the returns vary among the types of funds. Some investors commonly shift from one type of fund to another, attempting to speculate on the type of fund that will perform better in the future.

<table>
<thead>
<tr>
<th>Stock-Fund Indexes</th>
<th>PRE-LIMIT CLOSING</th>
<th>PERCENT CHANGE FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large-Cap Growth</td>
<td>370.45</td>
<td>+0.49</td>
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<tr>
<td>Large-Cap Core</td>
<td>2695.14</td>
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<tr>
<td>Large-Cap Value</td>
<td>1363.83</td>
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<td>Multi-Cap Growth</td>
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<tr>
<td>Multi-Cap Core</td>
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<tr>
<td>Multi-Cap Value</td>
<td>6856.13</td>
<td>+0.13</td>
</tr>
<tr>
<td>Mid-Cap Growth</td>
<td>1930.00</td>
<td>+0.34</td>
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<tr>
<td>Mid-Cap Core</td>
<td>940.27</td>
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<td>1494.56</td>
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<td>Small-Cap Growth</td>
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<td>Small-Cap Core</td>
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<td>Small-Cap Value</td>
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</tr>
<tr>
<td>Equity Income Fd</td>
<td>5883.46</td>
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<tr>
<td>Science and Tech Fd</td>
<td>767.85</td>
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<td>International Fund</td>
<td>1382.22</td>
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<tr>
<td>Balanced Fund</td>
<td>6433.75</td>
<td>+0.11</td>
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<table>
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<tr>
<th>Bond-Fund Indexes</th>
<th>PRE-LIMIT CLOSING</th>
<th>PERCENT CHANGE FROM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Int Grain</td>
<td>277.37</td>
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<tr>
<td>InterMed Grain</td>
<td>339.64</td>
<td>-0.06</td>
</tr>
<tr>
<td>US Government</td>
<td>440.36</td>
<td>-0.06</td>
</tr>
<tr>
<td>GNMA</td>
<td>482.87</td>
<td>+0.03</td>
</tr>
<tr>
<td>Corp A-Rated Debt</td>
<td>1206.46</td>
<td>+0.07</td>
</tr>
</tbody>
</table>

Indices are based on the largest funds within the same investment objective and do not include multiple share classes of similar funds. Source: Lipper Inc.

Change in Management Abilities
In addition to market and sector conditions, a mutual fund’s performance may also be affected by the abilities of its managers. Mutual funds in the same sector can have different performance levels because of differences in management abilities. If the portfolio managers of one mutual fund in the sector can select stocks that generate higher returns, that fund should generate higher returns. Also important is a mutual fund’s operating efficiency, which affects the expenses incurred by the fund and therefore affects its value. A fund that is managed efficiently such that its expenses are low may be able to achieve higher returns for its shareholders even if its portfolio performance is about the same as other mutual funds in the same sector.

Performance of Closed-End Stock Funds
The performance of closed-end stock funds is essentially driven by the same factors that influence open-end (mutual) stock funds. In addition, however, the performance of closed-end stock funds is affected by a change in their premium or discount.

When the demand for a particular closed-end mutual fund is strong, the market price may be higher than its NAV; the fund is thus priced at a premium. When
a closed-end fund’s market price per share is less than the NAV per share, the fund is priced at a discount.

Some closed-end funds, especially those focusing on securities of a foreign country, can have large premiums or discounts relative to their NAVs. If a fund’s premium increases relative to its NAV (or if its discount is reduced), the return to the fund’s shareholders is increased. The main reason for a change in the discount or premium is a shift in the demand for shares of the fund. For example, when large stock markets are priced relatively high, more investors from those markets seek investments in smaller, foreign markets where prices of securities are lower. Investing in individual stocks in those markets can be difficult, however, because the respective governments may impose restrictions. In that case, investing in a closed-end fund representing foreign markets is an easier approach than investing in those countries, and investors’ demand for those funds increases. Given the fixed supply of closed-end fund shares, a strong demand for those shares by investors can push the market price of the shares high above the NAV.

Some research has documented high returns from investing in closed-end funds that are priced at a large discount from their NAV, which suggests that closed-end funds with large discounts in price are undervalued. Applying this strategy will not always generate high risk-adjusted returns, however, because the market price of some closed-end funds with large discounts continues to decline over time (their discount becomes larger).

Performance of Bond Mutual Funds

The change in the performance of an open-end mutual fund focusing on bonds can be modeled as

\[
\Delta \text{PERF} = f(\Delta R_f, \Delta R_P, \text{CLASS}, \text{MANAB})
\]

where \( R_f \) represents the risk-free rate, \( R_P \) represents the risk premium, CLASS represents the classification of the bond fund, and MANAB represents the abilities of the fund’s managers.

**Change in the Risk-Free Rate** The prices of bonds tend to be inversely related to changes in the risk-free interest rate. In periods when the risk-free interest rate declines substantially, the required rate of return by bondholders declines, and most bond funds perform well. Those bond funds that are focused on bonds with longer maturities are more exposed to changes in the risk-free rate.

**Change in the Risk Premium** The prices of bonds tend to decline in response to an increase in the risk premiums required by investors who purchase bonds. When economic conditions deteriorate, the risk premium required by bondholders usually increases, which results in a higher required rate of return (assuming no change in the risk-free rate) and lower prices on risky bonds. In periods when risk premiums increase, prices of risky bonds tend to decrease, and bond mutual funds focusing on risky bonds perform poorly.

**Change in Management Abilities** The performance levels of bond mutual funds in a specific bond classification can vary due to differences in the abilities of the funds’ managers. If the portfolio managers of one bond fund in that classification can select bonds that generate higher returns, that bond fund should generate higher returns. Also important is a bond fund’s operating efficiency, which affects the expenses incurred by the fund and therefore affects the fund’s value. A bond fund that
is managed efficiently such that its expenses are low may be able to achieve higher returns for its shareholders even if its portfolio performance is about the same as other bond mutual funds in the same classification.

**Performance of Closed-End Bond Funds**

The performance levels of closed-end bond funds are driven by the same factors that influence open-end (mutual) bond funds. In addition, though, the performance of closed-end bond funds is affected by a change in their premium or discount. If demand for a closed-end fund’s shares is abnormally high or low, its discount or premium relative to its NAV may adjust, thereby affecting the fund’s performance. Closed-end bond funds that focus on bonds in a foreign country are most susceptible to an abrupt shift in the premium or discount. Thus, the performance levels of those closed-end bond funds are most likely to be affected by shifts in the premium or discount.

**Performance from Diversifying among Mutual Funds**

The performance of any given mutual fund may be primarily driven by a single economic factor. For example, the performance of growth stock funds may be highly dependent on the stock market’s performance (market risk). The performance of any bond mutual fund is highly dependent on interest rate movements (interest rate risk). The performance of any international mutual fund is influenced by the dollar's value (exchange rate risk). When all securities in a given mutual fund are similarly influenced by an underlying economic factor, the fund does not achieve full diversification benefits. For this reason, some investors diversify among different types of mutual funds so that only a portion of their entire investment is susceptible to a particular type of risk.

Diversification among types of mutual funds can substantially reduce the volatility of returns on the overall investment. The proportion of the entire investment allocated to each type of mutual fund may be based on the forecasts for the underlying factors that affect each fund's value. To achieve full diversification benefits, constraints can be imposed on the maximum proportion allocated to any one type of mutual fund.

**Research on Stock Mutual Fund Performance**

A variety of studies have attempted to assess mutual fund performance over time. Measuring mutual fund performance solely by return is not a valid test, because the return will likely be highly dependent on the performance of the stock and bond markets during the period of concern. An alternative measure of performance is to compare the mutual fund return to the return of some market index (such as the Dow Jones Industrial Average or the S&P 500 index).

Most studies that assess mutual fund performance find that mutual funds do not outperform the market, especially when accounting for the type of securities that each fund invests in. A study by Malkiel found that mutual funds tend to underperform the market, even when the expenses incurred from owning mutual funds are ignored.

To appropriately evaluate a mutual fund’s performance, risk should also be considered. Even when returns are adjusted to account for risk, mutual funds have, on the average, failed to outperform the market. These results may seem surprising, because the funds are managed by experienced portfolio managers, but many individual stock purchase decisions are also ultimately derived from the so-called expert advice of

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investment companies that instruct their brokers on what securities to recommend. In addition, advocates of market efficiency suggest that beyond insider information, market prices should already reflect any good or bad characteristics of each stock, making it difficult to construct a portfolio whose risk-adjusted returns will consistently outperform the market. Even if mutual funds do not outperform the market, they can still be attractive to investors who wish to diversify and who prefer that a portfolio manager make their investment decisions.

**Research on Bond Mutual Fund Performance**

A study by Blake, Elton, and Gruber\(^2\) assessed the performance of bond mutual funds. One of the objectives was to determine whether mutual fund managers make better investment decisions than other investors in the bond market. The researchers found that, in general, bond mutual funds underperformed bond indexes. Their general results remain, regardless of the models used for comparing performance. They also determined that bond mutual funds with higher expense ratios generated lower returns. Thus, they recommended that investors select bond mutual funds that have lower expense ratios. Given their results, the authors suggest the creation of additional bond index funds, because these funds can provide bond diversification for small investors without requiring large management fees. Overall, bond mutual funds may still appeal to investors, but investors should recognize that the managers of these funds have not been able to outperform the market. This conclusion is only a generalization, as some bond mutual funds have experienced very high performance.

The authors also assessed whether past performance of bond mutual funds served as an accurate predictor of future performance. They found no conclusive evidence that the past performance of bond mutual funds can serve as a valuable predictor of future performance.

**Money Market Funds**

Money market mutual funds, sometimes called money market funds (MMFs), are portfolios of money market (short-term) instruments constructed and managed by investment companies. The portfolio is divided into shares that are sold to individual investors. Because investors can participate in some MMFs with as little as $1,000, they are able to invest in money market instruments that they could not afford on their own. Most MMFs allow check-writing privileges, although there may be restrictions on the number of checks written per month or on the minimum amount of the check.

MMFs send periodic account statements to their shareholders to update them on any changes in their balance. They also send shareholders periodic updates on any changes in the asset portfolio composition, providing a breakdown of the names of securities and amounts held in the MMF portfolio.

Because the sponsoring investment company is willing to purchase MMFs back at any time, investors can liquidate their investment whenever they desire. In most years, additional sales exceed redemptions, allowing the companies to build their MMF portfolios by purchasing more securities. When redemptions exceed sales, the company accommodates the amount of excessive redemptions by selling some of the assets contained in the MMF portfolios.

Exhibit 23.7 illustrates the growth in assets of MMFs over time. As investors increase their investment in MMFs, the asset level increases. When economic conditions are weak, the investment in MMFs tends to increase, as investors become more concerned about the risk of stocks and bonds.

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Exhibit 23.7  Growth in Money Market Fund Assets

Part 7: Nonbank Operations

MMFs can be distinguished from one another and from other mutual funds by the composition, maturity, and risk of their assets. Each of these characteristics is described next.

Asset Composition of Money Market Funds
Exhibit 23.8 shows the composition of money market fund assets in aggregate. Commercial paper dominates, but repurchase agreements and Treasury securities are also popular. This composition reflects the importance of each type of asset for MMFs overall and does not represent the typical composition of any particular MMF. Each MMF is usually more concentrated in whatever assets reflect its objective. During recessionary periods, the proportion of Treasury bills in MMFs normally increases, and the proportion of the more risky money market securities decreases.

Maturity of Money Market Funds
Exhibit 23.9 shows the average maturity of MMFs over time. The average maturity is determined by individual asset maturities, weighted according to their relative value. In the mid-1970s, the average maturity was relatively long. As interest rates increased, yields of MMFs were slower to adjust, as the rates on existing assets were fixed. Those MMFs with shorter asset maturities were able to capitalize more quickly on higher interest rates. By the late 1970s, the average maturity on MMFs had declined to less than half of what it was during the mid-1970s. Thus, most MMFs were in a position to fully benefit from the very high short-term interest rates in 1981. During the 1980s, the average maturity of money market fund assets was about 40 days. The average maturity has generally increased since then.

Risk of Money Market Funds
From an investor’s perspective, MMFs usually have a low level of credit risk. There may be some concern that an economic downturn could cause frequent defaults on commercial paper or that several banking failures could cause defaults on Eurodollar

Exhibit 23.8
Composition of Taxable Money Market Fund Assets in Aggregate

![Pie chart showing asset composition]

certificates of deposit and banker’s acceptances. These instruments subject to credit risk have short-term maturities, however. Thus, MMFs can quickly shift away from securities issued by any particular corporations that may fail in the near future.

Because MMFs contain instruments with short-term maturities, their market values are not too sensitive to movements in market interest rates (as are mutual funds containing long-term bonds). Although the short-maturity characteristic is sometimes perceived as an advantage, it also causes the returns on MMFs to decline in response to decreasing market interest rates. For this reason, some investors choose to invest in an MMF offered by an investment company that also offers a bond mutual fund. During periods when interest rates are expected to decline, a portion of the investor’s funds can be transferred from the MMF to the bond mutual fund upon the investor’s request.

The expected returns on MMFs are low relative to bonds or stocks because of the following factors. First, the credit risk of MMFs is normally perceived to be lower than that of corporate bonds. Second, MMFs have less interest rate risk than bond funds. Third, they consistently generate positive returns over time, whereas bond and stock funds can experience negative returns. Because MMFs are normally characterized as having relatively low risk and low expected returns, they are popular among investors who need a conservative investment medium. Furthermore, they provide liquidity with their check-writing privileges.

Management of Money Market Funds

The role of MMF portfolio managers is to maintain an asset portfolio that satisfies the underlying objective of a fund. If the managers expect a stronger economy, they may replace maturing risk-free securities (Treasury bills) with more commercial paper or CDs. The return on these instruments will be higher but will not overexpose the fund to credit risk. For some MMFs there is very little flexibility in the composition. For example, some MMFs may as a rule maintain a high percentage of their investment in T-bills to assure investors that they will continue to refrain from risky securities.
Even if managers are unable to change the asset composition of MMFs, they can still influence performance by changing the maturities of the securities in which they invest. For example, if managers expect interest rates to increase in the future, they should use funds generated from maturing securities to purchase new securities with shorter maturities. The greater the degree to which a manager adjusts the average maturity of an MMF to capitalize on interest rate expectations, the greater the reward or penalty. If the expectation turns out to be correct, the MMF will yield relatively high returns, and vice versa.

Although individual investors and institutions do not manage the portfolio composition or maturity of an MMF, they have a variety of MMFs from which to choose. If they expect a strong economy, they may prefer an MMF that contains securities with some risk that offer higher returns than T-bills. If they expect interest rates to increase, they could invest in MMFs with a short average maturity. They are in a sense managing their investment by choosing an MMF with the characteristics they prefer. Some investment companies offer several MMFs, allowing investors to switch from one fund to another based on their expectations of economic conditions.

Regulation and Taxation of Money Market Funds
As a result of the Securities Act of 1933, sponsoring companies must provide full information on any MMFs they offer. In addition, they must provide potential investors with a current prospectus that describes the fund's investment policies and objectives. The Investment Company Act of 1940 contains numerous restrictions that prevent a conflict of interest by the fund's managers.

Earnings generated by an MMF are generally passed on to the fund's shareholders in the form of interest payments or converted into additional shares. If the fund distributes at least 90 percent of its income to its shareholders, the fund itself is exempt from federal taxation. This tax rule is designed to avoid double taxation. Although the fund can avoid federal taxes on its income, shareholders are subject to taxes on the income they receive, regardless of whether it is in the form of interest payments or additional shares.

Venture Capital and Private Equity Funds
Venture Capital (VC) funds and private equity funds use money that they receive from wealthy individuals and some institutional investors to invest in companies. They pool the money that is invested in the fund and use the proceeds to create a diversified equity portfolio. These funds typically require a large minimum investment (such as $100,000 or more) and therefore exclude small investors. Unlike mutual funds, VC and private equity funds typically invest in privately held firms rather than publicly traded firms, so their investments are not liquid. The investors in these funds recognize that their funds will be tied up for several years, because the funds cannot quickly sell the businesses that they buy.

The portfolio managers of these funds typically have some experience in running a business. A fund charges investors fees for managing the fund, such as 1 to 2 percent of the dollar value of its portfolio per year.

Venture Capital Funds
Venture capital funds invest in young, growing firms that need equity funding but are not ready or willing to go public. They may invest in businesses that are just being created, that have existed for only a few years, or that are in a later stage. More than half of all VC investing is in businesses that are being created.
Venture capital funds tend to focus on technology firms, which have the potential for high returns but also exhibit a high level of risk. Although many businesses want an equity investment from a VC fund, these funds invest in less than 1 percent of all the businesses that submit proposals. Sequoia Capital and Menlo Ventures are examples of popular VC funds.

When a VC fund provides equity funding, it becomes a partial owner and may expect to have some control (such as a seat on the board of directors) over the business. Thus, the portfolio managers who make investments for a VC fund may also be advisers to the business. Because VC funds invest in risky business ventures, a high percentage of their ventures fail. Even with a high failure rate, however, a fund can still perform well because some of its ventures may be major success stories. Many businesses that ultimately became famous, including Apple, Microsoft, and Oracle Corporation, were partially supported with venture capital in their earlier years.

A VC fund typically plans to exit from its original investment within about four to seven years. If the business goes public, the fund commonly can sell its stake (shares) in the secondary market between 6 and 24 months after the initial public offering (IPO). More than half of businesses that go public are partially backed by VC funds before the IPO. Many businesses backed by venture capital never become large enough to go public. They are typically acquired by other firms, and the VC funds receive payment for their stake in the business.

**Private Equity Funds**

Private equity funds pool money provided by individual and institutional investors and buy majority (or entire) stakes in businesses. Such a fund is usually created as a limited liability partnership, and the general partners develop a business plan for investing in businesses and managing the businesses that they acquire. They promote their business plan to attract funds from outside investors who become limited partners of the fund. Private equity funds appeal to institutional investors such as pension funds and insurance companies because they have the potential to earn very high returns. They also appeal to university endowments and individuals who can afford to invest $1 million or more. A private equity fund is typically closed to outside investors once it has reached its funding goal. The fund may be opened again to obtain more funding if it develops new plans for investing additional money. The fund managers commonly distribute 80 percent of the profits from their investments to their investors and retain 20 percent for themselves.

When a private equity fund purchases a business, it assumes control and is able to restructure the business in a manner that will improve its performance. These funds usually purchase private businesses, but sometimes they purchase public companies. They commonly purchase businesses that are struggling and have potential to improve. Thus, a private equity fund may purchase a business at a low price, restructure its operations to improve it, and sell the business for a much higher price than it paid. Examples of businesses purchased by private equity funds include Dunkin’ Donuts, Hertz, La Quinta, and Neiman Marcus.

Among the most popular private equity funds are Blackstone, Permira, Apollo Investment, Providence Equity, Carlyle Partners, Kohlberg Kravis Roberts (KKR), and Texas Pacific Group. Each of these private equity funds has more than $10 billion in assets. At the other extreme, some private equity funds have less than $10 million in assets. Some major private equity funds are owned by commercial banks. Examples include Credit Suisse Private Equity and Barclays Private Equity. The United States has the largest market for private equity, followed by the United Kingdom, but private equity investments are increasing rapidly throughout Europe and Asia.
The Market for Private Equity Businesses The market for private businesses is not as efficient as the market for publicly traded stocks. Information about private businesses is very limited, so private equity fund managers may see opportunities to buy a business at a low price and improve it. The potential to capitalize on inefficiencies in this market has attracted much more investment in private equity and has led to the creation of many new private equity funds. In recent years, considerable money has flowed into private equity funds, as investors want to benefit from the high potential returns. Although private equity funds in aggregate raise more than $500 billion per year, these funds also commonly restructure the businesses they buy to rely on more debt financing. This enables them to use less equity per deal and to spread their investments across more deals. It also results in a higher degree of financial leverage for the businesses in which they invest. Thus, the funds can generate a higher rate of return on their equity investment from a given level of business profit, but the increased leverage increases the risk that the business will be unable to repay the debt.

A potential problem is that the large inflow of money into private equity funds could result in too much money chasing too few deals. The intense competition could cause some private equity funds to pay too much for some acquisitions in order to outbid competitors. This may result in a winner’s curse, in which the winning bidders are cursed because they paid too much money for the target firms. It is more difficult for private equity firms to perform well in an environment in which there is intense competition with other bidders.

Vulture Funds A vulture fund is a type of private equity fund that purchases distressed assets of a firm that is in or near bankruptcy, or securities issued by such a firm. For example, a vulture fund may purchase the debt securities of a bankrupt firm at a steep discount. When a firm files for bankruptcy, its equity is commonly eliminated, and its creditors have claims on its assets. If the firm emerges from bankruptcy, the vulture fund will exchange some of its debt for equity in the firm and become the majority owner. The goal of the vulture fund will be to improve the firm’s performance and thereby boost the value of its shares, so that the fund can ultimately sell its shares to other investors.

Views of Private Equity Funds

Private equity funds are viewed favorably because of their ability to improve weak businesses. Their investment in businesses is commonly intended to improve sales, increase profits, enhance efficiency, and increase value. Thus, private equity funds have the potential to generate high returns for their investors. Furthermore, some of the businesses they buy experience substantial growth and add new employees following private equity investment. Thus, private equity funds can stimulate economic growth and employment.

Some critics, however, suggest that private equity funds distribute too much of the return on their investment to their managers, and not enough to the investors. In addition, some private equity funds have performed poorly for their investors. Many of their investments might be viewed as excessively risky for pension funds, which manage money that will ultimately be allocated to support retirement for the people represented by the pension funds. Union lobbyists argue that private equity funds are too eager to fire employees after buying a company in order to achieve short-term efficiency, but at the expense of reducing the company’s long-term performance. Social and environmental advocates are concerned that private equity funds may not consider the social and environmental consequences of the actions they take to enhance the value of businesses such as hospitals or casinos.
Hedge Funds

As explained earlier in this chapter, hedge funds sell shares to wealthy individuals and financial institutions (such as pension funds) and use the proceeds to invest in securities. In recent years, some hedge funds have purchased businesses that they manage, similar to private equity funds. When hedge funds purchase securities, they are simply attempting to capitalize on a market inefficiency (improper market valuation of a security). When a hedge fund buys a business, it is attempting to capitalize on an inefficiency in the management of that firm. The fund either oversees or replaces the managers so that it can improve the performance of the business, with a goal of ultimately selling the business for a much higher price than it paid. In some cases, a hedge fund purchases distressed assets of a bankrupt firm, similar to a vulture fund.

Hedge funds have historically been unregulated, although they are not allowed to advertise. Most hedge funds are organized as limited partnerships. Many hedge funds allow investments only from individuals who have a net worth of $1 million or more. Some hedge funds permit investors to withdraw their investments, but require advance notice of 30 days or more. There are at least 9,000 hedge funds, with a combined market value of about $2 trillion. The investment strategies used by hedge funds include investing in derivative securities, selling stocks short, and using borrowed funds along with equity investments by investors to magnify returns on investment. Consequently, hedge funds strive for high returns, but also have a very high degree of risk. The performance of hedge funds is not publicized. Although some hedge funds have performed well, many have failed.

Hedge Fund Fees

Hedge funds charge a management fee of between 1 and 2 percent of the investment per year. In addition, they charge an incentive fee that is based on the return of the fund. The typical incentive fee is 20 percent of the return. Consider a hedge fund that charges a management fee of 2 percent and an incentive fee of 20 percent of the annual return. In the most recent year, the fund earned a return of 15 percent. The investors in this fund would have paid an incentive fee of 3 percent (computed as 20 percent of the 15 percent return) along with a 2 percent management fee, or a total fee of 5 percent of their total investment. Considering that some index mutual funds have a very small management fee and no incentive fee, this hedge fund would have been a better investment only if its performance exceeded that of index funds by about 5 percent in that year.

Regulation

Hedge funds were not regulated until 2004, which allowed anyone who was capable of obtaining funds from investors to start one. In 2004, the SEC required that hedge funds register (starting in 2006). In fact, some individuals who have been charged with fraud when trading securities overseen by the SEC have become managers of hedge funds.

Financial Problems Experienced by Long-Term Capital Management

One of the best-known hedge funds was Long-Term Capital Management (LTCM), which was managed by a group of partners who had a very strong track record in the field of finance. In fact, two of its partners, Robert Merton and Myron Scholes (co-creator of the Black-Scholes pricing model for options), received the Nobel Prize in economics. LTCM was created in 1994 and earned relatively high returns in the
mid-1990s, which caused more wealthy investors and financial institutions to invest in the fund.

LTCM relied heavily on quantitative models to identify pricing discrepancies in financial markets. For example, if the prices of two stocks that had historically moved together suddenly diverged, LTCM would consider purchasing the stock that had experienced the relatively weak price movement, while simultaneously selling short the stock that had experienced the relatively strong price movement. LTCM expected to benefit if the stock prices converged in the future. More commonly, LTCM applied this strategy to other securities by complementing an investment in one security with a short position in a derivatives contract representing the other security.

LTCM relied heavily on financial leverage to boost its returns. At times, it had about $30 in debt for every dollar of equity investment. By 1998, LTCM had about $5 billion in equity and $125 billion in debt to support its $130 billion portfolio, a ratio of $25 of debt for every dollar of equity. The overall leverage was actually higher than this because derivative positions magnify returns beyond the level of the underlying securities. From May to July of 1998, LTCM experienced losses of about 16 percent due to volatile market movements. In August 1998, Russia defaulted on some of its bonds, which aroused general concern about bond credit risk throughout the world. The prices of existing corporate bonds declined, as the risk premiums (reflected in the required rate of return of investors) on bonds increased. At the time, LTCM had investments in relatively risky bonds and short positions in AAA-rated bonds because it expected the spread between the yields to decline. The Russian bond default caused the risk premiums of the riskier bonds to increase much more than those of the AAA-rated bonds. Consequently, LTCM experienced a major loss. In August alone, it lost more than $2 billion or about 40 percent of its total capital; after accounting for the loss, its existing debt of $125 billion was about 50 times its remaining equity. On September 23, 1998, the Federal Reserve Bank of New York organized a rescue of LTCM by 14 large commercial banks and securities firms. These firms provided a capital infusion of $3.6 billion, which gave them a 90 percent stake in LTCM. The rescue plan was intended to prevent a default by LTCM on all of its positions, which could have caused the counterparties of those positions to lose billions of dollars. In addition, LTCM would have defaulted on some of its loans at a time when the debt markets had just recently been shaken by the Russian bond default; thus, a default by LTCM would have added to a potential international debt crisis. Asian countries were still suffering from the Asian crisis, and additional market paranoia would have resulted in more capital flows out of countries where funds were needed. Nevertheless, some critics suggest that LTCM was given preferential treatment because it was too big to fail.

As a result of the LTCM situation, regulators of several countries are considering ways to increase the regulation of hedge funds. For example, they may force commercial banks and other financial institutions that lend to hedge funds to retain a higher capital ratio on those loans.

**Short Selling by Hedge Funds**

One reason for the success of some hedge funds is that they can take a very large short position (selling stocks that they do not own) on overvalued stocks. Many institutional investors (including mutual funds) are commonly restricted from selling stocks short and therefore cannot attempt to capitalize when they believe specific stocks are overvalued. In addition, many individual investors do not sell stocks short because they do not fully understand the process. Given the limited number of investors who engage in short selling, there is much potential for hedge funds. In some cases, firms have issued misleading financial statements, causing their stock prices to be higher than their actual earnings justified. Hedge funds
thoroughly investigate such firms, because a fund can earn very large returns by shorting the stocks of these firms before other investors (and various regulators or credit agencies that attempt to detect financial fraud) recognize that the financial statements are misleading. For example, some hedge funds took large short positions in the stocks of Enron, Tyco, and Krispy Kreme. Once the media reported that the financial statements of these firms were questionable, the prices of these stocks declined, and the hedge funds closed out their positions.

Hedge funds are sometimes criticized for adversely affecting stocks prices by taking large short positions. The hedge funds might counter that they are simply attempting to capitalize on the market’s excessive valuation of specific stocks. Furthermore, without their short selling, some stocks would be priced even higher until the market realized that the stocks were overvalued. In other words, the hedge funds would argue that the market is more efficient (or less inefficient) as a result of their short selling.

**Hedge Funds of Funds**

Since the minimum investment in some hedge funds may be $1 million or more, most small investors are unable to invest in them. However, some “hedge funds of funds” have been created to pool smaller investments by individuals and invest in hedge funds. For example, J.P. Morgan Multi-strategy Funds which is sponsored by J.P. Morgan Alternative Investment Management, accepts minimum investments of $50,000 from individual investors. The fund pools their money so that it can invest in hedge funds that require much larger minimum investments. Thus, the investors who invest in this hedge fund of funds are essentially owners of a diversified set of hedge funds. The typical minimum investment to invest in a hedge fund of funds is between $25,000 and $100,000.

**Performance** The performance of hedge funds of funds is difficult to monitor because these funds do not have to report to the SEC. However, those that have reported to the SEC have generally experienced weaker performance than that of a basic stock index fund. One reason for the weak performance is the high fees imposed on the investors. The sponsor of a fund of funds has a portfolio manager who decides how to allocate the money, and the costs incurred from that management are charged to investors. In addition, the money is invested in other hedge funds that also charge fees. Thus, investors in a hedge fund of funds essentially pay for two layers of fees resulting from the management of their money.

**Real Estate Investment Trusts**

A real estate investment trust (REIT) (pronounced “reet”) is a closed-end mutual fund that invests in real estate or mortgages. Like other mutual funds, REITs allow small investors to participate with a low minimum investment. The funds are pooled to invest in mortgages and in commercial real estate. REITs generate income for shareholders by passing through rents on real estate or interest payments on mortgages. Most existing REITs can be sold on stock exchanges, which allow investors to sell them at any time. The composition of a REIT is determined by its portfolio manager, who is presumed to have expertise in real estate investments. In the early and mid-1970s, many of the mortgages held by REITs defaulted. Consequently, investors’ interest in REITs declined. However, REITs have grown substantially since that time. Although the price of a REIT is somewhat influenced by its portfolio composition, it is basically determined by supply and demand. Even if the portfolio has performed well in the past, the REIT’s share value may be low if investors are unwilling to invest in it.
REITs can be classified as **equity REITs**, which invest directly in properties, or **mortgage REITs**, which invest in mortgage and construction loans. A third type of REIT, called a hybrid, invests in both properties and mortgages.

Equity REITs are sometimes purchased to hedge against inflation, as rents tend to rise and property values rise with inflation. Their performance varies according to the perceived future value of the real estate held in each portfolio. REITs that have concentrated in potential high-growth properties are expected to generate a higher return than those with a more nationally diversified portfolio. However, they are also susceptible to more risk if the specific locations experience slow growth.

Because mortgage REITs essentially represent a fixed-income portfolio, their market value will be influenced by interest rate movements. As interest rates rise, the market value of mortgages declines, and therefore the demand for mortgage REITs declines. If interest rates are expected to decrease, mortgage REITs become more attractive.

### Interaction with Other Financial Institutions

Mutual funds interact with various financial institutions, as described in Exhibit 23.10. They serve as an investment alternative for portfolio managers of financial institutions such as insurance companies and pension funds.

Some mutual funds are subsidiaries of commercial banks. At least 100 commercial banks such as Citigroup and Bank of America now offer mutual funds. This provides them with a means of retaining customer funds when customers wish to switch from bank deposits to stock or bond mutual funds. Since many customers periodically switch their savings between bank deposits and stocks (or bonds), commercial banks may be able to attract more funds in their mutual funds as they lose deposits, and vice versa. Their mutual funds also attract funds from investors who are not bank customers.

As interest rates declined in the 1990s and early 2000s, and investors withdrew deposits from commercial banks, they frequently invested the proceeds in mutual funds sold by subsidiaries of the banks. Some of these subsidiaries are conveniently located on the first floor of the bank, near the area where customers withdraw deposits.

### Exhibit 23.10 Interaction between Mutual Funds and Other Financial Institutions

<table>
<thead>
<tr>
<th>Type of Financial Institution</th>
<th>Interaction with Mutual Funds</th>
</tr>
</thead>
</table>
| Commercial banks and savings institutions (SIs) | • Money market mutual funds invest in certificates of deposit at banks and SIs and in commercial paper issued by bank holding companies.  
• Some commercial banks (such as Citigroup and J.P. Morgan Chase) have investment company subsidiaries that offer mutual funds.  
• Some stock and bond mutual funds invest in securities issued by banks and SIs. |
| Finance companies | • Some money market mutual funds invest in commercial paper issued by finance companies.  
• Some stock and bond mutual funds invest in stocks and bonds issued by finance companies. |
| Securities firms | • Mutual funds hire securities firms to execute security transactions for them.  
• Some mutual funds own a discount brokerage subsidiary that competes with other securities firms for brokerage services. |
| Insurance companies | • Some stock mutual funds invest in stocks issued by insurance companies.  
• Some insurance companies (such as Kemper) have investment company subsidiaries that offer mutual funds.  
• Some insurance companies invest in mutual funds. |
| Pension funds | • Pension fund portfolio managers invest in mutual funds. |
Use of Financial Markets

Each type of mutual fund uses a particular financial market, as described in Exhibit 23.11. Because the main function of mutual funds is to invest, all securities markets are commonly used. The futures and options markets are also utilized to hedge against interest rate risk or market risk. Some specialized mutual funds sponsored by Morgan Stanley, Merrill Lynch, and other securities firms take speculative positions in futures contracts.

Many of the transactions by mutual funds in the financial markets finance economic growth, as illustrated in Exhibit 23.12. Mutual funds are major participants in stock and bond offerings and thereby finance corporate expansion. They are also major participants in bond offerings by the Treasury and municipalities and thereby finance government spending.

<table>
<thead>
<tr>
<th>Exhibit 23.11</th>
<th>How Mutual Funds Utilize Financial Markets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Market</strong></td>
<td><strong>How Mutual Funds Use That Market</strong></td>
</tr>
<tr>
<td>Money markets</td>
<td>• Money market mutual funds invest in various money market instruments, such as Treasury bills, commercial paper, banker’s acceptances, and certificates of deposit.</td>
</tr>
<tr>
<td>Bond markets</td>
<td>• Some bond mutual funds invest mostly in bonds issued by the U.S. Treasury or a government agency. Others invest in bonds issued by municipalities or firms. • Foreign bonds are sometimes included in a bond mutual fund portfolio.</td>
</tr>
<tr>
<td>Mortgage markets</td>
<td>• Some bond mutual funds invest in bonds issued by the Government National Mortgage Association (GNMA, or “Ginnie Mae”), which uses the proceeds to purchase mortgages that were originated by some financial institutions.</td>
</tr>
<tr>
<td>Stock markets</td>
<td>• Numerous stock mutual funds purchase stocks with various degrees of risk and potential return.</td>
</tr>
<tr>
<td>Futures markets</td>
<td>• Some bond mutual funds periodically attempt to hedge against interest rate risk by taking positions in interest rate futures contracts.</td>
</tr>
<tr>
<td>Options markets</td>
<td>• Some stock mutual funds periodically hedge specific stocks by taking positions in stock options. • Some mutual funds take positions in stock options for speculative purposes.</td>
</tr>
<tr>
<td>Swap markets</td>
<td>• Some bond mutual funds engage in interest rate swaps to hedge interest rate risk.</td>
</tr>
</tbody>
</table>

| Exhibit 23.12 | How Mutual Funds Finance Economic Growth |

Mutual Fund Shareholders $ purchases of shares 
Mutual Funds 
Corporate Expansion $ purchases of corporate stock
Treasury Spending $ purchases of corporate bonds
Municipal Government Spending $ purchases of Treasury bonds
$ purchases of municipal bonds

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Globalization through Mutual Funds

International and global mutual funds have facilitated international capital flows and therefore have helped create a global securities market. They can reduce the excessive transaction costs that might be incurred by small investors who attempt to invest in foreign securities on their own. They also increase the degree of integration among stock markets. As international markets become more accessible, the volume of U.S. investment in foreign securities will become more sensitive to events and financial market conditions in those countries.

Mutual funds are popular not only in the United States but in other countries as well. The types of investment companies that sponsor mutual funds vary across countries. Insurance companies are the most common sponsor of mutual funds in the United Kingdom, while banks dominate in France, Germany, and Italy.

European countries have recently agreed to allow their respective mutual fund shares to be sold across their borders. The shares are under the supervision of their home country but are subject to marketing rules of the countries where they are being marketed. This deregulatory step in Europe may provide the momentum for other countries to do the same.

As a result of the North American Free Trade Agreement (NAFTA), qualified companies are allowed to sell mutual fund shares in Mexico. Consequently, many U.S. companies that commonly sponsor mutual funds, such as securities firms, commercial banks, and insurance companies, are generating new business in Mexico.

Summary

- Mutual funds can be characterized as open-end funds (which are willing to repurchase their shares upon demand) or as closed-end funds (which do not repurchase the shares they sell). Mutual funds can also be characterized as load funds (which impose a sales charge) versus no-load funds (which do not impose a sales charge).
- The more common types of mutual funds include capital appreciation funds, growth and income funds, income funds, tax-free funds, high-yield funds, international funds, global funds, asset allocation funds, and specialty funds.
- Money market funds invest in short-term securities, such as commercial paper, repurchase agreements, CDs, and Treasury bills. The expected returns on MMFs are relatively low, but the risk levels are also low.

Point Counter-Point

Should Mutual Funds Be Subject to More Regulation?

**Point** No. Mutual funds can be monitored by their shareholders (just like many firms), and the shareholders can enforce governance.

**Counter-Point** Yes. Mutual funds need to be governed by regulators, because they are accountable for such a large amount of money. Without regulation, there could be massive withdrawals from mutual funds when unethical behavior by managers of mutual funds is publicized.

**Who Is Correct?** Use the Internet to learn more about this issue. Offer your own opinion on this issue.
1. **Mutual Fund Services** Explain why mutual funds are attractive to small investors. How can mutual funds generate returns to their shareholders?

2. **Open- versus Closed-End Funds** How do open-end mutual funds differ from closed-end mutual funds?

3. **Load versus No-Load Mutual Funds** Explain the difference between load and no-load mutual funds.

4. **Use of Funds** Like mutual funds, commercial banks and stock-owned savings institutions sell shares, but the proceeds received by mutual funds are used in a different way. Explain.

5. **Risk of Treasury Bond Funds** Support or refute the following statement: Investors can avoid all types of risk by purchasing a mutual fund that contains only Treasury bonds.

6. **Fund Selection** Describe the ideal mutual fund for investors who wish to generate tax-free income and also maintain a low degree of interest rate risk.

7. **Exposure to Exchange Rate Movements** Explain how changing foreign currency values can affect the performance of international mutual funds.

8. **Components of Mutual Funds** Considering all stock and bond mutual funds in aggregate, what type of security is dominant?

9. **Tax Effects on Mutual Funds** Explain how the income generated by a mutual fund is taxed when it distributes at least 90 percent of its taxable income to shareholders.

10. **Performance** According to research, have mutual funds outperformed the market? Explain. Would mutual funds be attractive to some investors even if they are not expected to outperform the market? Explain.

11. **Money Market Funds** How do money market funds differ from other types of mutual funds in terms of how they use the money invested by shareholders? Which security do money market funds invest in most often? How can a money market fund accommodate shareholders who wish to sell their shares when the amount of proceeds received from selling new shares is less than the amount needed?

12. **Risk of Money Market Funds** Explain the relative risk of the various types of securities in which a money market fund may invest.

13. **Risk of Mutual Funds** Is the value of a money market fund or a bond fund more susceptible to increasing interest rates? Explain.

14. **Diversification among Mutual Funds** Explain why diversification across different types of mutual funds is highly recommended.

15. **Tax Effects on Money Market Funds** Explain how the income generated by a money market fund is taxed if it distributes at least 90 percent of its income to shareholders.

16. **REITs** Explain the difference between equity REITs and mortgage REITs. Which type would likely be a better hedge against high inflation? Why?

### Advanced Questions

17. **Comparing Management of Open- versus Closed-end Funds** Compare the management of a closed-end fund versus that of an open-end fund. Given the differences in the funds’ characteristics, explain why the management of liquidity is different in the open-end fund as compared to the closed-end fund. Assume that the funds are the same size and have the same goal to invest in stocks and to earn a very high return. Which portfolio manager do you think will achieve a larger increase in the fund’s net asset value? Explain.

18. **Selecting a Type of Mutual Fund** Consider the prevailing conditions that could affect the demand for stocks, including inflation, the economy, the budget deficit, the Fed’s monetary policy, political conditions, and the general mood of investors. Based on current conditions, recommend a specific type of stock mutual fund that you think would perform well. Offer some logic to support your recommendation.

19. **Comparing Hedge Funds and Mutual Funds** Explain why hedge funds may be able to achieve higher returns for their investors than mutual funds. Explain why hedge funds and mutual funds may have different risks. When the market is overvalued, why might hedge funds be better able to capitalize on the excessive market optimism than mutual funds?

20. **How Private Equity Funds Can Improve Business Conditions** Describe private equity funds. How can they improve business conditions? Money that individual and institutional investors previously invested in stocks is now being invested in private
equity funds. Explain why this should result in improved business conditions.

21. **Source of Mutual Fund versus Private Equity Fund Returns** Equity mutual funds and private equity funds generate returns for their investors in different ways. Explain this difference. Which fund do you think would be better able to capitalize on a weak publicly traded firm that has ignored all forms of shareholder activism?

**Managing in Financial Markets**

**Investing in Mutual Funds** As an individual investor, you are attempting to invest in a well-diversified portfolio of mutual funds so that you will be somewhat insulated from any type of economic shock that may occur.

a. An investment adviser recommends that you buy four different U.S. growth stock funds. Since these funds contain over 400 different U.S. stocks, the adviser says that you will be well insulated from any economic shocks. Do you agree? Explain.

b. A second investment adviser recommends that you invest in four different mutual funds that are focused on different countries in Europe. The adviser says that you will be completely insulated from U.S. economic conditions and that your portfolio will therefore have low risk. Do you agree? Explain.

c. A third investment adviser recommends that you avoid exposure to the stock markets by investing your money in four different U.S. bond funds. The adviser says that because bonds make fixed payments, these bond funds have very low risk. Do you agree? Explain.

**Interpreting Financial News**

Interpret the following comments made by Wall Street analysts and portfolio managers:

a. “Just because a mutual fund earned a 20 percent return in one year, that does not mean that investors should rush into it. The fund’s performance must be market adjusted.”

b. “An international mutual fund’s performance is subject to conditions beyond the fund manager’s control.”

c. “Small mutual funds will need to merge to compete with the major players in terms of efficiency.”

**Flow of Funds Exercise**

**How Mutual Funds Facilitate the Flow of Funds**

Carson Company is considering a private placement of bonds with Venus Mutual Fund.

a. Explain the interaction between Carson and Venus. How would Venus serve Carson’s needs, and how would Carson serve the needs of Venus?

b. Why does Carson interact with Venus Mutual Fund instead of trying to obtain the funds directly from individuals who invested in Venus Mutual Fund?

c. Would Venus Mutual Fund serve as a better monitor of Carson Company than the individuals who provided money to the mutual fund? Explain.

**Internet/Excel Exercises**

1. Assess today’s mutual fund performance, using the website [http://www.bloomberg.com/markets/](http://www.bloomberg.com/markets/). Click on “Mutual Funds.” What is the best-performing mutual fund today in terms of the yield-to-date (YTD)? What is the net asset value (NAV) of this fund, and what is its YTD? What is the five-year return on this fund, and what is its YTD this year? Do you think mutual fund rankings change frequently? Why or why not?

2. Go to [http://screen.yahoo.com/funds.html](http://screen.yahoo.com/funds.html). Describe the constraints that you would impose when selecting funds. Impose those constraints on the category, past performance, ratings, and other characteristics, and then allow the screener to screen the mutual funds for you. List one or more mutual funds that satisfied your criteria.

3. Go to [http://finance.yahoo.com/](http://finance.yahoo.com/), enter the symbol MVC Capital (for the closed-end fund MVC Capital that invests in U.S. stocks), and click on “Get Quotes.” Click on “5y” just below the stock price trend to review the stock price movements over the last five years. Check the S&P box just above the graph and click on “Compare” in order to compare the trend of MVC’s price with the movements.
in the S&P stock index. Does it appear that MVC’s performance is influenced by general stock market movements?

4. Go to http://finance.yahoo.com/, enter the symbol DNP (for the closed-end fund DNP Select Income Fund that invests in bonds), and click on “Get Quotes.” Retrieve stock price data at the beginning of the last 20 quarters. Then go to http://research.stlouisfed.org/fred2/ and retrieve interest rate data at the beginning of the last 20 quarters for the three-month T-bill. Record the data on an Excel spreadsheet. Derive the quarterly return of DNP. Derive the quarterly change in the interest rate. Apply regression analysis in which the quarterly return of DNP is the dependent variable and the quarterly change in the interest rate is the independent variable (see Appendix B for more information about using regression analysis). Is there a positive or negative relationship between the interest rate movement and the stock return of DNP? Is the relationship significant? Offer an explanation for this relationship.

Performance of Mutual Funds

Using an issue of The Wall Street Journal, summarize an article that discussed the recent performance of a specific mutual fund. Has this mutual fund’s performance been better or worse than the norm? What reason is given for the particular level of performance?