

GUIDE TO MONEY & INVESTING

• *Bull and Bear Markets*



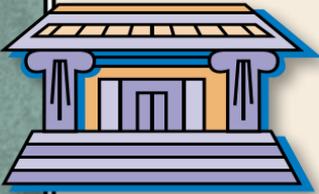
• *Stocks*



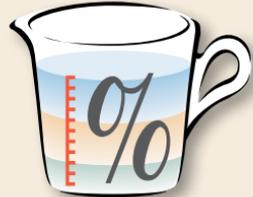
• *Bonds*



• *Indexes*



• *Mutual Funds*



• *ETFs*

• *Risk/Return*

VIRGINIA B. MORRIS AND KENNETH M. MORRIS

GUIDE TO MONEY & INVESTING

VIRGINIA B. MORRIS

KENNETH M. MORRIS



W

hen the *Guide to Money & Investing* first appeared on bookshelves nearly a quarter of a century ago—it was then called *The Guide to Understanding Money & Markets*—we had no idea that we'd be publishing an anniversary edition 25 years later. During that time, the guide has reached millions of investors—consumers and financial professionals, here and abroad—and we've been delighted that the book has introduced so many people to the world of investing.

Since its initial publication, we have experienced the longest bull market in US history and a recession so severe it rocked the markets and bordered on becoming another Great Depression. We've seen bubbles expand and burst, individual portfolios climb, and dive, and rise again, and new record highs in the markets.

We've also seen a continuing proliferation of new financial products, including target date funds, ETFs (exchange traded funds), managed accounts, REITs (real estate investment trusts), liquid alternatives, and commodity futures contracts, plus others that have come and gone. There are now entirely electronic exchanges where trades take place at lightning speeds across increasingly global markets. Financial regulation has changed, too, at both the state and federal levels.

Through all of these changes, we have hewed to our founding principle—to provide objective and practical financial information that everyone can understand and act upon. Our goal is still to help investors know what to look for, and what to look out for, so they can draw their own conclusions and make the right decisions.

We thank all of you who have made this guide an essential work in investor education and hope you will find in this anniversary edition a refreshing look at the ever fascinating world of money and investing.

Virginia B. Morris
Kenneth M. Morris

LIGHTBULB PRESS

Project Team

Design Director Kara W. Wilson

Editor Mavis Wright

Production and Illustration Krista K. Glasser, Thomas F. Trojan

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Understanding Capital Markets

Buyers and sellers interacting in a common space use wealth to create more wealth.

Essentially, capital means financial assets, usually in liquid form. Capital markets exist when two groups interact: those who are seeking capital and those who have capital to provide. Capital, in this context, means money or financial assets that can be converted to money.

The capital seekers are the businesses and governments that want to finance their projects and enterprises by borrowing or selling equity stakes. The capital providers are the people and institutions who are willing to lend or buy, expecting to realize a profit.

A CAPITAL IDEA

Investment capital is money that you put to work. You might invest your capital in business enterprises of your own to realize a profit or fund a non-profit enterprise. But there's another way to achieve a similar goal.

By participating in the stock and bond markets, which are the pillars of the capital markets, you commit your capital by investing in the equity or debt of issuers that you believe have a viable plan for using that capital. Because so many investors participate in the capital markets, they make it possible for entities to raise substantial sums—enough to carry out much larger projects than might otherwise be possible.

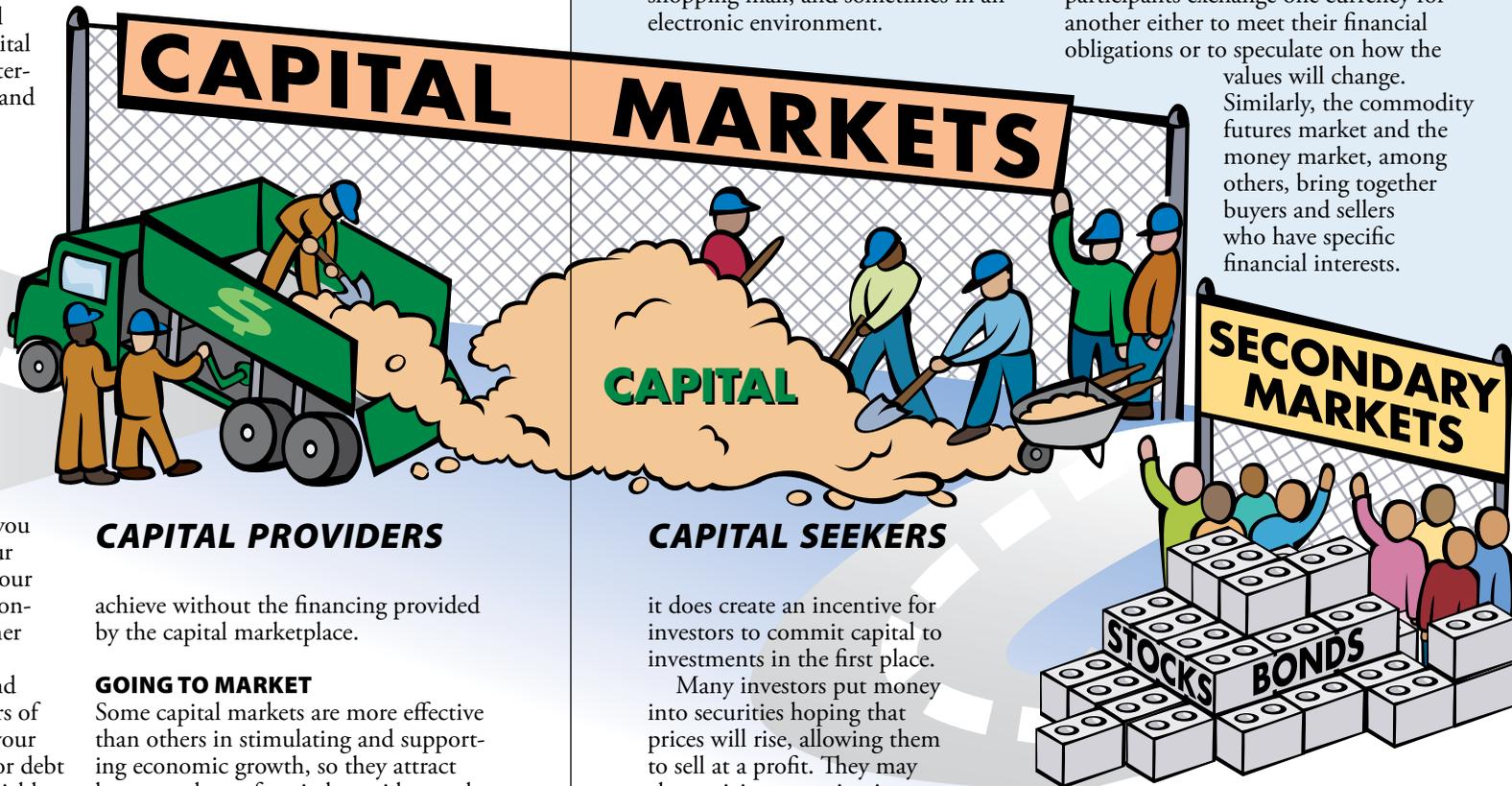
The amounts they raise allow businesses to innovate and expand, create new products, reach new customers, improve processes, and explore new ideas. They allow governments to carry out projects that serve the public—building roads and bridges, funding education, and financing scientific research, for example.

All of these things would be more difficult—perhaps even impossible—to

A DIFFERENT PERSPECTIVE

There are times when individual investors play a different role in the capital markets and become seekers, rather than suppliers, of capital. The best example is a mortgage.

HOUSE FOR SALE



CAPITAL PROVIDERS

achieve without the financing provided by the capital marketplace.

GOING TO MARKET

Some capital markets are more effective than others in stimulating and supporting economic growth, so they attract large numbers of capital providers and capital seekers eager to compete for the best deals. Among the factors contributing to a market's appeal are its efficiency, its liquidity, and investor confidence that trades will be cleared and settled quickly and accurately. In this context, efficiency means that market participants have ready and inexpensive access to all the information affecting market prices. Liquidity means that trading is active and capital flows are steady.

PRIMARY AND SECONDARY

There are actually two levels of the capital markets in which investors participate: the **primary markets** and the **secondary markets**.

Businesses and governments raise capital in primary markets, selling stocks and bonds to investors and collecting the cash. In secondary markets, investors buy and sell the stocks and bonds among themselves—or more precisely, through intermediaries. While the money raised in secondary sales doesn't go to the stock or bond issuers,

OTHER PRODUCTS, OTHER MARKETS

The capital markets aren't the only markets around. To have a market, all you need are buyers and sellers—sometimes interacting in a physical space, such as a farmer's market or a shopping mall, and sometimes in an electronic environment.

There are a variety of financial markets in the economy, trading a range of financial instruments. For example, currency markets set the values of world currencies relative to each other. In this case, market participants exchange one currency for another either to meet their financial obligations or to speculate on how the values will change.

Similarly, the commodity futures market and the money market, among others, bring together buyers and sellers who have specific financial interests.

CAPITAL SEEKERS

it does create an incentive for investors to commit capital to investments in the first place.

Many investors put money into securities hoping that prices will rise, allowing them to sell at a profit. They may also anticipate earning interest or dividends. In addition, in an active secondary market, they can liquidate publicly traded securities easily, though not always at a profit.

Some capital seekers may offer less liquid, or sometimes **illiquid**, nontraded or private placement investments. Qualified investors may be willing to accept the greater risks these alternatives pose for access to their potentially higher returns.

THE PRICE IS RIGHT

One of the most notable features of both the primary and secondary financial markets is that prices are set according to the forces of supply and demand through the trading decisions of buyers and sellers. When buyers dominate the markets, prices rise. When sellers dominate, prices drop.

You've undoubtedly experienced the dynamics of market pricing if you've ever haggled with a vendor. If the two of you settle on a price at which you're willing to buy and the vendor is willing to sell,

INVESTORS TRADING AMONG THEMSELVES

you've set a market price for the item. But if someone comes along who is willing to pay more than you are, then the vendor may sell at the higher price.

If there are a limited number of items and many buyers are interested, the price goes up as the buyers outbid each other. But if more sellers arrive, offering the same item and increasing the supply, the price goes down. So the monetary value of a market item is what someone is willing to pay for it at a given time.

In fact, price often serves as an economic thermometer, measuring supply and demand. One of the problems in **command economies**, in which prices are set by a central government authority instead of the marketplace, is that, without changing prices to clue them in, producers don't know when to adjust supplies to meet demands, resulting in chronic overstocks and shortages.

Raising Capital

Capital is the lifeblood of businesses, large and small.

Companies typically need capital infusions at several stages in their lives: at birth, as they grow, and if they're facing financial problems. Fortunately, they can seek capital from several sources, and each source has some advantages as well as potential drawbacks. Availability may vary depending on the age and size of the company.

CAPITALIZING A START-UP

Imagine for a moment that you want to start a company. You'll need capital to buy equipment, set up an office, hire employees, and attract clients, among other things. Most of the **start-up capital**—also known as **seed capital**—may be your own money. You may liquidate your investments, tap your bank accounts, or maybe even mortgage your home to get the capital you need.

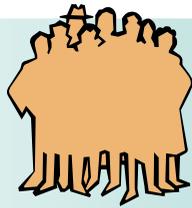
The good thing about using your own capital to finance your enterprise is that you don't incur any obligations to others, and you maintain control because you're the only one with a stake. The risk, of course, is that if your business fails, all the money you lose is your own. And unless you're unusually wealthy, there's probably a limited amount of money you can—or are willing to—invest.

A second major source for raising seed capital is friends and family or other early-stage investors who are

LIMITED LIABILITY

Most equity investors enjoy **limited liability status**. This means the most they can lose is the capital they invest. The distinction of being the first **limited liability company** goes to the **British East India Company**, which was formed in 1662.

Three Kinds of Capital Infusion



Investing public capital



Venture capital



Seed capital

willing and able to commit money, either buying an equity interest or providing favorable-rate loans. As a group, they're known as **angel investors**, though they may not all be saints.

VENTURING OUT

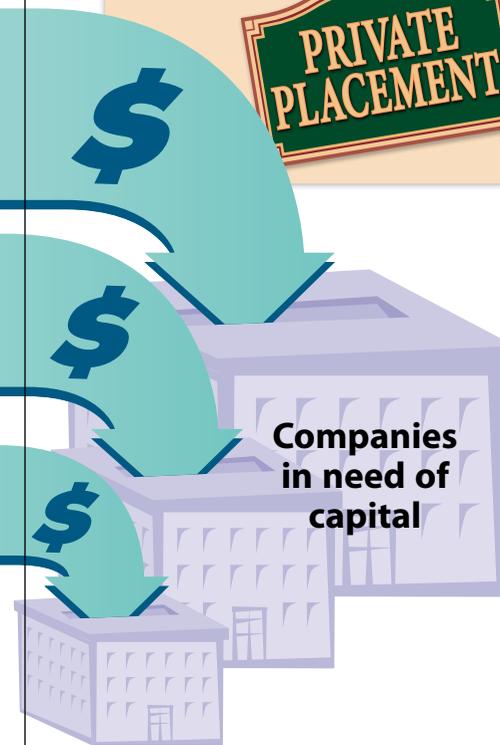
Private companies may seek funding from **venture capital firms**—often referred to as VCs—that specialize in investing large sums at a particular stage of a company's development. While some venture firms may assume the risk of backing start-ups, the majority invest in companies that seem poised for significant growth or that operate in a particular industry in which the VC firm specializes.

Venture capitalists are willing to take bigger risks than most other suppliers of capital because they have enough resources to make substantial investments in several companies at the same time. While each business by itself may pose a significant risk, if even a few succeed the venture capital firm may realize large profits.

Venture capitalists may consider hundreds of businesses before they find the handful that show the right potential. They then provide an infusion of

A LITTLE PRIVACY

Investment banks can also arrange for companies to get financing through **private placement**. In that case, a smaller, limited group of wealthy investors is offered the opportunity to invest. Private placements don't have the same registration and reporting requirements as public offerings.



SHOPPING THE MARKETS

Not even the wealthiest venture capital firms can provide as much capital as the **capital markets**, where retail and institutional investors buy stocks and bonds. A company can often raise significant amounts of money by selling stock through an IPO. And a company with a solid financial record can often borrow more cheaply by selling bonds than it can by taking a bank loan.

The decision to turn to the capital markets for financing opens up a massive source of cash—but it also affects how the business operates. Companies that issue stock must grant shareholders certain rights. And companies that issue **debt securities**, such as bonds, enter into legally binding contracts to repay.

TAKING IT TO THE BANK

Some of the biggest players in the capital markets are large, multinational firms known as **investment banks**, which specialize in corporate financing. That means providing services and advice to companies that want to raise capital or are involved in mergers and acquisitions.

Investment banks help companies determine the best way to secure financing: through debt or equity, using private placement or public offering. Then they help companies navigate the requirements and paperwork involved in registering and offering securities for sale, including **underwriting** the offering—finding buyers and setting prices. Investment banks can also create new investment vehicles out of existing entities, cutting them up or combining them to offer specialized products for certain investors.

LOOKING FOR LOANS

Businesses may also be able to raise a limited amount of capital by applying for bank loans, though borrowing may have certain drawbacks. First, since repayment begins as soon as the loan is secured, monthly cash flow is affected. Second, the bank is likely to demand **collateral**, or security, for the loan.

But a major advantage of raising capital with a loan is that once it's paid off, the company hasn't given away any equity. If the company succeeds, the original owners derive all the benefit of the increased value.

Market Regulation

Rules and referees help keep the investment markets fair.

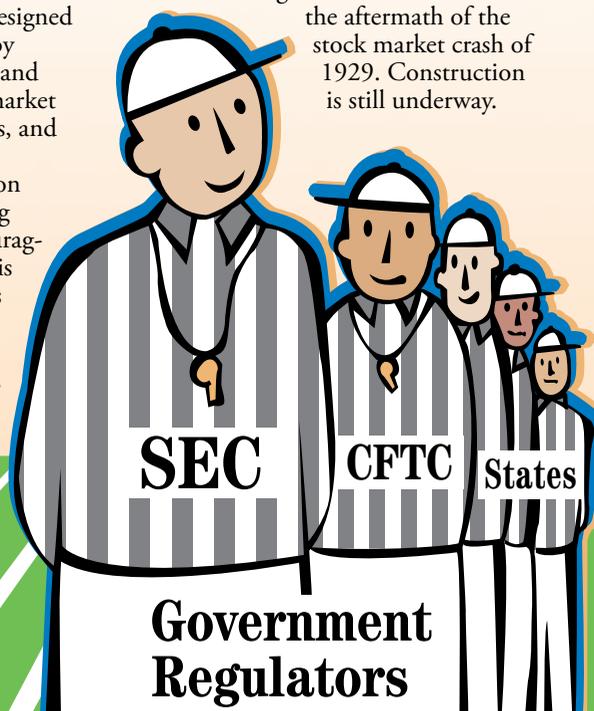
In a perfect world, every player in the capital markets would always deal honestly and fairly with every other player. The field would be perfectly level, giving everyone the same access to information and opportunities.

But in the absence of perfection, there is regulation. The system that has developed in the United States to regulate the capital markets is designed to keep them fair and efficient by setting and enforcing standards and rules, settling disputes among market participants, mandating changes, and preventing fraud.

The ultimate goal of regulation is often described as maintaining investor confidence while encouraging capital formation. But why is that so important? The reason is that investor dollars are the fuel on which the economy runs. If the public distrusts the markets, investors keep their money out of investments—and

out of US businesses. But when people trust the markets, they're willing to put money into investments like stocks and bonds, giving companies money to innovate and expand.

Although individual states began regulating securities trading in the early 20th century, the foundations of federal regulation were laid in the aftermath of the stock market crash of 1929. Construction is still underway.



Government Regulators

MEET THE REFEREES

In the current structure, no single regulator oversees all the interlocking elements of the capital markets. Instead, there are a number of regulators with different but sometimes overlapping jurisdictions. And some segments of the markets are only lightly regulated.

There are two types of market regulators: **government regulators**, at the federal and state levels, and **self-regulatory organizations (SROs)**, through which industry players govern themselves.

At the federal level, the Securities and Exchange Commission (SEC) oversees the nation's securities industry, enforcing laws passed by Congress as well as its own rules. The SEC also supervises the SROs and has the right to demand changes in their rules.

The Commodities Futures Trading Commission (CFTC) regulates futures

markets, as well as certain derivatives and derivative clearing organizations. Its mission is to foster an open, competitive, and financially sound trading environment, and protect investors against abusive practices.

Each state also has its own securities regulator to supervise business within its borders and regulate activities that fall outside the SEC's or CFTC's scope. These regulators belong to the North American Securities Administrators Association (NASAA).

FINRA, the Financial Industry Regulatory Authority, the largest industry SRO, oversees brokers, brokerage firms, and investment companies.

The National Futures Association (NFA) is the self-regulator for the derivatives industry, including exchange-traded futures contracts as well as retail trading in foreign currencies and swaps trading.

TOO MUCH OR NOT ENOUGH?

Regulation is a dynamic, evolving system of guidelines and controls, adapting to changes in the market environment and to events—such as scandals and failures—that reveal vulnerabilities.

When things go wrong, however, not everyone believes that more regulation is necessarily the best solution. Although few people argue for zero government oversight, what's often debated is exactly how much oversight is the right amount.

Opponents of regulation argue that the markets work best when government lets them alone—what is sometimes referred to as *laissez faire*. From this perspective, government interference increases the cost or difficulty of doing business, stifles innovation, and prevents ordinary market forces of supply and demand from determining prices and products.



SROs
Self-Regulatory Organizations

SHARED RESPONSIBILITY

In 1996, the National Securities Markets Improvements Act gave federal regulators sole authority to review and register what the act described as *covered securities*.

This category includes all securities listed on a national securities exchange, mutual funds and other securities issued by a registered investment company, securities sold to accredited purchasers, and securities exempt from registration under Rule 506 of Regulation D of the Securities Act of 1933. Accredited purchasers are those whose net worth or annual income meets the minimum levels the government sets.

States, on the other hand, can require the registration of securities that are not defined as covered, all broker-dealers doing business in the state, and registered investment advisers (RIAs) who manage less than \$100 million. States

But proponents of government regulation point to the industry's failure to prevent past problems as the reason to appoint and strengthen third-party watchdogs, especially since the securities markets are so central to the health of the US economy. They argue that outside policing is necessary to protect investors, whose interests may conflict with industry interests. They also maintain that government intervention is needed to calm public concerns, especially in cases where the public doesn't believe the industry can or will resolve its own problems.

For example, in response to the credit and banking crisis of 2008 that followed a period of deregulation, Congress passed the far-reaching Dodd-Frank Wall Street Reform and Consumer Protection Act. The Act imposed new requirements on financial institutions and products, established an independent Consumer Financial Protection Bureau (CFPB) within the Federal Reserve System, and sought to create a system to identify and defuse systemic risks to economic stability, among other changes. Some provisions are still being put into place.

also regulate the insurance companies that operate within their borders and the products those companies issue, with the exception of products that are defined as securities, such as variable annuities.

Both federal and state regulators can investigate and prosecute fraud, deceit, and any illegal actions by any issuer, broker-dealer, or adviser, though in the case of a state the action must have occurred within its borders.

ACTING ON REGULATION

The landmark federal legislation that governs financial markets—the Securities Act of 1933, the Securities Exchange Act of 1934, the Commodities Exchange Act of 1936, the Investment Company Act of 1940, and the Investment Advisers Act of 1940—are amended and expanded regularly, often in response to financial market innovations or in reaction to market abuses.

The Role of the SEC

The nation's top securities industry watchdog barks and bites.

The **Securities and Exchange Commission**, or **SEC**, was established in 1934, when the public's confidence in investment markets had been undermined. In response, Congress passed, and President Roosevelt signed, the first comprehensive federal securities laws in the United States and empowered the SEC to interpret and enforce them.

INSIDE THE SEC

The SEC is led by five commissioners, who are appointed by the US president to five-year terms. One commissioner, designated by the president and confirmed by the Senate, serves as chairman. To keep the Commission nonpartisan, no more than three commissioners can belong to the same political party. However, there are periods when seats remain vacant, which can shift the balance of power.

The SEC describes its mission as protecting investors, maintaining fair, orderly, and efficient markets, and facilitating the raising of capital. In its watchdog role, it oversees securities exchanges, brokers-dealers, RIAs, and mutual funds, with an emphasis on protecting investors against fraud and ensuring that they have the information they need to make informed decisions. It also provides extensive educational information at its website, www.sec.gov.



The Division of Corporate Finance oversees initial and continuing disclosure of corporate information to investors.



The Division of Trading and Markets oversees securities exchanges, broker-dealers, self-regulatory organizations, and other market participants.



The Division of Investment Management oversees and regulates mutual funds, exchange traded funds, and RIAs, analysts, and managers.



The Division of Enforcement investigates securities law violations and recommends civil action or collaborates in criminal prosecution as appropriate.



The Division of Economic and Risk Analysis provides economic analysis and research, risk assessment, and data analytics to support agency resources.

SEC divisions that oversee particular securities, including those that are publicly registered but nontraded and those that aren't required to register because they raise limited cash, provide formal guidance on what's required to meet agency rules.

CAVEAT EMPTOR

Caveat emptor, Latin for "buyer beware," is the principle that underlies US securities laws.

Rather than evaluating the investments that companies offer in seeking to raise capital, federal law focuses on **disclosure**—requiring that investors have access to the facts they need to make informed investment decisions. This includes both positive and negative information about the issuer, covering its business activities and strategies, the composition of its management, its financial health, and any foreseeable risks.

To make this information readily available, any company that wants to sell securities to

the public must file specific, comprehensive documentation with the SEC. New securities must be registered and potential investors provided with a prospectus. In addition, companies must report periodically on their business and financial standing in an annual, audited report known as the **10-K**, and in a quarterly, unaudited report known as the **10-Q**.

The SEC reviews these documents to make sure they meet the requirements for public disclosure and makes the information available for free through its EDGAR database (www.sec.gov/edgar/searchedgar/companysearch.html).

LOOKING OUT FOR INVESTORS

Along with full disclosure, or **transparency**, another major principle on which federal securities laws are built is that RIAs have a **fiduciary responsibility** to put investors' interests first. So, for example, if an adviser recommends that an investor buy or sell a certain stock or bond, it should be because that action is in the investor's interest—not just because the trade, and any associated fees, are good for the adviser or the adviser's firm.

To enforce these protections, the SEC registers and regulates investment companies and investment advisers, who are paid for providing advice. It also oversees FINRA, which regulates broker-dealers, who buy and sell securities for their clients and must make suitable recommendations.

TAKING ACTION

If the SEC's Division of Enforcement discovers potential wrongdoing, it has several options, depending on the nature of the violation and the solution it believes will benefit investors most.

The SEC can prosecute two types of cases: **civil actions**, which are heard in US District Courts, and **administrative actions**, which are heard by administrative law judges. Remedies may include censure, suspension or expulsion from the securities industry, fines, or return of illegal profits.

In addition, the Commission collaborates with law enforcement agencies in bringing criminal cases when they are warranted.

MAKING THE RULES

While the nation's securities laws establish broad requirements, a big part of the SEC's job is to turn the language of the laws into rules that the industry can follow. For instance, since the law makes insider trading illegal, the SEC defines what corporate officers must do to ensure that their trades are legal.

SEC rules are regularly revised to keep pace with changes in the industry. New or amended rules are of great concern to all market participants, so the rulemaking process allows all interested parties to comment before a rule is finalized.

The process usually begins with a **rule proposal**, written by staff and presented to the Commission for review. If the SEC wants public feedback before drafting a proposal, it sometimes describes the issue in a **concept release** and asks for comments.

If the Commission likes a proposed rule, it presents the rule to the public, and everyone with an interest in the outcome has a month or two to register a point of view. After reviewing the comments, the staff generally revises the rule and presents it again to the Commission for **adoption**. If a rule touches on a highly sensitive, far-reaching issue or represents a major change, it may be the subject of litigation and may ultimately be approved—or rejected—by Congress.



Understanding the CFTC

Derivatives differ from securities in a number of ways, including the way they're regulated.

Futures, options on futures, and swaps are **derivatives**, or contracts whose changing market values reflect changes in the current value of an underlying instrument or product. For example, the market price of a futures contract for wheat is determined by the current market price of wheat, the time remaining until the contract expires, and expectations about the size and quality of the wheat crop.

The job of the Commodities Futures Trading Commission—the CFTC—is to regulate the markets in which futures contracts on consumable commodities such as wheat or oil, financial commodities such as stock indexes, and a variety of swaps, are traded.

A primary goal is to protect investors from fraud, abusive practices such as attempts to manipulate prices, and the risks inherent in derivatives trading. Another is to foster open and competitive markets where trading is both efficient and transparent.

WHAT THE CFTC DOES

The Commodity Exchange Act (CEA), which regulates futures trading in the United States, was passed in 1936 and has been amended regularly since then to keep pace with the evolving derivatives marketplace. Among other things, the CEA establishes the framework under which CFTC operates, though the agency itself was not created until 1974. The National Futures Association (NFA), the self-regulatory organization of the futures industry, was formed in 1981.

The CFTC regulates **designated contract markets (DCMs)**—better known as commodity exchanges—swap execution facilities (SEFs), derivative clearing organizations (DCOs), swap dealers, and a range of market participants who act as intermediaries in buying and selling commodities.

Certain markets that were formerly exempt from CFTC regulation, including those that permitted direct trading between institutional investors and OTC swaps markets, are no longer exempt, based on provisions of the Dodd-Frank Act of 2010.

FIVE COMMISSIONERS



THE FOUR DIVISIONS



Clearing and Risk



Enforcement



Market Oversight



Swap Dealer and Intermediary Oversight

INSIDE THE CFTC

The CFTC, an independent agency of the US government, has five commissioners appointed by the president and approved by the Senate, one of whom the president designates as chair. As is the case with the SEC, no more than three serving commissioners can belong to the same political party.

There are four CFTC divisions, eight offices, including Chief Economist, and five standing committees, including the CFTC-SEC joint advisory committee.

The Division of Clearing and Risk monitors trade clearing, clearing firms, and individuals who participate in the process and assesses derivatives market risk.

The Division of Enforcement investigates fraud, market manipulation, and other misconduct and either prosecutes or reaches settlements with violators.

The Division of Market Oversight seeks to ensure that commodities markets function smoothly and that participants comply with the law.

The Division of Swap Dealer and Intermediary Oversight supervises industry self-regulatory organizations, including NFA, as well as swap dealers and other swap market participants.

TOUGH ROW TO HOE

Market manipulation, which can have a major impact not only on futures investors but on the economy at large, is notoriously hard to prosecute. Among other issues, the legal standard requires proving intent as well as behavior. Of course, manipulation is nothing new. The first known US regulation designed to deter it dates to 1868, when cornering a market was banned.



KEEPING THE MARKETS SAFE

Like the SEC and state regulators, the CFTC emphasizes consumer protection, with a particular focus on preventing fraud. It encourages investors to educate themselves on how the futures markets work and urges them to investigate the registration status and disciplinary history of any firm or market participant with whom they might work using the NFA BASIC database (www.nfa.futures.org/basicnet/welcome.asp) and other regulators' records.

The agency encourages investors to be suspicious of any offer that stresses quick returns and limited risk. One limitation may be that futures contracts don't demand the degree of disclosure required for securities offerings, such as stocks, bonds, and mutual funds. For example, the risk disclosure documents, which CFTC regulations and NFA rules require intermediaries to provide when soliciting business—and that prospective clients must indicate they've seen—are generic statements about the risks of buying and selling futures contracts and what trading could cost. More comprehensive discussions are available under the Investor Information tab on the NFA website (www.nfa.futures.org), including *An Online Learning Guide to Trading Futures* and the *Forex Online Learning Program*.

The CFTC also issues consumer alerts about potentially problematic investments, such as foreign currency exchange (forex), energy projects, and precious metals.

LOOKING AHEAD

A major challenge in regulating derivatives is that new, often extremely complex products are introduced all the time. Regulators must determine how these products work, analyze the impact they may have on the financial markets, and determine the appropriate rules that should apply to protect investors and the economy.

Major changes have occurred since 2008, as the huge and formerly unregulated swaps market has come under federal jurisdiction. Some swaps are overseen by the CFTC, some by the SEC, and some jointly.

INTERNATIONAL COOPERATION

The modern derivatives marketplace is global, and the regulatory issues that concern the CFTC similarly concern regulators around the world, though their views often differ. Among the ways agencies collaborate to develop consistent standards of oversight and enforcement is through membership in the International Organization of Securities Commissions (IOSCO), which was established in 1983. One limitation is that IOSCO has no enforcement powers.

The CFTC also works with regulators in the European Union and the United Kingdom to combat cross-border fraud and market manipulation.

WHAT'S A SWAP?

A swap is a contract between two parties, called counterparties, in which they agree to exchange one or more payments whose value is determined by changes in the level of one or more of the financial instruments specified in the contract, such as currency exchange rates, interest rates, or commodity prices.

The objective of any swap contract is to transfer risk from one party to another that seeks to profit from the endeavor.

In an interest rate swap, for example, two companies agree to exchange interest payments for a specific period on a fixed amount of money, called the **notional amount**. One company receives a fixed rate, such as 4%, while the other receives a floating, or variable, rate. Typically the floating rate is calculated using a publicly available index plus a margin, such as 1%. As the index changes, the second company's interest income changes too.

The company receiving the fixed rate has reduced its risk because it knows how much income it will have. The company receiving the variable rates hopes that rates will rise, generating more income than it must pay out. But there's always the risk that rates will fall.

Self-Regulation

Effective self-regulation requires balancing industry interests and client interests.

The first securities industry regulator in the United States was the industry itself. By 1817, the US securities markets had grown large, complex, and unruly. So the brokers who had been trading securities on Wall Street decided to form what would become the New York Stock Exchange (NYSE) in 1863.

As their first regulatory act, they drew up a formal constitution, establishing rules for members to follow. Today, such self-regulation is considered central to the integrity of the US financial markets, and the bodies that police themselves are known as **self-regulatory organizations (SROs)**.

While regulation may have been born of self-interest, today the law requires exchanges to regulate themselves or delegate regulation to another SRO,

such as FINRA, the Financial Industry Regulatory Authority. Brokerage firms and their employees who buy and sell securities are also regulated through FINRA, the nation's largest SRO.

While SROs have evolved over the years, their purpose remains much the same: setting and enforcing industry standards. They work in tandem with the states and the SEC and CFTC, cooperating in investigations and helping support the government's regulatory goals of protecting investor rights and keeping the markets efficient, fair, and honest.

SROs AT A GLANCE

SROs are independent, nonprofit organizations—not government entities—that are authorized by Congress

The Logic of Self-Regulation

Besides the most obvious reason—that the law requires it—the securities industry has its own reasons for regulating itself.

For one thing, when a firm acts dishonestly, it may cast a shadow on honest firms as well. So it's in the interest of honest firms to keep a close eye on unfair practices. Furthermore, self-regulatory bodies have the power to enforce standards that can make business more efficient—such as establishing a centralized reporting

system for trades, or developing a single, standard licensing examination for brokers.

Practically speaking, self-regulation may be less expensive and more efficient than government regulation. But ultimately the strongest reason for self-regulation is that it makes the public more confident about the securities markets. That means more money flowing into investments—and more profits for the securities industry.



and overseen by the federal regulator for the industry in which they operate. For example, the SEC must approve FINRA rules and those written by NYSE Regulation before they can take effect.

An SRO is funded by membership dues and assessment fees, or, when it oversees an exchange, by the exchange. All US broker-dealers and the registered representatives who work for them must be members of FINRA. Similarly, most introducing brokers (IBs), futures commission merchants (FCMs), commodity trading advisers (CTAs), and others who are registered with the CFTC and have discretion over customer accounts must be members of NFA, the National Futures Association. It's the SRO for the derivatives industry.

There are no SROs, however, for other groups of financial professionals, including registered investment advisers (RIAs), financial planners, and insurance brokers.

FINRA IN ACTION

FINRA wears many hats. It tests and licenses **registered representatives**—better known as stockbrokers—and operates the Central Registration Depository (CRD) to collect and store qualification, employment, and disclosure information about both brokers and the broker-dealer firms that employ them. You can use the BrokerCheck link at www.finra.org to access some of this information.

The regulator makes and enforces rules that govern the actions of brokers and broker-dealers, including the requirement for complete disclosure about any investment product being offered to a client. Individuals or firms that don't comply with the rules can be fined, suspended, or barred from the securities industry. They can also be required to make restitution to investors who have experienced losses as a result of misconduct, such as recommending

an unsuitable product or committing overt fraud. Some cases are referred to the SEC or the Department of Justice and may result in civil or criminal litigation.

FINRA gathers trading data to identify potential problems in US markets and increase market **transparency**. Among the things it seeks is evidence of insider trading, frontrunning, or other market manipulation. It also reviews all marketing and advertising materials its members use to protect investors from misleading or false information.

In addition, the regulator provides in-depth financial education and oversees mediation and arbitration of industry disputes, including those between investors and their brokers or brokerage firms.

A LOOK AT NFA

Like FINRA, NFA establishes rules, sets high professional standards for its members, and holds them accountable for their actions. Investor protection is a major focus, with particular attention to the way customer funds are handled. The NFA also seeks to assist investors in making informed decisions by providing publications about the futures industry, including its unique risks.

The regulator monitors its members' business and financial activities, conducts regular examinations, as FINRA does, to confirm compliance with its requirements, and works to keep markets fair and orderly. Also like FINRA, NFA maintains mediation and arbitration programs to resolve disputes. Investors can check an individual or firm's registration and disciplinary history using the BASIC link at www.nfa.futures.org. BASIC is an acronym for Background Affiliation Status Information Center.

To back up its authority, the NFA has the right to discipline members and may refer cases to the CFTC or a law-enforcement agency for prosecution.

REGULATORS ON THE INSIDE

Firms in the securities industry also have internal self-regulation: their compliance departments. Among the tasks of a corporate compliance department are to review sales material and other documents that the company generates, investigate customer complaints, and take disciplinary action against company employees if necessary. By using in-house enforcement, companies hope to stay on the right side of the law—and to avoid the cost, inconvenience, and damage to their reputations that a full outside regulatory investigation may bring.

Global Capital Markets

The quest for capital—and for places to invest it—extends beyond national borders.

When companies open business operations abroad, or form joint partnerships with companies based in other countries, they become players in an international capital marketplace. The same is true when individual or institutional investors put their capital to work outside their national borders.

UPS AND DOWNS

One benefit of cross-border investing is that strong economic growth in one part of the world can stimulate growth in other regions. That can be good for the investors and good for the economies where the markets operate. One potentially negative consequence of globalization, however, is that problems in the economy of one nation or region may have a ripple effect on the economies of many others—even though the major factor in any nation's financial health is what's happening at home.

MATURE AND DEVELOPING

Broadly speaking, world markets fall into two categories: mature and developing.

Mature markets, including those in Europe, North America, Australia, New Zealand, and Japan tend to be highly regulated and provide a welcoming environment for matching seekers with providers of capital. They also foster an active secondary market.

Developing markets, also known as emerging markets or economies, are usually newer than mature markets and have fewer active participants, resulting in less liquidity and greater volatility. The trading mechanisms are often less efficient as well. These markets may also be more vulnerable to political control or instability, particularly if the country has a short history of democracy or if ethnic and religious controversies threaten

to disrupt economic development.

Being labeled as developing or emerging is not always a clear indication of how a market operates. For example, some of these markets are more vibrant and stable than others, and tend to attract more investor attention because they offer opportunities for long-term gain. This is especially true where local populations are becoming more affluent and the economies have shown sustained growth.

When the World Bank identifies member nations as developing countries, its main criterion is income per capita rather than the sophistication of its financial markets.

MARKET EVOLUTIONS

Some markets are open to all investors, while others limit the participation of nonresidents. That's because some nations face a dilemma in seeking international capital: On the one hand, this capital can provide welcome growth. But at the same time, it may have the potential to undermine domestic control and stability.

When they do seek to attract international investment, securities markets in emerging economies have strengthened their regulatory practices, improved transparency, and streamlined their clearance and settlement systems for handling the exchange of securities and cash payments.

WHAT'S GOOD FOR THE GOOSE

US investors seeking greater diversification may look abroad when they have capital to invest. At the same time, companies based abroad may want to tap the wealth of the US markets. If they do, they may offer shares of their stock on the US market through a US bank, which is known as a depository.

In this arrangement, the depository bank holds the issuing company's shares, known as **American depository shares (ADSs)**. The bank offers investors the chance to buy a certificate known as an **American depository receipt (ADR)**, which represents ownership of a bundle of the depository shares.

To have their ADRs listed on an exchange, companies must provide English-language versions of their annual reports, adhere to accepted US accounting practices, and grant certain shareholder rights. In addition, they must meet listing requirements imposed by the exchange or market where they wish to be traded.

In reality, many ADRs aren't listed on an exchange, often because they are too small to meet listing requirements. Instead, they're traded over-the-counter (OTC). Some of the issuing companies register with the SEC and submit the required filings. Others do not, which means you may not be able to get the same level of information about the company as you can with a registered ADR. The OTC markets are also generally less liquid than the major exchanges, which can make OTC ADRs more difficult to sell at the time and price you want.

GOING GLOBAL

When a company makes depository arrangements to sell its stock in two or more countries, the shares are called global depository shares and they are sold as global depository receipts (GDRs). In all other ways, they work the same way as ADRs.

BROADER HORIZONS

Rules governing securities trading, investor protections, and accounting standards have traditionally varied from country to country. But conflicting requirements can restrict the flow of capital across international borders and inhibit the ability to control global fraud. So the United States and the European Union, in particular, are collaborating to create a common regulatory environment that fosters investment.

THE WORLD BANK

The World Bank, or, more formally, the International Bank for Reconstruction and Development (IBRD), is an investment bank that raises money by issuing bonds to individuals, institutions, and governments in more than 100 countries. The bonds are guaranteed by the governments of the 188 countries who own the bank.

The World Bank lends the money from its investors to the governments of developing countries at affordable interest rates to help finance internal projects and economic policy reforms. In fact, long-term loans to the poorest nations through the bank's International Development Association (IDA) are interest free.

The Bank's International Finance Corporation (IFC) provides funds for private enterprise in developing nations and helps stimulate additional financing from other investors. Its affiliate, the Multilateral Investment Guarantee Agency (MIGA), promotes private investment by providing guarantees that protect investors from political risks, such as the possibility that public corporations could be nationalized. Without this safety net, investors might otherwise be reluctant to participate.

The World of Money

Currencies **float** against each other to measure their worth in the global marketplace.

A currency's value in the world marketplace reflects whether individuals and governments are interested in using it to make purchases or investments, or in holding it as a source of long-term security. If demand is high, its value increases in relation to the value of other currencies. If it's low, the reverse occurs.

Some currencies are relatively stable, reflecting an underlying financial and political stability. Other currencies experience wild or

rapid changes in value, the sign of economic turmoil resulting from runaway inflation, deflation, defaults on loan agreements, serious balance-of-trade deficits, or policies that seem unlikely to resolve the problems.

Similarly, certain currencies are used widely in international trade while others are not. That's the result of the relative stability of the currencies and the volume of goods and services a country or economic union produces.

How Trading Works

Most currency transactions are conducted online, though some occur over the telephone. Transactions are registered in an electronic trading or dealing system.

Make a market

If a bank wants to buy a particular currency, a trader seeks a quote from a bank that is a market maker for that currency. That means the bank specializes in handling it.

Get a bid

The bank responds with the price that it would bid to buy and the price at which it would sell since it doesn't know if the trader wants to buy or sell.

example, great demand for a nation's products means great demand for the currency needed to pay for those products.

If there's a big demand for the stocks or bonds of a particular country, its currency is likely to rise in value as overseas investors buy it to make investments. Similarly, a low inflation rate can boost a currency's value, since investors believe that the value of long-term purchases in that country won't erode over time.

NOTHING IS FIXED

Currency values of even the most stable economies change over time as traders are willing to pay more—or less—for dollars or pounds or euros or yen. For

HOW CURRENCY VALUES ARE SET

Between 1944 and 1971, major trading nations had a fixed, official rate of exchange tied to the US dollar, which could be redeemed for gold at \$35 an ounce. Since 1971, when the gold standard was abandoned, currencies have floated against each other, influenced by supply and demand and by various governments' efforts to manage their currency. Some countries, for example, have sought stability by **pegging**, or linking, their currency to the value of a currency or basket of currencies. In Europe, the European Union established the euro as a common currency for participating member nations. Euro bank notes and coins are used internally and across national borders for all transactions.

EURO-DOLLARS

are US dollars on deposit in any non-US bank. They can earn interest, be loaned, or used to make investments in US or international companies. US banks borrow Eurodollars regularly to manage their activity.

Agree to terms

If the trader wants the deal, he or she accepts. The bank that quoted a price confirms the details—what's being bought or sold and the price—and the trader verifies the terms.

Confirm deal

The trader who initiated the transaction enters the information in the dealing system and gets a confirmation.

The trade details are also entered in the bank's in-house system, and confirmed with the responding bank at the end of the day, either by phone or online.

Transfer payment

Payment is sent electronically to a corresponding currency bank. For example, a New York bank would send payment in yen to its Tokyo branch, or to a designated Japanese bank if it didn't have a branch there.

SEEKING STABILITY

Governments generally try to keep their currencies stable, maintaining constant relative worth with the currencies of their major trading partners. One way to control the value of currency is by adjusting the **money supply**, making more money available to stimulate the economy or withdrawing money to keep inflation under control.

Another way to control currency values is by adjusting **interest rates**. When rates are high, international investors are more likely to buy fixed income investments in that currency. When rates are low, demand for those investments falls, often along with its exchange value.

Sometimes governments deliberately **devalue** their currency, bringing the exchange rate lower relative to other countries. One reason is that this makes the country's exports relatively cheap, giving it a trade advantage.

BIG DEALS

Large-scale currency trading in the global foreign exchange market, or **forex**, is handled on telecommunications networks controlled by banks or other financial institutions.

In **spot trading**, the deal is settled, or finalized, within two days at current rates. **Forward contracts** involve setting an exchange rate that will apply when the currency is traded on a set date in the future. **Currency swaps** involve exchanging one cash flow for another, such as a stream of income in one currency in exchange for a stream of income in another currency at a preset exchange rate.

International Investing

In the new economy, investors looking for ways to diversify their portfolios have a world of opportunity.

To diversify a portfolio that's concentrated in US securities, you may want to add the equity and debt of companies that are registered in other countries. Global investing can be an effective way to help offset investment risk, in large part because while world markets are interconnected, they're not always positively correlated.

In fact, the cyclical ups and downs in a country's or region's securities markets tend to be more sensitive to the local environment, including interest rates and employment levels, than to what's happening globally—though there are exceptions.

THERE ARE RISKS

Investing globally means taking on many of the same risks you face when you invest at home. Prices may fall rather than rise. Dividends may be cut. Interest earnings may decline. But it may also mean taking on some risks that you hadn't anticipated.

- Some markets may be less liquid than others, so it may be hard to buy or sell at the price you want.
- Some less regulated markets may provide fewer investor protections.
- It may be harder to find reliable information about the potential risks an investment poses.
- Political and economic instability in a country or region can affect investment values.
- Changes in currency values can have major consequences.

...AND ALSO REWARDS

Investment return in an overseas market, as in a domestic one, depends on growth in the value of the investments you make, your dividend or interest income, or a combination of growth and income. But there's another factor in play when you invest away from home: **floating currency values**. A significant gain or loss in the value of the dollar in relation to the value of the currency in which an investment is priced can have a major impact on your profit or loss if you sell.

Unlike a volatile stock, whose price can change quickly, shifts in currency

rates tend to occur gradually. While you can't predict when your financial interests will align with what's happening in the stock market, in most cases you should have time to buy or sell while currency values are still working to your advantage.

THE CURRENCY RISK—AND ITS REWARD

Whether you invest directly or indirectly in securities priced in currencies other than the US dollar, it helps to understand how changing currency values affect the cost of investments you make. Generally

	Cost of stock in euros	Exchange rate €/ \$	Cost of stock in dollars	
BUY Euro and dollar at par	€50	1:1	\$50	
BUY Euro gains against dollar	€50	1.1	\$55	Euro is 1.10 to dollar
BUY Euro gains more against dollar	€50	1.2	\$60	Euro is 1.20 to dollar
BUY Euro weaker than dollar	€50	0.9	\$45	Euro is .90 to dollar
BUY Euro loses value against dollar	€50	0.8	\$40	Euro is .80 to dollar

WAYS TO INVEST

There are many ways to add international exposure to your investment portfolio.

Perhaps the easiest is to buy the securities of multinational companies that operate in more than one country, realize a large percentage of their profits outside the United States, but are listed on a US exchange.

The stocks of many large non-US companies are listed on US exchanges

though their primary operations are elsewhere.

You can buy mutual funds and exchange traded funds (ETFs) that invest in different asset classes and subclasses on a worldwide, regional, or individual country basis.

Large US brokerage firms registered with the SEC operate internationally and can buy and sell investments anywhere they have a presence.

speaking, buying securities when the dollar is strong means investing costs you less. The same is true when you pay for any other product, such as a sweater or a train ticket, denominated in a currency that is weaker than the dollar.

Conversely, selling a stock when the dollar is strong reduces your return. That's because the weaker currency in which you invest translates into fewer dollars.

To convert the price per share from one currency to another, you calculate the exchange rate by dividing one currency by the other. If you are using US dollars to buy stocks priced in euros, you divide euros by dollars.

In the example shown in the chart, if the euro is 1:10 to the dollar, the exchange rate is 1.1 (€1.10 ÷ \$1 = 1.1). If the euro is 0.90 to the dollar, the exchange rate is 0.9 (€0.90 ÷ \$1 = 0.9).

To find the price (C) in the currency you're using, you multiply the security's price (A) times the exchange rate (B).

$$A \times B = C$$

$$€50 \times 1.1 = \$55$$

GAIN OR LOSS

If you buy a stock priced in euros when the euro and the dollar are at par, the amount you pay is the same. In the example here, it's \$50 or €50 a share.

If the value of the euro is stronger than the value of the dollar, it costs you more per share to buy than it would cost an investor using euros. When the euro is 1.10 to the dollar, a €50 stock would cost a US investor \$55. If the euro gains value, the per-share cost in dollars increases.

But if the dollar is stronger than the euro, the cost per share for an investor using dollars is less than the price in euros. When the euro is 0.90 to the dollar, a €50 stock would cost a US investor \$45. If the dollar gains more, the cost per share drops still further.

If the underlying stock increases or decreases in value, the gain or loss for an investor using dollars will reflect, but not necessarily be identical to, the gain or loss for an investor using euros. The greatest gain in dollars occurs if the share price increases and the dollar loses value.

*These hypothetical examples, which don't include the impact of commissions or taxes, do not reflect the performance of any specific investments.

Trading Around the Clock

Stock trading goes on around the world, around the clock, in an electronic global marketplace.

Stock trading goes on nearly 24 hours a day, on dozens of different exchanges on different continents in different time zones.

As the trading ends in one city, activity shifts to a market in another city, sweeping the changes in price around the world. The opening prices in Tokyo or Sydney are influenced by the closing prices in the United States—just as Asia's closing prices affect what happens in European trading, and what happens in Europe influences Wall Street. An hour after the New York markets close, for example, trading begins in Wellington, New Zealand. Two hours after Tokyo closes, London opens. And with two hours to go in London, trading resumes in New York.

Similar percentage changes, up or down, in major equity indexes around the globe in many 24-hour trading periods strongly suggest that what happens in one market affects what happens in others.

But the extent to which the markets are interrelated is still evolving. One reason is the growing number of multinational companies that trade on several exchanges. Another is the increasing tendency for investors to buy in many markets, not just their own.

ZONING OUT—OR IN

International traders can—and do—work in one time zone and live in another, thanks to electronic communications systems.

WELLINGTON

Local: 10:00–4:45*
GMT: 2200–0445

NEW YORK

Local: 9:30–4:00*
GMT: 1430–2100

LONDON

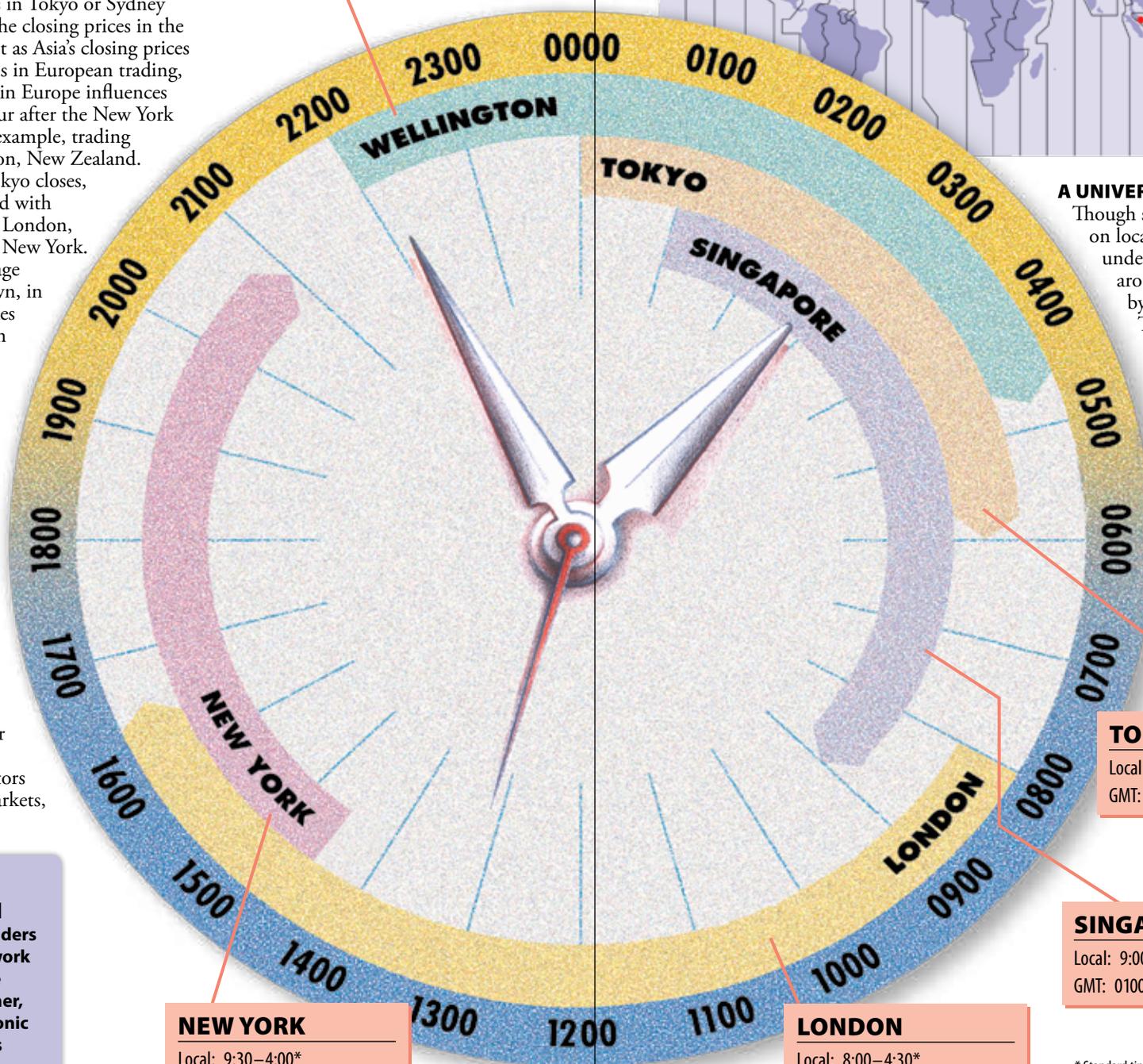
Local: 8:00–4:30*
GMT: 0800–1630

SINGAPORE

Local: 9:00–5:00*
GMT: 0100–0900

TOKYO

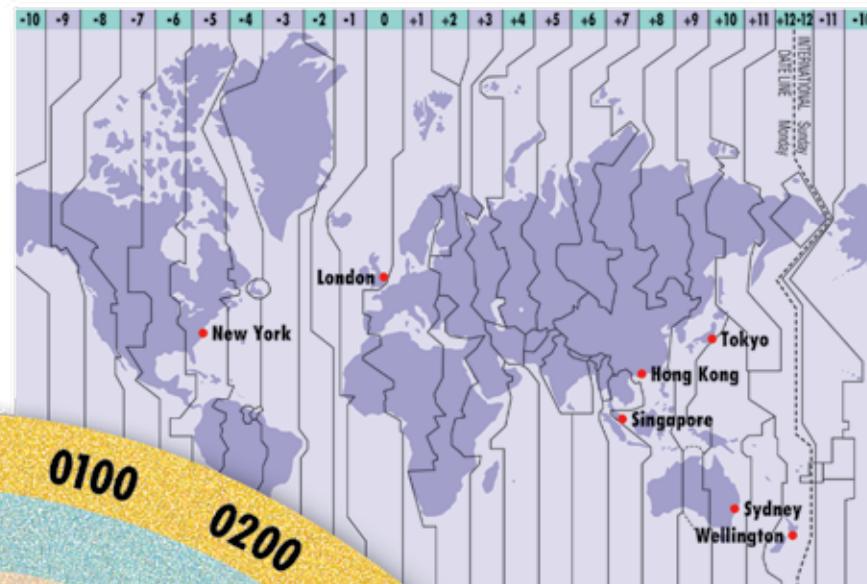
Local: 9:00–3:00*
GMT: 0000–0600



A UNIVERSAL CLOCK

Though stock exchanges operate on local time, it's easier to understand the dynamics of around-the-clock trading by using Greenwich Mean Time (GMT), the basis for calculating time in most of the world. There's a major stock exchange open somewhere almost 24 hours a day, Monday through Friday. You can enter trades electronically at any time, though, for execution when the market in which you trade opens.

* Standard time. Markets operate on daylight savings time part of the year.



The Banking System

Banks are an integral part of the capital markets and help keep the economy fluid.

Investors help keep the capital markets healthy by investing in securities, often for the long term. But what about capital that they may need for more immediate use?

While there are a number of short-term investment alternatives, people may prefer to deposit their extra cash in a bank. It's safer than keeping money in a drawer or carrying it around, and it's easily accessible. The money that people and organizations deposit in bank accounts is the capital that banks put to work.

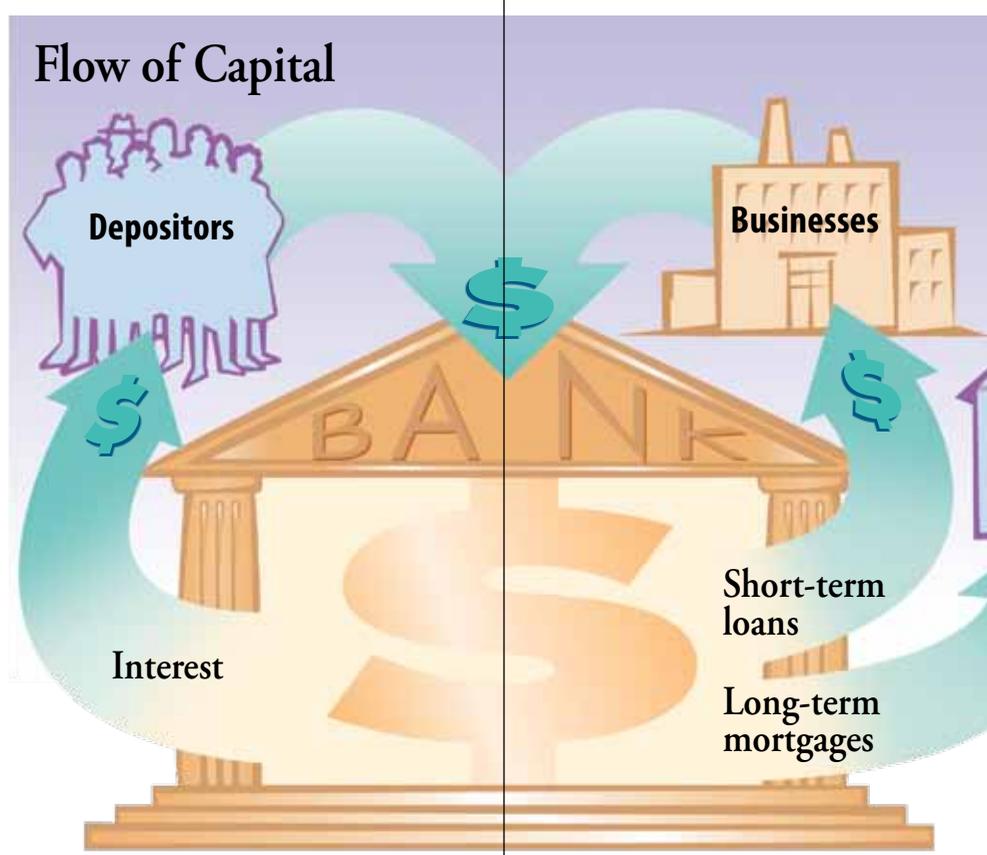
By lending money to businesses to meet short-term financing needs, banks help keep the economy fluid, or liquid. And by providing long-term mortgages, banks provide individuals with the capital they seek to purchase homes. In fact, banks are such an important source of community funding for both businesses and individuals that their lending practices have sometimes been credited—or blamed—for the economic health of the country.

WHAT'S A BANK?

Between the 1930s and 1999, different types of banks had different functions and operated separately. **Commercial banks** accepted deposits for transaction, demand, and time accounts from their individual and business clients and made loans. **Investment banks** underwrote corporate debt and initial public offerings of stock, and advised business clients on mergers, acquisitions, and other financial issues. **Merchant banks** served business clients, often with a focus on raising capital and managing international transactions.

Since the passage of the Financial Services Modernization Act of 1999, which deregulated the banking and financial industries, some of the traditional differences among commercial banks, investment banks, brokerage firms, and insurance companies have been blurred, although not totally eliminated, especially from a regulatory perspective.

Similarly, savings banks, thrift institutions (also known as savings and loan associations), and credit unions once were restricted to accepting deposits and lending money. Today they offer many of the same services as commercial banks.



A DOUBLE SYSTEM

Most developed nations have a centralized banking system and a single authority that charters, regulates, and supervises all of the country's banks. The United States is unusual in having a dual system.

Some banks are chartered by the state in which they operate and are regulated by either the Federal Reserve System (the Fed) or the Federal Deposit Insurance Corporation (FDIC). Other banks, known as national banks, are federally chartered and regulated by The Office of the Comptroller of the Currency (OCC). Federally chartered credit unions are regulated by the National Credit Union Administration (NCUA).

In fact, while there are sometimes differences about which regulations take precedence—laws governing lending practices are one example—federal and state laws tend to be compatible. If they're not, federal rules take precedence.

GUESS AGAIN

You might assume that state banks are smaller than federal banks, but in 2015 about half of the 100 largest US commercial banks operated under a state charter.

CONTROLLING THE CURRENCY

The OCC charters, regulates, and supervises the activities of national banks, their international branches, and US branches of non-US banks. Among its primary tasks are oversight of lending and investment practices—the ways in which banks put capital to work—and the directors and officers who work for the banks. The goal is to keep the banking system secure and honest and to ensure that banking services are widely available.

IN RESERVE

Much of a bank's capital comes from the money in its deposit accounts. But because customers can draw on demand deposits whenever they like, the bank has to have money on hand to meet those demands. So banks don't actually lend out all the money they take in from deposits.

The money a bank doesn't lend is known as its **reserves**. The amount a bank must hold in reserve is set by the Federal Reserve, which uses reserve requirements as one way to control the economy's money flow. Increasing reserves is also a way to help ensure that banks will be able to weather a financial crisis.

IT'S MONEY IN THE BANK

Public confidence in the banking system, is built, at least in part, on the FDIC, which insures bank deposits up to \$250,000 per depositor. NCUA provides similar insurance for the credit unions it regulates. Accounts registered in different ways, such as trust accounts or IRAs, are insured as separate accounts.

However, securities are not insured even when you purchase them through a bank or they carry the bank's name.

So why maintain two systems? To most bank customers, the differences are imperceptible. But the dual banking system is credited with adding competition that promotes innovation. For example, state banks have pioneered many of the industry's best ideas, including the checking account.

KEEPING AN EYE ON COMMERCIAL BANKS AND CREDIT UNIONS

Regulator	Jurisdiction
Federal Reserve System	State-chartered banks and trust companies that belong to the system
Office of the Comptroller of the Currency (OCC)	National banks, federal savings and loans, federal savings banks, federal branches of non-US banks, and international branches of national banks
Federal Deposit Insurance Corporation (FDIC)	State-chartered banks that do not belong to the Federal Reserve System
State banking regulators	State-chartered banks in their state
National Credit Union Administration (NCUA)	Federally chartered credit unions

The Federal Reserve System

The Federal Reserve System is the guardian of the nation's money—and is playing an increasingly pivotal role in managing the economy.

Like other countries, the United States has a national bank to oversee its monetary policies and provide financial stability. But the Federal Reserve System, known informally as the Fed, isn't one bank. It's 12 separate district banks and 25 regional branches spread across the country, so that

no one state, region, or business group can exert too much control.

These 12 banks provide financial services to the commercial banks in their districts, conduct research on regional and national economies, and represent the interests of their region to the System.

THE FEDERAL RESERVE'S MANY ROLES

The Fed plays many roles as part of its responsibility to keep the economy healthy.

The Fed handles the day-to-day banking business of the US government. It receives deposits of corporate taxes for unemployment, withholding, and income, and also of federal excise taxes on liquor, tobacco, gasoline, and regulated services like phone systems. It also authorizes payment of government bills like Social Security and Medicare as well as interest payments on Treasury bills, notes, and bonds.

POLICYMAKER



The Fed seeks to promote maximum employment and stable prices while controlling inflation. This requires balancing potential conflicts among the three to promote economic health. Its primary tools are controlling the amount of money in circulation by buying and selling government securities and adjusting the federal funds rate, which banks charge each other to borrow.

BANKER



The Fed's automated clearinghouse (ACH) system is the network through which credits and debits are handled electronically. Examples include recurring direct deposit of paychecks and direct debiting of mortgage payments as well as one-time transfers. The Fed facilitates electronic interbank transfers of payments made by check.

LENDER



If a bank needs to borrow money, it can turn to a Federal Reserve bank. The interest the Fed charges banks is called the **discount rate**. Before the credit crash of 2008, banks needing money preferred to borrow from other banks. But the Fed expanded its lending in the crisis.

HOW THE FED WORKS

The Fed is an independent government agency that is funded primarily by interest on government securities it owns. Under the direction of its chairman, it sets monetary policy, supervises banking operations, and has become a major factor in shaping the economy.

Its seven governors are appointed to 14-year terms by the president and confirmed by the Senate. Their long terms are designed to insulate them from political pressure. However, the chairman serves a four-year term and is often chosen by the president to achieve specific economic goals.

MANAGING MONEY

The **Federal Open Market Committee (FOMC)**, under the leadership of the Fed chairman, meets about every six weeks to evaluate the state of the economy and issues what's known as a **risk statement**, indicating if it thinks that either inflation or economic weakness pose a potential threat to the economy. It may also conclude the risks seem balanced.

The risk statement, which tends to have an impact on the stock and bond markets, is generally interpreted as an indication of the action the FOMC is likely to take at its next meeting or the one following to tighten or loosen the money supply.

REGULATOR



The Fed interprets laws that Congress passes into regulations, and monitors the business affairs and audits the records of all of the banks in its system. Its particular concerns are compliance with banking rules and the quality of loan practices.

CONTROLLER



The central bank issues and processes Federal Reserve notes for domestic and international use and replaces worn currency. It also distributes coins produced by the US Mint. Various factors impact demand for currency, including availability of other payment systems.

GUARDIAN

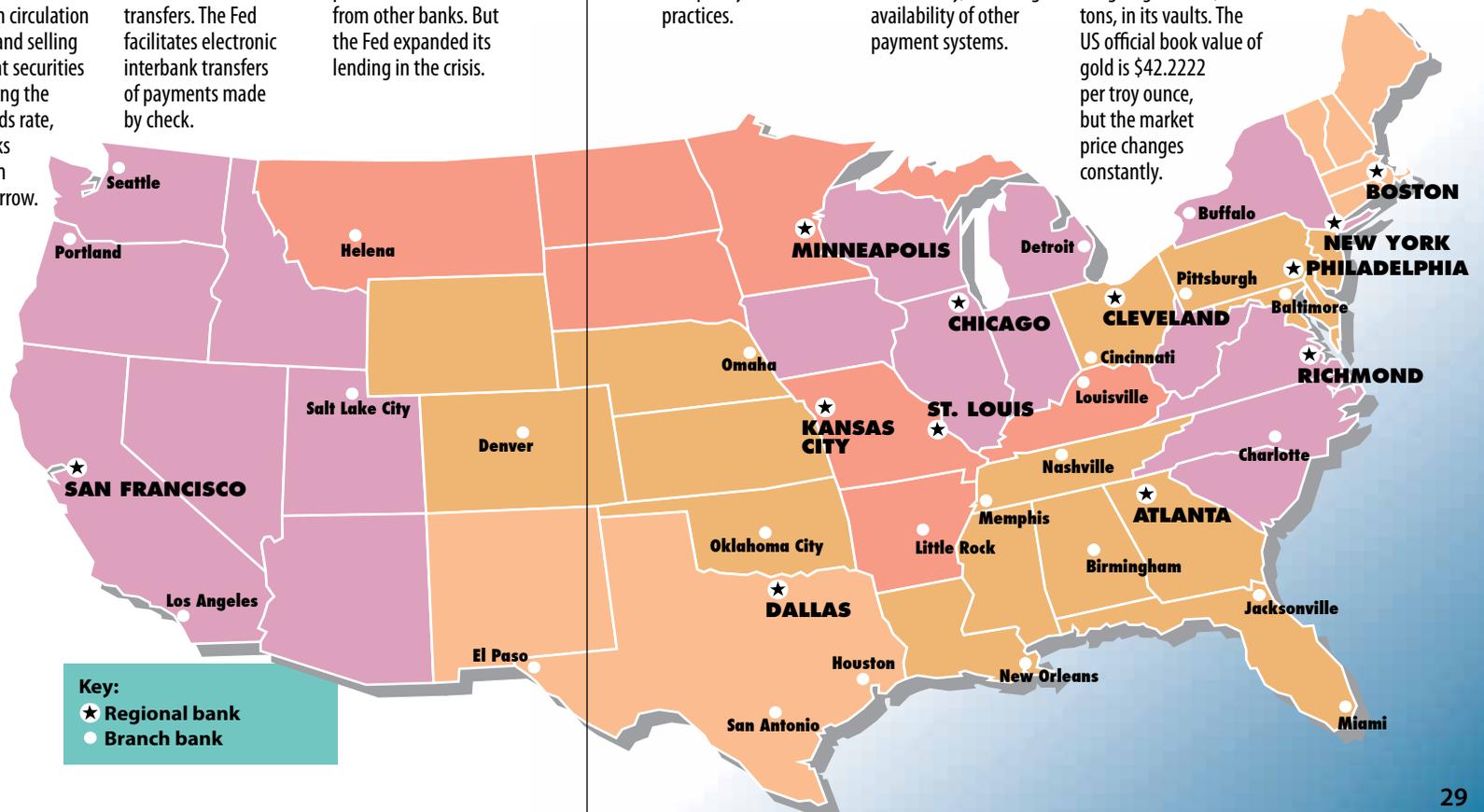


The Federal Reserve Bank of New York is the custodian of gold owned by the US and non-US governments, other central banks, and certain international organizations. It holds approximately 530,000 gold bars, weighing about 6,700 tons, in its vaults. The US official book value of gold is \$42.2222 per troy ounce, but the market price changes constantly.

ADMINISTRATOR



The Fed provides the National Settlement Service (NSS) and Fedwire services to facilitate the secure transfer of trillions of dollars in non-cash transactions.



Controlling the Money Flow

Keeping a modern economy running smoothly requires a pilot who'll keep it from stalling or overaccelerating.

The United States, like most other countries, tries to control the amount of money in circulation. The process of injecting or withdrawing money reflects the monetary policy that the Federal Reserve adopts to regulate the economy.

Monetary policy isn't a fixed ideology. It's a constant juggling act to keep enough money in the economy so that it flourishes without growing too fast.

HOW IT WORKS

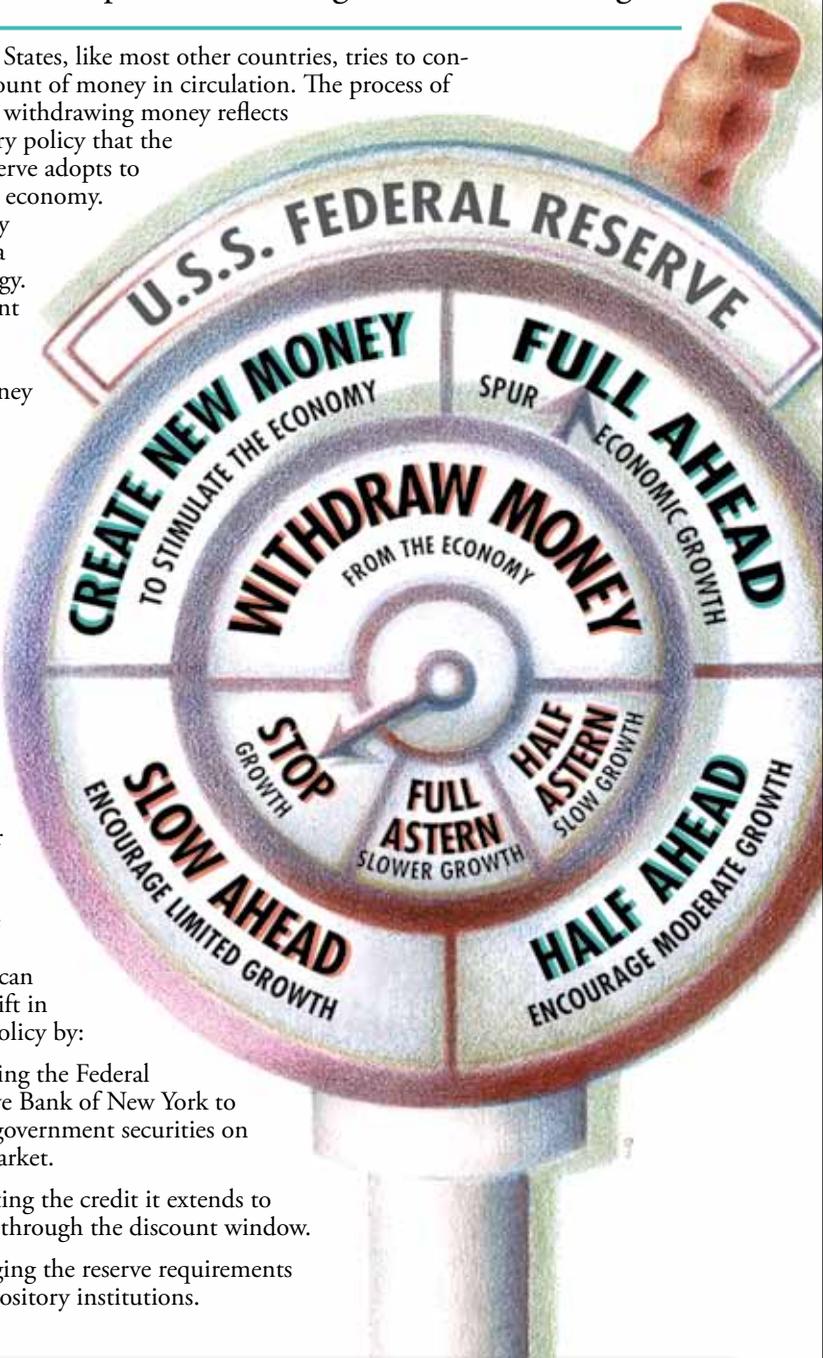
Changes in monetary policy tend to be gradual, though over a period of months it may change course.

The Fed can initiate a shift in monetary policy by:

- 1 Ordering the Federal Reserve Bank of New York to buy or sell government securities on the open market.
- 2 Adjusting the credit it extends to banks through the discount window.
- 3 Changing the reserve requirements of depository institutions.

HOW FAST MONEY GOES

Money's velocity is the speed at which it changes hands. If a \$1 bill is used by 20 different people in a year, its velocity is 20. An increase in either the quantity of money in circulation or its velocity makes prices go up—and, when both increase, an even larger jump typically occurs, driving prices significantly higher.



The Fed's reserve requirement makes banks hold a percentage* of certain accounts

10%
RESERVE
in cash to cover any unusual demand from customers.

CHANGING THE SUPPLY

About 11:15 a.m. every day, the New York Fed decides whether to buy or sell government securities to implement the Federal Reserve's Federal Open Market Committee (FOMC) policy decisions.

To slow down an economy where too much money is in circulation, it sells securities, taking in the cash that would otherwise be available for lending. To give the economy a shot in the arm, it creates money by buying securities. There isn't any limit on the amount of money the Fed can create and it can—and does—vary.

PUTTING POLICY TO WORK

When the FOMC implements monetary policy it impacts the **federal funds rate**, which is the rate that banks charge other banks for overnight access to the balances in their reserve accounts. Changes in the rate affect other short-term interest rates almost immediately, and also influence long-term rates, the value of the dollar against other currencies, and stock prices.

The dilemma, from the FOMC's perspective, is that it must rely on estimates to make policy decisions and to assess whether or not the policies it adopts are working. For example, it can't be certain what effect a change in the federal funds rate will actually have or how soon the economy will respond.

ADJUSTING THE RATE

The Fed can also increase or decrease the **discount rate**, the rate it charges banks to borrow money. If the rate is increased, banks tend to borrow less and have less available to lend. If the rate is decreased, banks theoretically tend to borrow more and lend at attractive rates.

*As of January 2015, the required reserve is 3% of liabilities on net transaction accounts of \$14.5 million to \$103.6 million and 10% on net transaction accounts over \$103.6 million.

CREATING MONEY

To create money, the New York Fed buys government securities from banks and brokerage houses known as primary dealers. The money that pays for the securities hasn't existed before, but it has value, or worth, because the securities the Fed has bought are valuable.

More new money is created when the banks and brokerages use the money they receive from selling the securities to lend to customers who spend it on goods and services. These simplified steps illustrate how the process works.

1

The Fed writes a check for \$100 million to buy the securities from a primary dealer. The firm deposits the check in its own bank (A), increasing the bank's cash.

2

Bank A can lend its customers \$90 million of that deposit after setting aside 10%. The Fed requires all banks to hold 10% of their deposits (in this example, \$10 million) in reserve. A young couple borrows \$100,000 from Bank A to buy a new house. The sellers deposit the money in their bank (B).

3

Now Bank B has \$90,000 (the deposit minus the required reserve) to lend that it didn't have before. A woman borrows \$10,000 from Bank B to buy a car, and the dealer deposits her check in Bank C.

4

Bank C can now loan \$9,000.

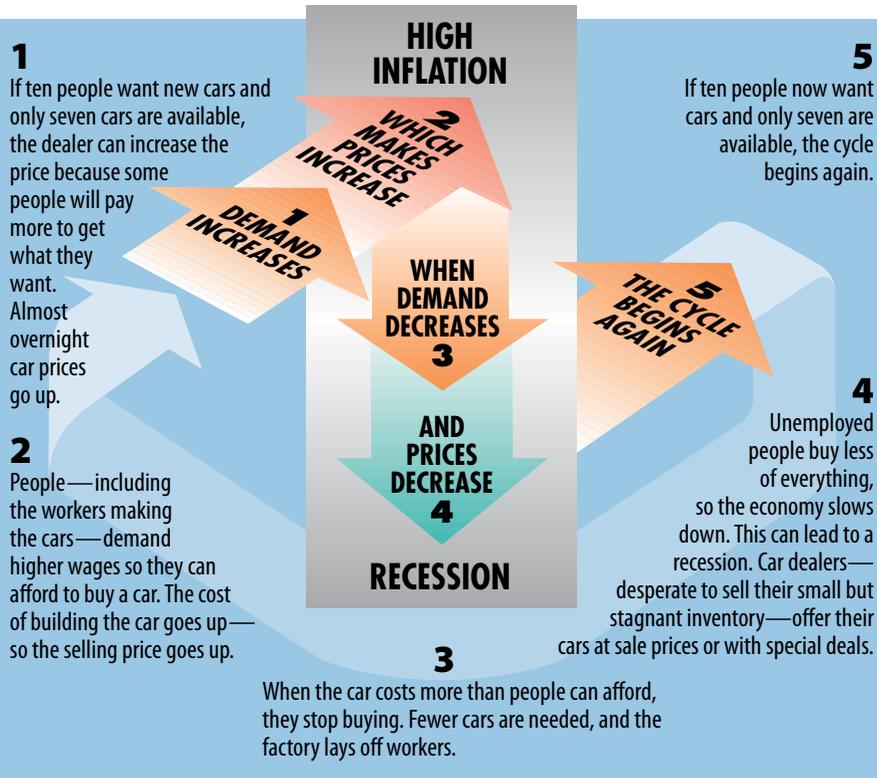
This one series of transactions has created \$190,099,000 in just four steps. Through a repetition of the loan process involving a wide range of banks and their customers, the \$100 million that the Fed initially added to the money supply could theoretically become almost \$900 million in new money.

The Economic Cycle

Experts work hard to predict and control the ups and downs of the economy.

Economies tend to move through normally recurring cycles of growth and slowdown. But there can be problems if

growth results in runaway inflation or if a slowdown ends in recession. The Federal Reserve works to prevent either situation.



THE INFLATION STRUGGLE

Most economists agree that inflation isn't good for the economy because, over time, it destroys value, including the value of money. If inflation is running at a 10% annual rate, for example, a book that cost \$10 one year would cost \$20 just seven years later. By comparison, if inflation averaged 3% a year, the same book wouldn't cost \$20 for 24 years.

Since inflation typically occurs in a growing economy that's creating jobs and reducing unemployment,

politicians are willing to risk its consequences. The Federal Reserve prefers to cool down a potentially inflationary economy before it gets out of hand. But since it also wants to prevent any long-term slowdown, it typically reverses its monetary policy when the economy seems likely to shrink.

WHO GETS HURT?

The people hit the hardest by inflation are those living on fixed incomes. For example, if you're retired and have a pension that was determined by a salary you earned in less inflationary times,

your income will buy less of what you need to live comfortably. Workers whose wages don't keep pace with inflation can also find their lifestyle slipping.

But inflation isn't bad for everyone. Debtors benefit because the money they repay each year is worth less than it was when they borrowed it and may be a smaller percentage of their budget.

WHEN THERE'S NO INFLATION

When the rate of inflation slows, it's described as **disinflation**. So a 1% annual increase in the cost of living is disinflationary after a period of more rapid growth. Employment and output can continue to be strong, and the economy can continue to grow.

Deflation, though, is a widespread decline in the prices of goods and services. But instead of stimulating employment and production, deflation has the potential to undermine them. As the economy contracts and people are out of work, they can't afford to buy things, even at cheaper prices.

Stagflation, a confounding combination of slow economic growth and high inflation, is yet another example of how components of the standard cycle can be out of step.

CHARTING A RECESSION

Recessions are periods when unemployment rises while sales and industrial production slows. Government officials, the securities industry, investors, and policymakers all try to anticipate when they will occur, but the factors that produce economic contraction are so complex that no predictor is always reliable.

The Index of Leading Economic Indicators, released every month by the Conference Board, a business research group, provides one way to keep an eye on the economy's overall health. Generally, three consecutive rises in the Index are considered a sign of growth and three drops a sign of decline and potential recession. Its movement may

CONTROLLING THE CYCLE

Most developed economies try not to let the economic cycle run unchecked because the consequences could be a major worldwide **depression** like the one that followed the stock market crash of 1929. In a depression, money is so tight that the economy virtually grinds to a halt, unemployment escalates, businesses collapse, and the general mood is grim.

THE RULE OF 72

The rule of 72 can be a reliable guide to the impact of high inflation. You simply divide 72 by the annual inflation rate to find the number of years it will take prices to double. For example, when inflation is at 10%, prices will double in seven years ($72 \div 10 = 7$). But when it's 3%, they may double in 24 years ($72 \div 3 = 24$).

You can also use the rule of 72 to estimate how long it will take you to double the money you're saving. If you're earning a 5% return on your investment portfolio, you should double your principal in 14.4 years. But if your return is 10%, it should double in half that time.

AVERAGE COST OF A PAIR OF SNEAKERS



2015 – \$76.89

$\frac{72}{\text{Average inflation rate}}$	=	Number of years until prices are doubled
$\frac{72}{3}$	=	24 years until the average cost of a pair of sneakers will be \$153.78

signal economic downturns 18 months in advance, and it correctly forecast the recessions of 1991 and 2001. But it has also pointed to recessions that never materialized and missed or was slow to anticipate others, including the one starting in 2007.

The National Bureau of Economic Research (NBER), which tracks recessions, describes the low point of a recession as a **trough** between two **peaks**—the points at which the recession began and ended. Of course, peaks and troughs can be identified only in retrospect, though the fact that there's a slump in the economy is evident.

Recessions may be shorter than the period of economic expansion they follow. But they can be quite severe even if they're brief, and recovery can be slower from some recessions than from others.

The more segments of the economy that are involved, the more serious the recession. The market collapse and credit freeze of 2008 affected many consumers and businesses for years afterward.



In 1800, you could travel from New York to Philadelphia in about 18 hours by stagecoach. The trip cost about \$4.

TIME AS MONEY

Today the train costs about \$53, but takes 75 minutes. While the price has **inflated** about 1,325%, the travel time has **deflated** about 93%. So if time is money, today's traveler comes out ahead.



Stock: Sharing a Corporation

When you buy shares of stock you own a slice of the company.

Stock is an **equity** investment. If you buy stock in a corporation, you own a small part of that corporation and are described as a **stockholder** or **shareholder**. You buy stock because you expect it to increase in value, or because you expect the corporation to pay you dividend income, or a portion of its profits. In fact, many stocks provide both growth and income.

When a corporation issues stock, the company receives the proceeds from that initial sale. After that, shares of the stock are traded, or bought and sold among investors, but the corporation gets no income from those trades. The price of the stock moves up or down depending on supply and demand—or how many shareholders want to sell and how eager investors are to buy. Increased supply drives prices down. Increased demand drives prices up.

COMMON STOCK

Most stock issued in the United States is **common stock**. Owning it entitles you to collect dividends if the company pays them, and you can sell shares at a profit if the price increases. But stock prices change all the time, so your shares could lose value, especially in the short term. Some common stocks are **volatile**, which means their prices may increase or decrease rapidly.

Despite the risk, investors have been willing to buy common stock because over time stocks in general—though not each individual stock—have provided stronger **returns**, or price increases plus dividends, than other securities.

PREFERRED STOCK

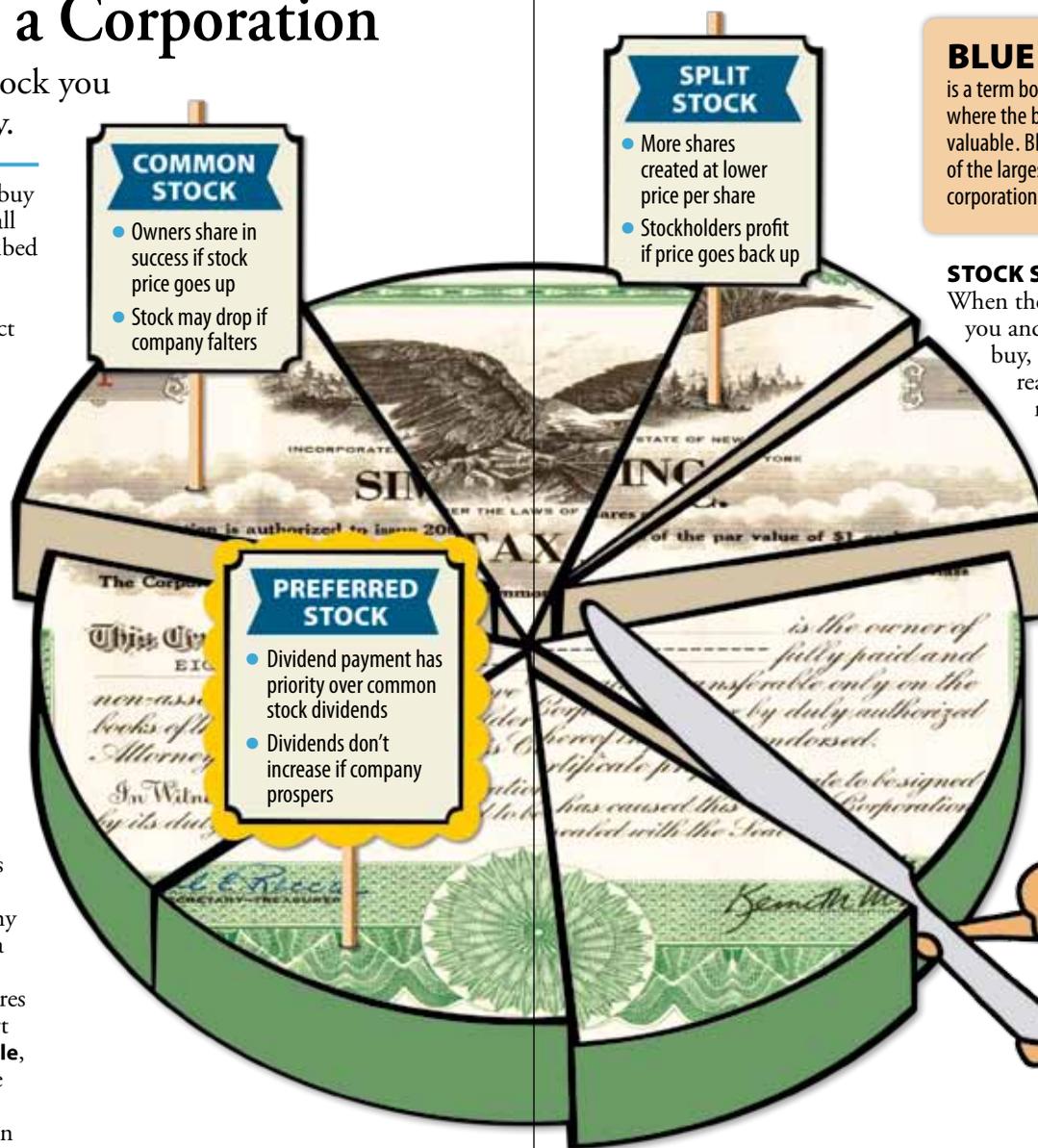
Some companies issue **preferred stock** in addition to common stock. These equity investments, which also trade

THE RIGHT TO VOTE

As a stockholder, you have the right to vote yes, no, or abstain on a company's policy proposals and shareholder proposals, and to vote for or against nominees to its board of directors. You can vote in person at the annual meeting, by proxy online, over the phone, or by mail, or

authorize your broker or financial adviser to vote on your behalf.

Before the annual meeting you'll receive a proxy statement that reports on the company's performance and the compensation of the five highest paid executives, introduces the nominees, and makes recommendations on the proposals.



in the secondary market, are listed separately from the company's common stock and trade at a different price.

Preferred stock dividends are paid before common stock dividends, and preferred shareholders are more likely to recover some of their investment if the company fails. And, in some cases, preferred stock can be converted to common stock at a preset price.

The prices of preferred stock tend to change less than the prices of common stock over time, and the dividends typically aren't increased if the company's earnings increase.

These characteristics help explain why preferred shares are sometimes described as hybrid investments—a combination of fixed income and equity.

CLASSES OF STOCK

Companies may issue different classes of stock, label them differently and list them separately on a stock market. Sometimes a class indicates ownership in a specific division or subsidiary of the company. Other times it indicates shares that sell at different market prices, have

BLUE CHIP

is a term borrowed from poker, where the blue chips are the most valuable. Blue chips refer to the stocks of the largest, most consistently profitable corporations. The list isn't official—and it does change.



STOCK SPLITS

When the price of a stock increases significantly, you and other investors may be reluctant to buy, either because you think the price has reached its peak or because it costs so much. Corporations have the option of splitting the stock to lower the price, which they expect to stimulate trading. When a stock is split, there are more shares available, but the total market value is the same.

Say a company's stock is trading at \$100 a share. If the company declares a two-for-one split, it gives you a second share for each one you own. At the same time the price drops to \$50 a share. If you owned 300 shares selling at \$100 you now have 600 selling at \$50—but the value is still \$30,000.

The initial effect of a stock split is no different from getting coins in exchange for a dollar bill.

But the price may move up toward the presplit price, increasing the value of your stock.

Stocks can split three for one, three for two, ten for one, or any other combination.

different dividend policies, provide greater voting rights, or impose sales restrictions on ownership.

REVERSE SPLITS

In a **reverse split** a corporation exchanges more shares for fewer—say ten shares for five—and the price increases accordingly. Typically the motive is to boost the price so that it meets a stock market's minimum listing requirement or makes the stock attractive to institutional investors, including mutual funds and pension funds, which may not buy very low-priced stocks.

Public and Private Companies

There's a range of differences between what's public and what's private.

The terms *public* and *private* have a range of opposite meanings that are relevant to a discussion of stock. Public means open or available to everyone and private means restricted to a particular group. Thus, anyone can buy shares in a **public company** but not in a **private company**. When a private company goes public, it sells shares through an initial public offering (IPO). When a public company

goes private, all its shares are purchased by a limited group of investors.

What can be confusing, though, is that both public and private companies are part of the **private sector**. That's the opposite of the **public sector**, which refers to federal, state, and local governments. As companies can move from public to private, or the reverse, they can also move between sectors.

THE PUBLIC SECTOR

The public sector includes the departments, offices, agencies, and corporations run by municipal, state, and federal governments. These public enterprises may be funded by tax dollars, by money raised by selling bonds, or, in some cases, by charging fees for services they provide.

The public sector provides citizens with services, such as education, transportation, law enforcement, and social welfare programs, through their agencies or offices. Privatization occurs when a government sells all or part of a government enterprise to individual and institutional investors or turns over previously public functions to private firms.

WHY PRIVATIZE?

There are many reasons to privatize, most of them economic. Some people believe that private sector enterprises are more efficient than public sector ones, so that privatization provides better service at lower cost. Whether those benefits materialize or not, privatization shifts responsibility for those services from the government to the private sector.

Selling off attractive assets or making them available for private development can raise substantial amounts of cash to offset public debt or provide cash infusions to bolster the economy and reduce taxes. Another reason to privatize is to dispose of holdings that may be a drain on public resources, such as hospitals or public transportation systems, because they're expensive to operate and are often not profitable. Similarly, turning over the operation of prisons, schools, and other facilities to private companies reduces the number of public employees.

TAKING SOME RISKS

Investors take risks whether they buy shares in a privately held company that has become public or a former government enterprise that has been privatized—though the risks are somewhat different.

In both cases, there are the questions of whether the company will be profitable in the marketplace, whether it will provide income from dividends and growth in the form of increased share price, how much debt it has, and whether that debt will hamper its ability to succeed.

In the case of privatized assets, investors must consider the potential for government interference, especially if it remains a partial owner or regulator.

PROS AND CONS

There are strong arguments for and against privatization, often fueled by political philosophy.

Pros:

- Provides infusion of capital
- Introduces stronger management
- Eases or eliminates debt

Cons:

- Potential loss of jobs and employee benefits
- Reduction in quality of service
- Redistribution of wealth into few hands

PRIVATIZATION

THE PRIVATE SECTOR

WHY GO PUBLIC?

Business owners, who typically sell only a portion of their company when taking it public, may have a number of motives. Sometimes it's primarily a way to raise enough capital to expand the business and outstrip the competition. It's also a way for the founders to reap substantial financial rewards from their ingenuity and business success.

If the founders continue to run the company successfully while owning a substantial number of shares, they can be richer and more powerful than

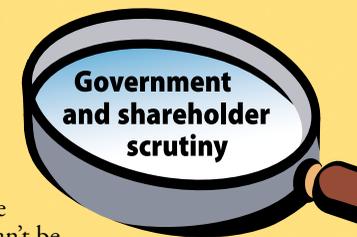
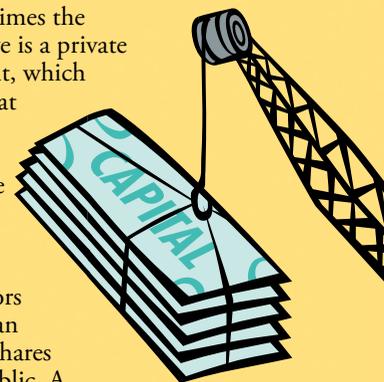
they might have been at the head of a private firm. In other cases, founders or the descendants of founding families leave

the firm once it has become a public company.

Of course, not all private companies go public. For many small firms, it's not a viable alternative even if it seems a potential way to attract capital. And there are a number of large, powerful companies in the United States and around the world that continue to be privately held.

Sometimes the alternative is a private placement, which means that a private company sells some or all of its shares directly to investors rather than offering shares to the public. A private placement generally doesn't have to be registered with the SEC or meet other disclosure criteria since the shares can't be traded among investors.

In contrast, **nationalization** occurs when a government takes over a private company. It may occur for economic reasons—if companies need public subsidies to survive, as a way to preserve jobs, or in an effort to keep profits within the country—or for a variety of political reasons.



NATIONALIZATION

MUTUAL COMPANIES

Some insurance companies aren't really publicly held, but they're not completely private either. Rather, they're mutual companies, which means that they are owned by their policyholders. Any profit the companies make is shared by these owners, as it might be in a publicly held company, in the form of dividends or rebates on future premiums. But the dividends these mutual companies pay are not the same as dividends paid by a public company.

Certain savings banks and federal savings and loan associations are mutual companies as well, with their depositors entitled to a share of the profits. In the case of insurance companies and savings and loans, members have a right to

vote for directors, as shareholders of public companies do. That's not the case with savings banks.

Some mutual companies convert to public ownership and sell shares to outside investors, though in some states they may have to use any profits to benefit their customers before they can pay dividends to their shareholders.

STOCKS OR SHARES

The words *stocks* and *shares* are sometimes used interchangeably, but they don't mean exactly the same thing. A share is a unit of ownership, while stock is the outstanding capital of a corporation. You can own shares of stock, but never stock of shares.

Initial Public Offerings

The first time a company issues stock, it's called going public.

Going public, or taking a company public, means making it possible for outside investors to buy the company's stock. Selling shares gives the company's owners access to more capital than they can raise elsewhere and, unlike a loan, it never has to be repaid.



A company raises money only when its stock is issued. All subsequent trading in the stock means a profit or loss for stockholders, but not for the company.



DIRECT SALES

Some companies may prefer a **direct public offering (DPO)**. In this case, shares are offered directly to the public with the anticipation of raising capital but without using underwriters to help create a market for the stock. This approach is significantly simpler and cheaper than a traditional IPO.

Companies using a DPO are typically exempt from having to register with the SEC because they're raising only a limited amount of money or offering shares exclusively to accredited investors. An accredited investor is an individual or institution that meets the net worth or annual income standards set by the SEC.

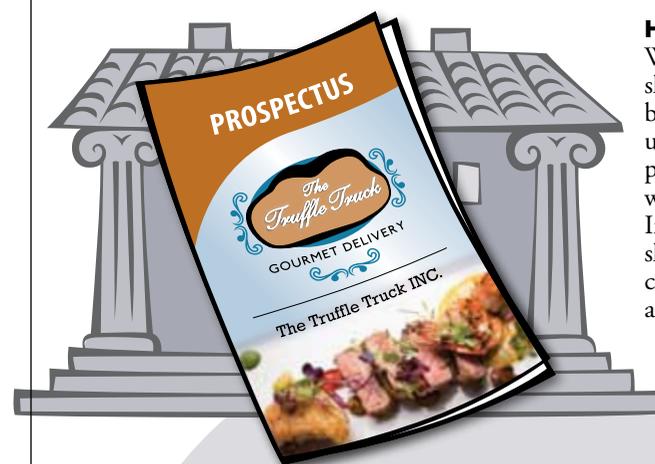
GOING PUBLIC

The **initial public offering (IPO)** process traditionally begins when a company that wants to be publicly traded contacts an **underwriting firm**, usually an investment bank. The underwriter agrees to buy all the public shares at a set price and resell them to the public. The risk the underwriter assumes is offset by the fee it charges, usually a percentage of each share's price. If the IPO is successful, those fees are the underwriter's profit.

The underwriters and the company prepare a prospectus that is filed with the Securities and Exchange Commission (SEC) and made available to potential investors as a way to assess the potential strengths of the company and the risks that investing in it may pose. The SEC must approve the offering before it can proceed.

LOVE ME TENDER

Just as it may issue additional shares, a company may choose to **repurchase**, or buy back, shares of its stock, either gradually in the stock market or by **tender offer**, giving shareholders the right to sell at a specific price. The company's motive may be to boost its stock price or to reduce dilution that results from granting stock options. Or it may decide a buyback is a better use of extra cash if it thinks the market undervalues its stock.



UNDERWRITING FIRM

ATTRACTING INVESTORS

The proposed stock sale is publicized in a traveling **roadshow**—sometimes described as a dog and pony show—designed to have the company's managers build a buzz among stock analysts and institutional investors. The enthusiasm they are able to generate often determines how successful the launch will be.

The day before the actual sale, underwriters **price the issue**, or establish the price at which it will be offered to investors. Everyone who buys shares in the IPO pays that price.

When the stock begins trading the next day, the price can rise or fall, depending on whether investors agree or disagree with the underwriters' valuation of the new company.

LISTED OR UNLISTED

After an IPO, companies that meet the listing requirements of a national securities exchange—including market capitalization and net worth—typically choose to list their stock. This means investors can buy and sell shares easily in what is known as the secondary market.

Unlisted stocks may be traded in the over-the-counter (OTC) market. But trading may be less liquid, and information about some OTC stocks may be limited.

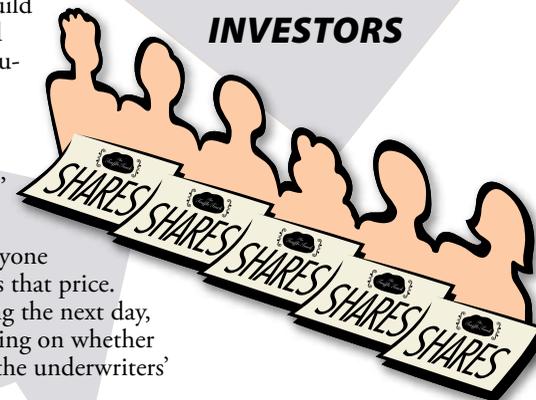
Other stocks, including some issued in a DPO, may be nontraded. This means investors should expect to hold them for extended periods and may not be able to sell even if they need the money. Some

HOW YOU INVEST

When an IPO comes to market, shares are available through brokers affiliated with the chief underwriter or a firm that's part of the selling syndicate working with the underwriter. In most cases, though, the shares go to the broker's best clients—those with the biggest accounts, longest history, or some other advantage.

You can buy shares as soon as trading begins, but there may be good reasons to wait at least six months, until the first analysts' reports are available. Despite the buzz they may create, many IPOs trade at lower prices than comparably sized companies for several years after issue.

INVESTORS



nontraded stocks are registered with the SEC though others are not.

SECONDARY OFFERINGS

If a company has already issued shares, but wants to raise additional **capital**, or money, through the sale of more stock, the process is called a **secondary offering**.

Companies are often wary of issuing more stock, since the larger the supply of stock outstanding, the less valuable each share already issued may be.

For this reason, a company may issue new shares when its stock price is relatively high. As an alternative way to raise money, it may decide to issue bonds, or sometimes convertible bonds or preferred stock.

Where Stocks Trade

Thousands of stocks change hands every day in US secondary markets.

Stocks listed on a national securities exchange—described as **national market system (NMS) stocks**—can be traded in a number of competing venues.

Stock Exchanges



EXCHANGE TRADING

There are more than a dozen stock exchanges in the United States, and the number is growing. The list is headed by the venerable New York Stock Exchange (NYSE), which traces its roots to 1792, and the Nasdaq Stock Market (Nasdaq). It was the world's first electronic market when it opened in 1971. But trading volume on BATS, an exchange since 2008, rivals that on the two more established exchanges. However, the vast majority of stocks are listed on either the NYSE or Nasdaq.

All exchanges are registered with and regulated by the SEC under the Securities Exchange Act of 1934. In addition, each exchange has a self-regulatory organization (SRO) that's responsible for ensuring an orderly market that's both competitive and fair because it is **transparent**. In this context, transparent means that details on price and volume are reported in real time.

Most transactions are handled electronically, often instantaneously, as a sophisticated network matches each order to buy with a corresponding offer to sell—and each order to sell with an offer to buy. **Market makers**, who provide liquidity that keeps trading going, are obligated to buy and sell a specific number of shares at the prices they post on the network, making money on the **spread**, or price difference, between the buy price—called the

Alternative Trading Systems (ATSS)



KEEP IT QUIET

Electronic communications networks (ECNs), which register with the SEC as alternative trading systems, are regulated as broker-dealers under Regulation ATS, not as exchanges. They function similarly to an exchange, though, in the sense that they collect, display, and execute buy and sell orders electronically. The prices at which stocks change hands and the trading volume are transparent, as they are with exchange-based transactions.

What's different is that the transactions are handled directly between two institutional investors, one on either side of the trade. There's no middleman, such as a market maker or a specialist. The fees are lower—

bid—and the sell price—called the **ask** or offer. Together the bid and ask are known as a **quotation**, or quote.

The NYSE, where the vast majority of transactions are matched electronically in data centers miles away from Wall Street, was originally an auction market. Floor brokers representing buyers and sellers competed for the best price at the post of the single **specialist** who handled transactions in a particular stock. Today it's a hybrid market. There are still floor brokers and specialists at the exchange, but transactions are handled by a network of hand-held computers.

LANGUAGE CHECK

Exchange-based transactions in listed securities occur in the secondary market. But when these stocks change hands anywhere but on an exchange, the transactions—but not the stocks—are described as over-the-counter (OTC) or third-market trades. OTC stocks, on the other hand, are unlisted securities that trade in an OTC or third market, never on an exchange.

Internalized Transactions

Internalization means a broker-dealer fills its clients' orders itself or through interactions with one or more other firms. The advantage to the firm is that it keeps the difference between the price it paid for a stock and the price it receives when it sells, increasing its profit.

The profit motive similarly encourages trading platforms to increase the number of transactions they handle. In fact, some are willing to pay brokerage firms to attract their business, a practice known as **payment for order flow**.

often much lower—than exchange fees. And the buyers and sellers are anonymous. Anonymity is an advantage, since it means a major trade by a well-known investor won't trigger volatility or tip the investor's hand.

Further, while most exchange-based transactions occur during normal trading hours—9:30 am to 4 pm ET—some but not all ECNs facilitate trades both before and after the exchanges close, and in some cases almost around the clock.

IN THE DARK

The name may not say it all. But it says a lot. The alternative trading systems known as **dark pools** are private trading facilities. They're not transparent and don't report the prices at which transactions occur or trading volume in real time.

As is the case with ECNs, trading is anonymous and less expensive than exchange trading. And it's possible to buy or sell very large blocks of stock at a single, and perhaps—but not necessarily—better, price than would be available on an exchange or ECN. What's interesting though, is that most

A STREET BY ANY OTHER NAME

Wall Street, which got its name from the stockade built by early settlers to protect New York from attacks from the north, was the scene of New York's organized stock trading. Now it lends its name to the financial markets in general—though lots of traders never set foot on it.

dark pool transactions do not involve large institutional blocks of stock—in theory, at least, the reason why they are popular—but rather retail transactions of a few hundred shares at a time.

Like ECNs, dark pools register with the SEC as broker-dealers rather than exchanges, and they're governed under Regulation ATS.



What's more, many of them are operated by well-known broker-dealers, exchanges, or ECNs. Their trading is also restricted to no more than 5% of any one company's shares in a day, a percentage that the SEC may lower to 2.5%.

But their lack of transparency means that dark pools continue to be investigated with considerable vigor.

HOW TIMES HAVE CHANGED

Before the introduction of Regulation NMS in 2007, stocks listed on the NYSE were traded on that exchange nearly 80% of the time while Nasdaq-listed stocks were traded on its own or affiliated networks at a comparable rate. In 2015, fewer than half are traded where they're listed.

Trading Specifics

There's a lot going on as stocks change hands.

Stock prices reset continuously, in a competitive process known as **price discovery**. If investors are eager to buy, they make a higher bid. And when sellers know buyers are interested, they ask a higher price. The reverse is true when interest in a stock lags. When bids are lower, sellers ask less to unload the stock before its value sinks further.

Specialists and market makers who act as intermediaries in stock transactions are interested in the **spread**, or the difference between bid and ask. That's their profit.

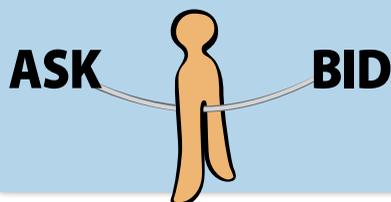
How does the spread affect you? The larger it is when you buy, the more the stock's price will have to rise for you to make a profit by selling. However, that's a greater issue if you intend to sell quickly than if you're a buy-and-hold investor.

PROTECTED PRICES

The SEC's Regulation NMS requires that investors be guaranteed the best possible price when they buy or sell. That price is the **NBBO**—for **national best bid and offer**—or the most recent

SPLITTING THE DIFFERENCE

At some trading centers, transactions may be executed at the midpoint of the current bid and ask, called the *midpoint peg*. This eliminates the spread.

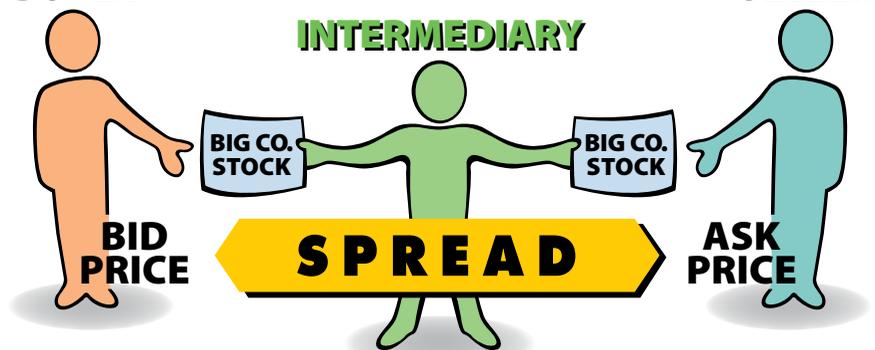


automated quote for a specific transaction size of a particular stock. These data are reported to a securities information processor (SIP) where it is consolidated and disseminated on an electronic ticker.

Orders must be routed to the trading center offering the best price unless another center provides a better one, or what's known as price improvement. There are some exceptions, including for a **directed order**, which means the investor asks that execution be handled at a specific venue.

BUYER

SELLER



FASTER AND FASTER

High frequency trading (HFT) uses algorithmic programs to place orders transmitted in microseconds through optic cable or microwaves. HFT:

- Accounts for more than 50% of stock market volume
- Increases market volatility, but not necessarily liquidity
- Reduces trading costs, though primarily for the traders' own benefit

- Takes advantage of tiny price differences to buy low and sell high

What's at issue with HFT are transparency and fairness, including paying for order flow and efforts to co-locate.

Payment for order flow means brokerage firms are compensated for sending orders to a specific venue, in this case a trading firm. Co-location means being as close as possible to or inside data centers where trade execution occurs. This proximity enables faster trades.

There are issues, however, not with the intent of this rule but rather with whether it can be enforced, given the speed at which transactions occur and the significant levels of trading taking place in private facilities where prices aren't posted.

CIRCUIT BREAKERS

Market volatility is high on the list of the risks equity investors face. A large, sudden drop in the price of an individual stock or in the market as a whole has the potential to create major losses, whatever the underlying explanation for the movement. To stop the selling frenzy that could result, the SEC uses two types of **circuit breakers** that halt trading and allow the market to stabilize.

The **limit up-limit down rule** prevents trading in a stock whose price moves above or below a band that's dynamically calculated over rolling five-minute trading periods.

The price variation for each stock is a percentage level—5%, 10%, or 20%, depending on the stock's price—above or below the average price of the stock in the most recent five-minute period.

Market-wide circuit breakers, in contrast, are triggered to stop all trading across all venues if there's an intraday drop in the S&P 500 that reaches one of three percentage levels: 7%, 10%, or 20%. If there's a 7% or 10% drop before 3:25 pm, trading stops for 15 minutes. A similar drop after 3:25 pm will not cause a halt. But, if there's a 20% drop at any point during the day, trading is halted for the rest of the day.

The index levels at which those halts occur are calculated daily for the

following day, based on the closing price of the S&P 500.

OVER THE COUNTER

Stocks in many publicly traded companies aren't listed on an exchange. Instead they are bought and sold over-the-counter (OTC). The term originated at a time when US investors actually bought stock at their broker's office, literally over the counter. But most OTC trading today is conducted online or sometimes over the phone.



The OTC market is large and diverse. There's trading in new micro-cap stocks that don't qualify for listing and well-known large caps that have decided not to bother listing. There are financially sound companies and others in serious distress. And there are companies registered with the SEC and others who provide no information about their financial status or operations.

Brokers post bid and ask prices for OTC stocks on interdealer quotation systems such as the OTC Bulletin Board and OTC Markets. Some investors trade OTC issues regularly, but others ignore this market entirely.

IN THE BLINK OF AN EYE

The speed at which stock trading information can be calculated and communicated seems to have no limits, but the human eye does. So electronic stock tickers report changing quotes only as fast as you can read them—a maximum of 900 characters a minute.

In addition, while Reg NMS forbids trading in increments of less than one cent for stocks that trade at \$1 or more, algorithmic traders use dark pools to trade in sub-pennies, or 1/100 of a penny (\$0.0001). But the volume of trading can turn sub-pennies into millions.

High frequency traders have not been required to register with the SEC and FINRA and have been able to limit access to information about their

operations and trading volume. New SEC rules are expected to address those and other issues.

The Value of Stock

A stock's value can—and does—change all the time.

When you talk about a stock's value, you're usually referring to its current market price. That price isn't fixed. In fact, it varies all the time, with changes sometimes measured in pennies and sometimes in dollars.

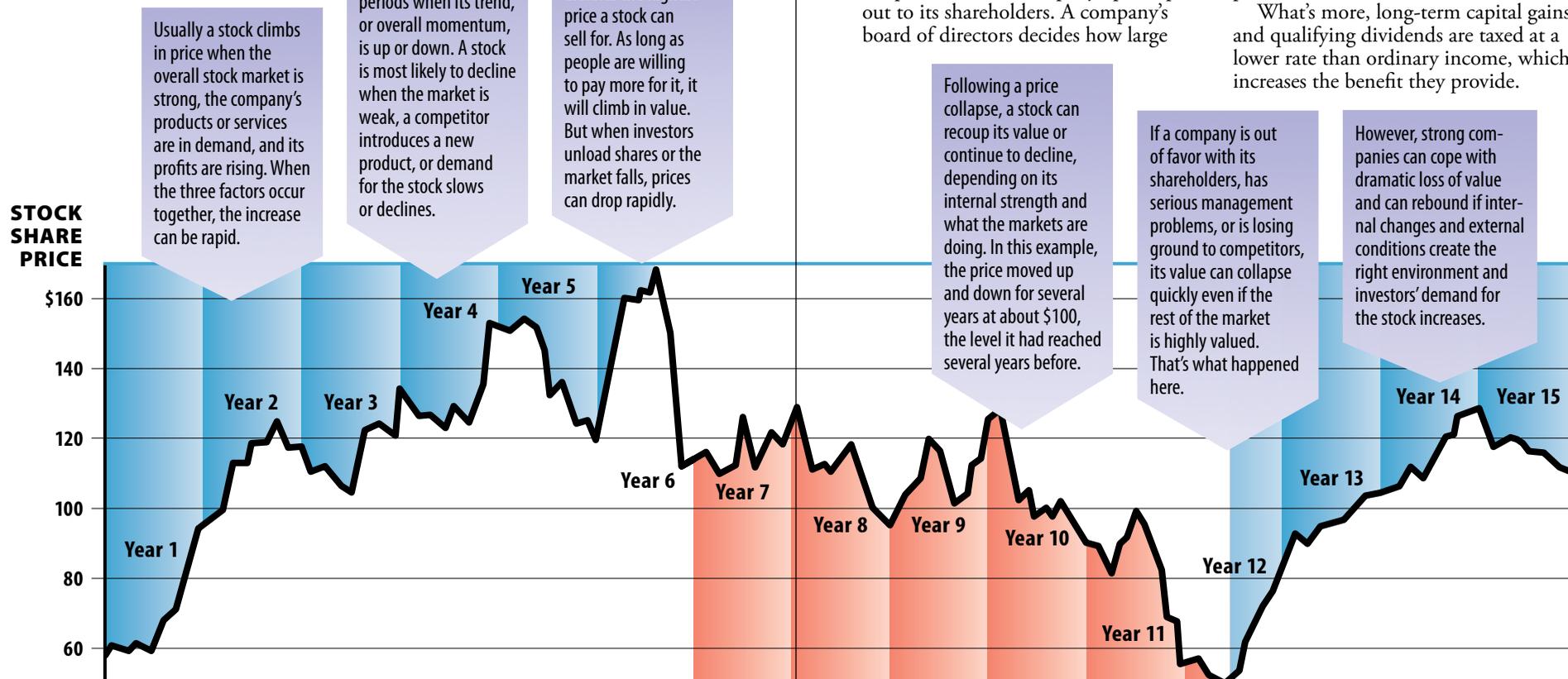
Buying and selling stock is influenced by a combination of factors, including what's happening at the company that issued the stock, in the overall market, and in the economy at large. But what

investors as a group expect to happen also has a major impact. As a result, stocks can sometimes be **overvalued**, commanding a higher price than they seem to be worth, or **undervalued**, selling for less than seems justified.

Buy-and-hold investors typically ignore price fluctuations and may buy on dips if they think the stock is a good investment.

THE UPS AND DOWNS AT BIGCO.

The peaks and valleys in the price of a stock dramatically illustrate how value changes.



THE MOVING AVERAGE

A moving average charts a stock or other security's changing price over a specific period. Every time it's modified—hourly, daily, or weekly, for example—the most current price is added and the oldest one is dropped. If, for example, the figure for the week beginning July 1 is the most recent entry in a 52-week moving average, the figure for the week beginning July 8

of the previous year would be the oldest entry. The following week, the newest entry would be for the week of July 8, and the oldest for the previous July 1.

The moving average can provide a visual representation of the way the price is trending. The longer the interval—a weekly update rather than an hourly one—the smoother the curve and the stronger the indicator of market sentiment.

BETTING WITH THE ODDS

Investing involves taking some risks with your money, but it's not like betting on horses. A long shot can always win the race even if everyone puts money on the favorite. In the stock market, where the money goes influences the outcome. If lots of investors buy Atlas stock, Atlas's price will go up. The stock becomes more valuable because investors want it. The reverse is also true: If investors sell Zenon stock, it will fall in value. The more it falls, the more investors will sell.

MAKING MONEY WITH STOCKS

You can make money with stocks by selling your shares for more than you paid for them or by collecting dividends—or both.

The profit you make on the sale of stock is a capital gain. Dividends are the portion of the company's profit paid out to its shareholders. A company's board of directors decides how large

If you're buying stocks for the quarterly income, you can check the **dividend yield**—the percentage of purchase price you can expect to get back through dividends. For example, if you buy stock for \$100 a share and receive a \$2 dividend per share, the dividend yield is 2%. But if you get \$2 per share on stock you buy for \$50 a share, your yield would be 4% (\$2 is 4% of \$50).

Purchase Price	Annual Dividend	Yield
\$100	\$2	2%
\$50	\$2	4%

a dividend the company will pay, or whether it will pay one at all.

Dividends not only have the potential to increase your income. In periods when markets are weak, stocks that pay dividends, as a group, tend to outperform those that don't.

What's more, long-term capital gains and qualifying dividends are taxed at a lower rate than ordinary income, which increases the benefit they provide.

EVALUATING RETURN

You can also measure a stock's value by its **total return**, or the change in stock price—up or down—plus dividend income.

For example, if you purchase 500 shares for \$25 a share and sell them for \$32 a share, you'll have a \$7 per share profit before sales charges, or \$3,500. If your dividends were 80 cents per share, or \$400, your total return would be \$3,900.

To compare the total returns of different investments, you can calculate percent return by dividing total return by the investment amount. Here, it's 31.2%.

You can also calculate **return on investment (ROI)** by subtracting your purchase price of \$12,500 from the sales price of \$16,000 and dividing the result—in this example \$3,500—by the purchase price. That's a ROI of 28%.

Market Cycles

Market ups and downs can't be predicted accurately—though they often can be explained in hindsight.

The ups and downs of a market, like the ups and downs in the value of an individual stock, are driven by investor behavior. If investors are putting money into the market, it gains value. If they're pulling money out, the value drops.

Most of the time the strength or weakness of the stock market as a whole is directly related to economic and political forces. For example, when earnings are strong and interest rates are low, indexes tracking stock prices tend to rise. But when corporate earnings fail to meet expectations or investor confidence is shaken, stock prices drop, or the market is flat, or stagnant.

BULL AND BEAR MARKETS

The stock market moves up and down in recurring cycles, gaining ground for a period popularly known as a **bull market**. Then it reverses and falls for a time before heading up again. Generally, a falling market has to drop 20% before it's considered a **bear market**. Sometimes market trends last months, even years. Overall, bull markets have tended to last longer than bear markets.

But drops in the market tend to happen quickly, while gains take more time. It's much like the law of gravity: It takes a lot longer to climb 1,000 feet than to fall that distance. Markets also experience **corrections**, or across-the-board losses, that aren't as severe or sustained as a real bear market.

MOVING WITH THE CYCLES

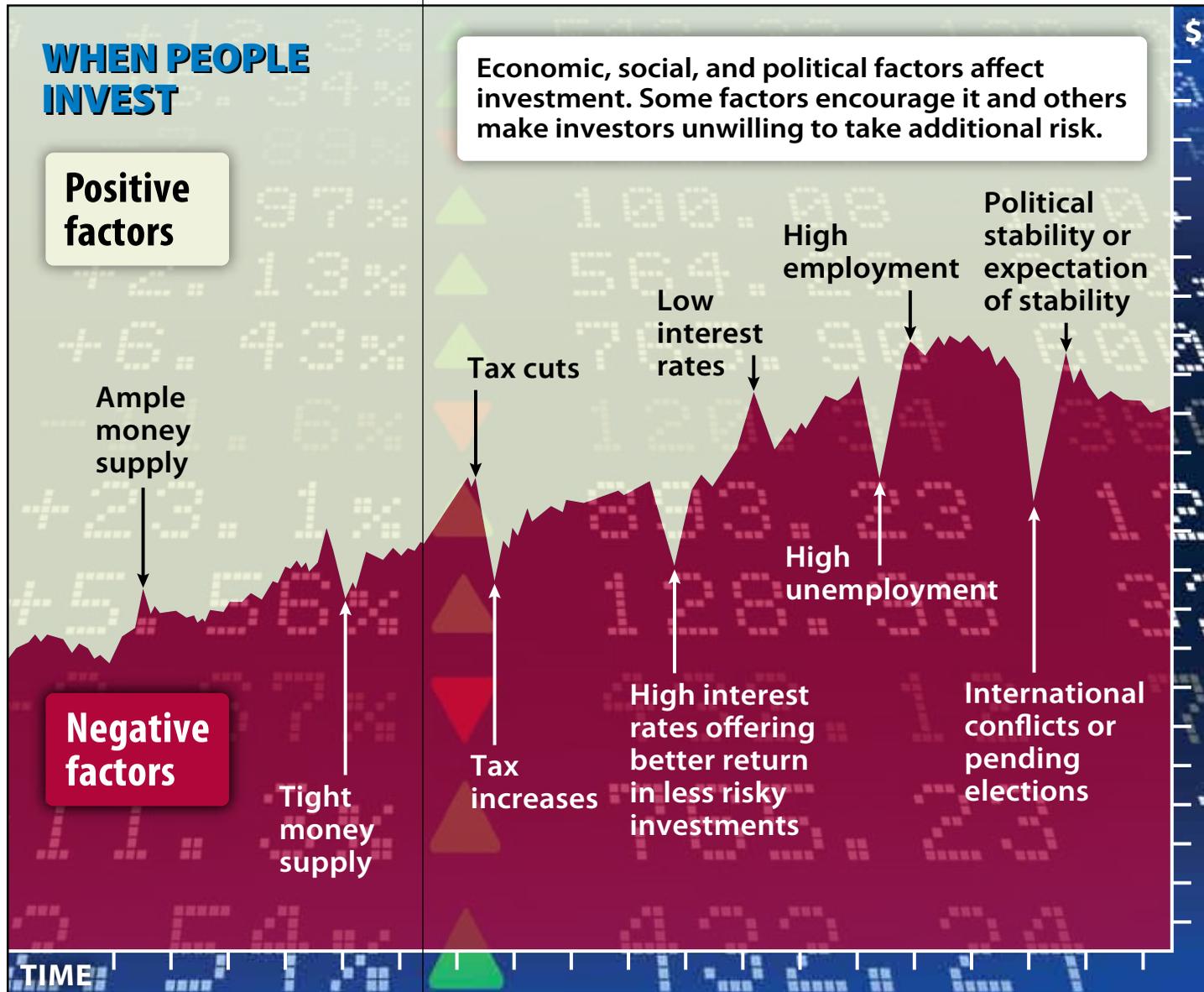
Pinpointing the bottom of a slow market or the top of a hot one is almost impossible—until after it has happened. But investors who buy stocks in companies that do well in growing economies—and buy them at the right time—can profit from their smart decisions or their good luck.

One characteristic of expanding companies is their ability to raise prices as the demand for their products and services grows. Increased income means more profit for the company and may also mean larger dividends and higher stock prices for the investor.

WHEN PEOPLE INVEST

Positive factors

Negative factors



It's generally difficult to predict which companies will falter during a downturn and which ones will survive and prosper. No economic cycle repeats earlier ones exactly. So the pressures that companies face in one recession aren't the same ones they face in another. In most cases, though, long-term financial success depends more on the internal strength of the company and the goods or services it provides than on the state of the economy.

OPPOSITES ATTRACT

Stocks typically produce their strongest returns in recognizable economic climates because of the way they respond to particular market stimuli. For example, when interest rates are high, cash equivalents, such as Treasury bills, tend to provide a

Economic, social, and political factors affect investment. Some factors encourage it and others make investors unwilling to take additional risk.

Ample money supply

Tight money supply

Tax cuts

Tax increases

Low interest rates

High interest rates offering better return in less risky investments

High employment

High unemployment

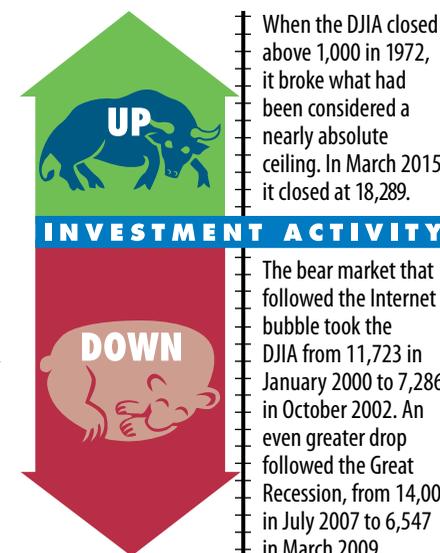
Political stability or expectation of stability

International conflicts or pending elections

stronger-than-average return and stock returns tend to be disappointing.

Correlation is a measure of how similarly or differently two asset classes behave in a particular climate, ranked on a scale from -1 to 1 . If the values of two classes always rise and fall together, their correlation is 1 . If they always move in opposite directions, their correlation is -1 . In addition, some asset classes, such as stocks and nontraded REITs, are noncorrelated because their returns are influenced by different factors rather than different reactions to the same factors.

The strategy called **asset allocation** stresses the importance of including negatively and noncorrelated assets in an investment portfolio as a defense against the cyclical downturns that affect each of the asset classes at certain times.



When the DJIA closed above 1,000 in 1972, it broke what had been considered a nearly absolute ceiling. In March 2015, it closed at 18,289.

The bear market that followed the Internet bubble took the DJIA from 11,723 in January 2000 to 7,286 in October 2002. An even greater drop followed the Great Recession, from 14,000 in July 2007 to 6,547 in March 2009.

Fundamental and Technical Analysis

There's more than one way to evaluate a stock.

Following the old adage, “Buy low, sell high,” isn't as simple as it sounds. After all, the price of a stock selling at \$50 per share could be either high or low, depending on whether that price is about to move up to \$100 or spiral down to \$20. But you can't know for sure until it happens.

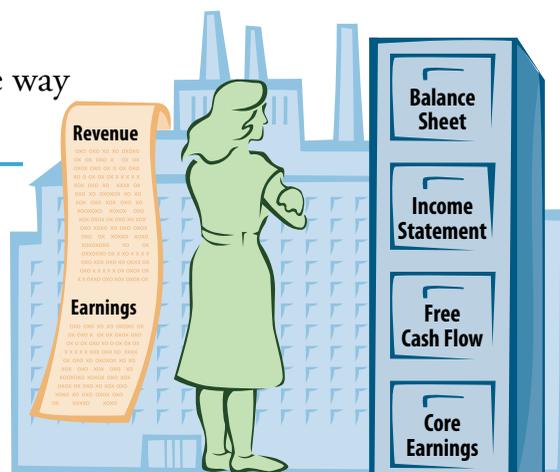
While no investor can predict the future with absolute certainty, careful analysis of present conditions may provide an indication of how individual stocks are likely to behave, at least in the near term. To assess those conditions, investors rely on two types of analysis: **fundamental** and **technical**.

Fundamental analysts evaluate a company's financial strength and potential for increasing profits, while technical analysts anticipate investor demand for the stock by looking for patterns in price movement and trading volume. In practice, investors may use both types of analysis: fundamental to find companies worth buying (or selling) and technical to pinpoint the right time to make investment decisions.

IN GOOD COMPANY

Most investors begin with fundamental analysis, since long-term changes in a company's value derive ultimately from its business success. That success relies on a complex interplay of factors, internal and external. Internal factors include the quality of a company's management, business strategies, and operating efficiency, while external factors include the trends or events affecting the entire industry—including the company's competitors—and the economy in general.

As a starting point, fundamental analysts use information in a company's financial balance sheet and income statement, which are filed annually in Form 10-K with the SEC and updated quarterly.



FUNDAMENTAL

WHO'S COUNTING THE EARNINGS?

Among the numbers that fundamental analysts focus on are revenue, or income, and earnings, or profits after expenses are paid. A pattern of steady increases in revenue and earnings often leads to a positive assessment.

There are many ways to measure a company's earnings, however, so it can be hard to draw meaningful conclusions from reported numbers. That's partly because despite the standards known as GAAP—for generally accepted accounting principles—companies have had leeway in how they report their earnings.

Pro forma earnings, for example, indicate what a company's results would have been if certain events had occurred earlier or hadn't occurred at all.

Another common measure, earnings before interest, taxes, depreciation, and amortization (EBITDA), was designed to discount certain accounting items to give a clearer picture of the earnings of companies with expensive assets to write down over time.

With **free cash flow**, all cash expenses are subtracted from revenue, investments, and other sources of income to determine how much, if anything, is left over. Many analysts see free cash flow as a better measure of a company's health and future worth than EBITDA since it identifies money that can be used to pay dividends, buy back stock, or be reinvested. Free cash flow also identifies the risk that may result from debt.

Some analysts look at operating **earnings per share (EPS)** in an effort to



TECHNICAL

exclude non-recurring or unusual items. But in part because operating EPS is not a GAAP-defined number, there is potential for subjectivity in determining what should be included. Some items that a company calls “special” or “non-comparable” might still be included in operating EPS if they're considered relatively normal parts of doing business.

IT'S ALL IN THE CHARTS

If you've ever looked at a chart showing the movement of a stock's price over a period of time, you might have wondered how anyone could make sense of its complex patterns. But to a practiced technical analyst, the patterns can provide vital clues of what's likely to happen to a stock's price based on supply and demand.

Technical analysts look for meaningful patterns or trends that have heralded price increases or declines in the past and that may signal price movements to come. For example, an upsurge in volume may mean that big institutional investors are starting to trade in a particular stock. Or a particular shape in the pattern of price movements may signal classic market behavior, such as a downward correction before a rise.

Another aspect of technical analysis is a focus on duration, or how long a trend will last. It varies. But what doesn't vary is the principle that if you're making investment decisions based on a trend, you should stick with your approach until the trend ends.

SPEED BUMPS

Technical analysts also focus on a stock's **volatility**, sometimes expressed as its **beta**.

Beta compares a stock's volatility to the stock market as a whole—represented by the S&P 500—which is set at 1. If the stock's price moves more dramatically than the market—typically gaining more on a percentage basis when the market is going up and losing more when the market is going down, that stock has a beta higher than 1, and is considered more volatile. In contrast, if a stock's price typically fluctuates less than the market, its beta is lower than 1, and it's less volatile.

Volatility risk may play a large part in investment decisions. For example, you may have reasons to avoid a highly volatile stock even if a fundamental analyst gives it a strong buy recommendation. Conversely, you may have reasons to seek out highly volatile stocks in a rising market.

VOLATILITY AND RISK

Investments with the highest potential return and therefore the greatest risk are often the most volatile. One effect of volatility is that if you sell a stock when the price drops—for whatever reason—you give up the opportunity to benefit should the price move back toward its average, or median, price or even higher.

But if you keep the stock in your portfolio for an extended period, barring any unforeseen developments that could negatively affect its value, you may be in a position to benefit from volatility since at some point its price is likely to exceed its average price.

Volatility may be the result of **systemic** risk that affects an entire market or asset class. Or the risk may be **nonsystemic**, which means specific to the particular stock.

STANDARD DEVIATION

Standard deviation measures the difference between the actual closing price and the average closing price of a stock over a certain period of time. The larger the **dispersion**—or difference between the values—the higher the standard deviation and the more volatile the investment is considered to be. The smaller the standard deviation, the lower the dispersion and the volatility.

Evaluating Companies

How can you tell if a company has the potential to be a good investment?

Evaluating a company means taking a close look at what that company makes or sells, how the company is managed, what it earns, the amount it owes, and how it performed during the ups and downs of the last full economic cycle. That information lets you evaluate its profitability, its growth potential, and its valuation.

RESEARCHING RESEARCH

A stock analyst's job is to provide guidance on whether to buy a stock, sell it, or wait and see. Sell-side research, which is created for individual investors, is available from two sources. Brokerage firms provide their clients with in-house analysis at least in part to stimulate trading. Independent analysis comes from firms whose primary business is creating and selling research.

When an analyst is unambiguous, he or she advises you to buy, sell, or hold. One complication is that research reports don't always use the same language. It's easy to conclude that *accumulate* means buy. But does *underweight* mean sell some or sell all shares? Firms that provide **consensus information**, or a synthesis of what different analysts are saying, generally handle this issue by grouping all the ways to say buy or sell under a single term.

Keep in mind, though, that buy recommendations generally outnumber sell recommendations, even in weak markets. And while many analysts and the firms they work for are widely recognized and highly respected, that's not always the case. You'll want to evaluate the evidence used to support an analyst's conclusions and his or her track record before acting on any recommendation.



IT'S ALL IN THE NUMBERS

One revealing statistic about any company is **earnings per share (EPS)**, which is computed by dividing the company's earnings during a specific period by the number of outstanding shares. Using a per-share calculation rather than the dollar value of the earnings makes it easier to compare the results of companies of different sizes. But, remember that acceptable profit margins vary widely by industry and sector.

$$\frac{\text{Earnings}}{\text{Outstanding shares}} = \text{Earnings per share (EPS)}$$



Other important measures of profitability are **return on assets (ROA)**, **return on equity (ROE)**, and **return on invested capital (ROIC)**. The three also measure the efficiency with which capital is used. If a company's ROE is higher than its ROA, it may be a sign that it's using leverage, or debt, to increase profits and profit margins. The details should be included in the Form 10-K that it files with the SEC.

WHAT'S THE POTENTIAL?

A pattern of annual percentage increases in sales and earnings is a key indicator of a company's potential success. Regular growth, especially when it's the result of new products or marketing strategies, is generally a better signal than a one-time spike resulting from price increases or other market conditions without an accompanying growth in sales.

Remember, though, that growth potential varies for different-sized companies. Smaller, newer companies

LOOKING FOR THE LEADERS

Analysts may focus on companies that are leaders in industries with promising futures. In those industries, the companies leading the pack often show distinct, sustainable advantages over their competitors, such as superior products or services, an effective marketing strategy, sound management, and operating efficiency. It's important to look for weak spots, though, especially if

in an expanding industry may grow at a faster rate than larger companies in established industries.

WHAT'S ITS VALUE?

You can use various ratios, also called **multiples**, to measure a company's valuation, or its stock price in relation to the company's financial situation. One of the most widely cited multiples is the **price-to-earnings ratio (P/E)**, which is computed by dividing the stock's current price by EPS. P/E is a measure of how much investors are currently willing to pay for each dollar of a company's earnings.

$$\frac{\text{Current price}}{\text{EPS}} = \text{Price-to-earnings ratio (P/E)}$$

For example, a company with a P/E of 30 has a significantly higher multiple than a company with a P/E of 10. This may mean that investors believe that the company with the higher P/E is a promising investment whose price will continue to climb. But it may also mean that the stock is **overvalued**, or costs more than future earnings may justify.

Similarly, it's possible that the company with the lower P/E is **under-**

there are up-and-coming competitors.

No company evaluation would be complete without a thorough assessment of the risks it faces. That means asking what needs to happen for a company's business strategy to succeed, and what could throw that strategy off course. In making this assessment, analysts imagine a variety of scenarios, and then decide which are the most likely. The stock market bubble of the 1990s illustrates the dangers of ignoring warning signs.

valued, and actually worth more than investors are currently willing to pay for it. But it could also mean that the company has serious problems that investors believe may limit its future success.

SAY AHHH!

A company's financial health is affected by how much debt it carries. A company that's taken on substantial debt and is not managing it well may find that its earnings potential is limited by its liabilities. In severe cases, heavy debt may even indicate that the company is veering toward insolvency.

One ratio commonly used to gauge financial strength is **debt-to-equity**, which divides total debt by the company's market capitalization, or the value of outstanding shares. The higher the resulting percentage, the greater the company's debt level.

$$\frac{\text{Total debt}}{\text{Value of outstanding shares}} = \text{Debt-to-equity ratio}$$

For companies in financial difficulty, another key measure is **current ratio**, which compares liquid assets—cash on hand or assets easily converted to cash—to the liabilities due within the year.

How much debt is too much? The answer varies, depending on the type of business, the company's ability to pay it back, how the debt is being used—to pay off other debts or to invest in new products or acquisitions—and the perspectives of the analysts who study the company.

When ROE is higher than ROA, it may indicate that leverage is boosting profits.



Looking at Trends

Technical analysis may help you determine when to buy or sell.

While fundamental analysis helps you identify which stocks you may want to add to your portfolio—based on factors including a company's management, products and services, and financial data—this information doesn't identify when it could be advantageous to enter or exit the market. Technical analysis may help you make those decisions.

The analysts who take this approach use **technical indicators** to spot market trends and predict stock price movements. All these indicators establish visual patterns that make it easier to understand and interpret what's happening in the markets.

And because different indicators measure different variables, analysts typically base their conclusions about impending changes on a combination of signals.

UPTRENDS AND DOWNTRENDS

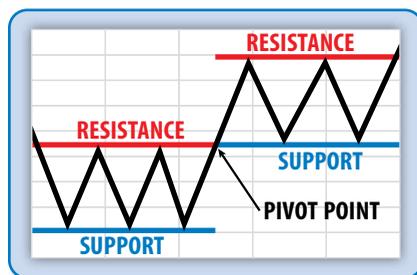
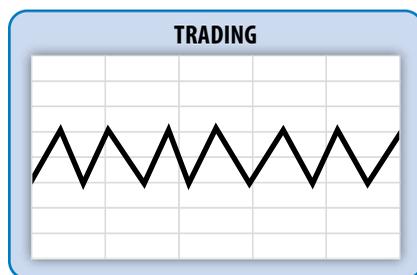
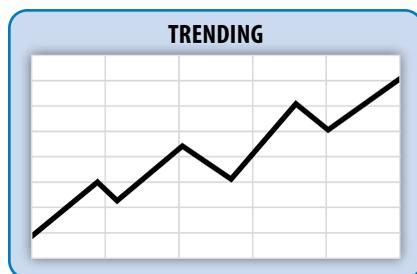
A key component of technical analysis is the principle that prices trend. In a **trading market**, prices rise to form an uptrend or fall to form a downtrend. Or, prices can move sideways, or up and down within a fairly narrow range, in what's known as a **trading market**.

To confirm an uptrend or a downtrend, technical analysts recommend finding at least three examples, or data points, to support what appears to be happening. The longer the trend continues, the more reliable it becomes, and the more they expect prices to continue along the same trajectory.

But no trend continues indefinitely, so analysts also look for evidence that a pattern may be about to reverse. That is, a price that has been trending up might change course and move downward or enter a period of sideways movement.

FOLLOWING A TREND

Analysts identify price trends by tracking changing prices over a period of time using a chart or graph. With a chart, where the horizontal axis tracks time and the vertical axis tracks price, for example, daily or weekly prices are entered as a series of data points. Connecting the lowest price points on the chart forms a level of **support** while connecting the highest data points forms a level of **resistance**.



Uptrend lines have positive slopes, which means a line connecting the points rises from the left to the right. While a security is trading along a particular uptrend, the support level is thought to indicate the lowest prices the security is expected to reach during the trend. If the support level is broken, it could signal that the current trend will soon reverse.

Downtrend lines have negative slopes, which means that prices fall from

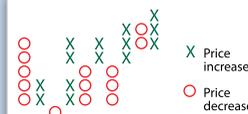
TOOLS OF THE TRADE

Point and figure charts, bar charts, and candlestick charts are some of the tools technical analysts use. Point and figure charts establish price trends. Bar charts reveal trading volume. Candlestick charts track high, low, and closing prices.

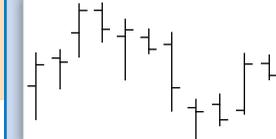
For example, analysts who use point and figure charts watch price

patterns for signals of growing demand for a specific security. They recommend buying a stock when one of the signals they have identified as reliable indicates a strong probability, based on historical patterns, that the security's price will continue to go up. And they make sell decisions in a similar way.

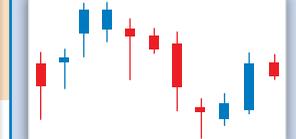
Point and Figure Chart



Bar Chart



Candlestick Chart



the left to the right. When a security is moving along a downtrend, the level of resistance is thought to represent the highest prices the security is likely to reach during the trend. If the resistance level is breached, it could be a sign of an impending reversal and that prices may begin to rise.

Prices can also rise and fall within a zone created by the support and resistance levels. Analysts refer to prices that move this way by saying they are trending within channel lines.

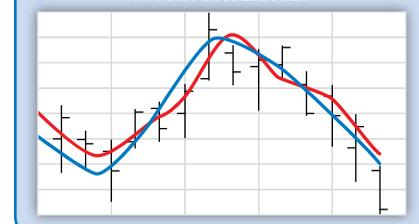
MOVING AND TURNING

Technical analysts watch both what happens over a period of time but also what happens day-to-day.

Moving averages show a security's average value over a set period of time, assigning different weights to prices in the data set. For instance, a simple five-day moving average assigns equal weight to each of the five days while other types give greater weight to more recent prices. Moving averages are popular tools because they make it easy to spot trends by smoothing out random price fluctuations that are typical of volatile markets.

A **pivot point** is the level at which prices break through a prior resistance level. Once a security has breached a pivot point, some technical analysts believe it's likely to continue increasing in value. Pivot points can also signal reversals. For example, if the current close is higher than the high on the day with the lowest low during a downtrend, it could signal that prices may begin to rise. Some analysts warn, though, that pivot points are more significant in strong trends than in weaker ones.

MOVING AVERAGES



OVERBOUGHT



Oscillators can be helpful for determining a trend's strength and when a security may be **overbought** or **oversold**. Overbought means prices may have risen too quickly and are unsustainably high. Oversold means the opposite: that prices may have fallen too quickly and are unsustainably low. As a result, if a stock is overbought, its price may begin to decline and if it's oversold, the price may begin to rise.

CATCH THE MOMENTUM

Momentum is a measure of a trend's strength, or how quickly prices are moving and can be used to determine when to buy. Because momentum is evident before prices actually change, it's considered a leading indicator of when to buy or sell a stock.

Choosing Stocks

You'll want to consider a stock on its own merits and how it fits into your portfolio.

When you invest in stocks, you can select among publicly traded companies listed on US stock exchanges, public companies whose stocks trade over-the-counter (OTC), and those that are nontraded. You may also buy stocks issued by companies based in other countries, especially those listed directly on US markets or sold as American depositary receipts (ADRs).

Given this variety, you need a strategy for choosing among them—or perhaps a number of strategies geared to specific market conditions. For example, you may take a different approach to selecting investments in bear markets than you do in bull markets, or in periods of higher as opposed to lower interest rates.

Whatever your approach, selecting appropriate stocks is usually a two-step process: first, finding stocks that are strong contenders on their own merits, and second, identifying those that will fit well into your investment portfolio.

BUILDING A PORTFOLIO

If you buy stocks solely on the basis of their individual merits, rather than as part of a broader portfolio strategy, you risk committing too much of your principal to stocks that tend to behave the same way.

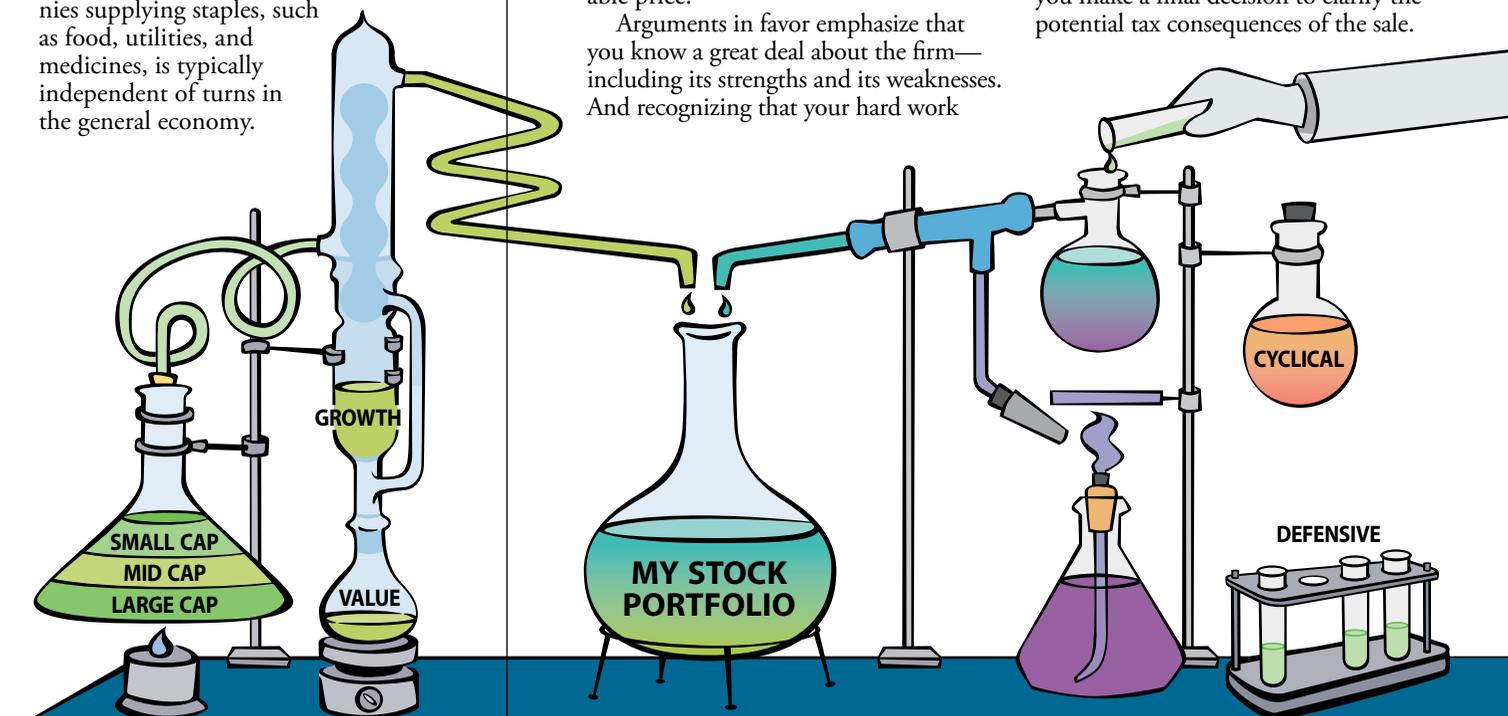
For example, if your entire portfolio is made up of blue-chip stocks, you'll probably benefit in the years when large, well-established companies are providing strong returns. But you may suffer in years when these stocks provide negative returns, which all types of investments do from time to time.

One of the keys to maintaining a balanced portfolio is **diversification**. You diversify by investing in a variety of stocks that react differently to changing

market conditions. That way, you can benefit from those that are flourishing at any point in the economic cycle and ride out the disappointing returns of those that are foundering. Remember, though, that diversification doesn't guarantee a profit or protect against losses in a falling market.

One way to begin diversifying your portfolio is to recognize the different ways that stocks can be grouped.

- **Market capitalization**, often shortened to market cap, is a measure of a company's size. The performance of small-, mid-, and large-cap stocks varies in a recurrent but unpredictably timed pattern, with each type providing better returns at some times and weaker returns in others.
- At times when **domestic stocks** may falter in a general downturn in the US economy, **international stocks** may be providing strong return, or the reverse.
- **Cyclical stocks** in economy-sensitive industries, such as automobiles and travel, tend to lose ground when the economy is weak and gain when it's strong. In contrast, the performance of **defensive stocks** issued by companies supplying staples, such as food, utilities, and medicines, is typically independent of turns in the general economy.



SWIMMING UPSTREAM

A **contrarian** goes against the flow—buying what other investors are selling and selling what other investors are buying. If others are unloading technology stocks, contrarians look for tech stocks to buy. If large-cap stocks are in demand, contrarians sell them. Bucking the trend has been a successful strategy for some investors, but it does have risks.

DO YOU PAY FULL PRICE?

Another portfolio consideration is the difference between **growth** and **value** stocks. You may look for growth in young companies in burgeoning industries poised to increase their earnings at a faster-than-average rate. However, established firms can also provide substantial if sometimes slower growth.

The general assumption about growth companies is that their future earnings will be significantly higher than they are now. As a result, these stocks often trade at P/E values higher than the market average. In contrast, value stocks may be worth more than investors are currently willing to pay for them. Since these stocks often have P/E's lower than the norm, you might liken value investing to bargain shopping.

The classic value stock has been issued by a reputable company with quality assets, operating in an established industry in which investor interest has lagged—sometimes deservedly so. The expectation in buying a value stock is that the market will sooner or later realize the company's strengths and demand for the stock will increase again, pushing the stock price higher.

OWNING COMPANY STOCK

One of the most perplexing decisions is whether to buy stock in the company you work for or hold onto the stock you're granted by the firm or that you have the opportunity to buy at a favorable price.

Arguments in favor emphasize that you know a great deal about the firm—including its strengths and its weaknesses. And recognizing that your hard work

will put you in a position to share in the company's success may make going to the office early or working overtime easier. Further, if you work for a profitable company whose shares split and whose stock price rises over time, your investment may be extremely profitable.

On the other hand, concentrating your portfolio in any one company—especially your own—makes you more vulnerable to losses than if you diversified across market capitalization, sector, and style. When a company in which you invest is also the one providing your paycheck, that risk is magnified. A solution may be to cap your ownership in your company's stock at a certain percent of your total portfolio.

A TIME TO SELL

Buying a specific stock at a particular time can have a major impact on your portfolio. But don't underestimate the importance of a timely sale. In fact, it's just as important to have a strategy for selling as it is to have one for buying. Choosing when and what to sell often depends on changes in the issuing company's financial stability or management, changes in the overall economy, or a major change in the stock's price that doesn't necessarily reflect what's happening in the markets as a whole.

You may want to sell to realize capital gains, perhaps as a precaution if the stock seems to be losing value. But it's a good idea to consult your tax adviser before you make a final decision to clarify the potential tax consequences of the sale.

It's All in the Details

You don't have to wonder what's happening with stocks you own or may buy. Data are plentiful and easy to find.

If you want current price and performance information about stocks in general or one stock in particular, you can find it updated in real time online, on news and research-company websites, and on the issuing company's site.

Earnings per share (EPS) is the net income over the past four quarters divided by the number of outstanding shares. EPS provides a sense of how profitable the company is. You can calculate what percentage of net earnings the company is paying in dividends by

dividing the annual dividend by the EPS. Here, it's \$1.46.

Dividend and **yield** tell you the amount of the dividend paid in the most recent quarter and the annual dividend as a percentage of the current price. In this example, the dividend is 22 cents per share for the quarter, and the yield is 3.4%. Typically the annual dividend is paid in four installments during the year. Percent yield lets you compare your earnings on a stock with earnings on other investments. When there's no dividend, there's no yield.

GOING TO THE SOURCE

One of the most up-to-date sources for timely trading information about a particular stock is the issuing company's website. While you may have to drill down from the home page to find these details, a good bet is to look for the sections called investor services or financial information. You'll often find charts and graphs illustrating price movements as well as numbers indicating recent highs and lows, closing prices, net change, and volume.

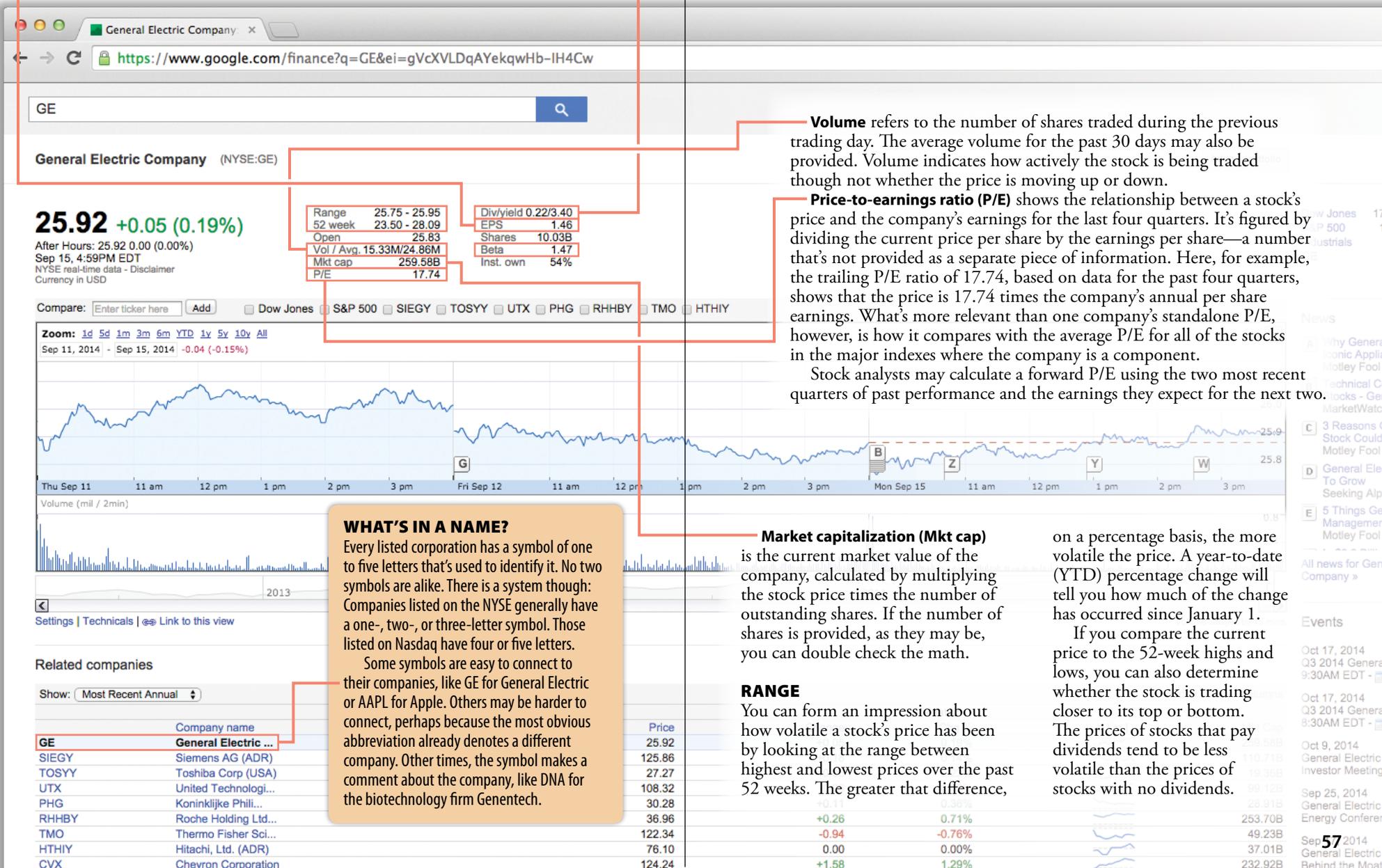
Some companies also provide a wealth of other information, including P/E and other valuation ratios, dividend yield, market capitalization, per-share data, and debt-to-equity ratios.

You can also sign up on a number of news and financial sites to track,

through email updates, the trading activity of a portfolio of stocks, either those you already own or those you're interested in following.

TOTAL RETURN

Finding **total return**, or the sum of the dividends you received plus the change in a stock's value, helps you evaluate what that stock has contributed to your portfolio. Once you've determined that amount from your records, you can calculate **percent return** by dividing total return by the amount you invested. This allows you to compare returns on different securities. If you've owned the stock more than a year, you can find **annual percent return** by dividing percent return by the appropriate number of years.



Buying and Selling Stock

The process of buying and selling stock has its own rules, its own language, and a special cast of characters.

As an individual investor—sometimes called a retail investor—you buy and sell stocks for your portfolio through a brokerage firm where you have an account. The firm sends, or routes, your orders for execution, and reports back to you when the trade has been completed. If you're buying, the purchase price is debited from your account—or you transfer payment from your bank—and your new shares are credited. If you're selling, the reverse occurs: The shares are debited and payment is credited.

The transaction and the **clearance and settlement process** that transfers ownership are, almost always, handled electronically. The price you pay or receive depends on the size of your order and the activity in the market. Regulation NMS—for National Market System—requires your firm to seek what's called **best execution** by sending your order to the trading site with the best price or executing it at a higher price, known as price improvement.

Institutional investors, including mutual funds, pension funds, hedge funds, insurance companies, and money managers, are more active in the stock market than individual investors. They trade more often and in greater volume, typically a minimum of 10,000 shares in one transaction and often more. Together, these investors hold about 70% of all publicly traded US stocks, and a higher percentage in the biggest companies.

You may have a stake in the investment decisions these institutions make—indirectly in the case of stock mutual funds you own—or directly in the case of managed accounts, where you own shares an investment manager has chosen. Or you may benefit from the value that stocks add to institutional portfolios—for example if you have a pension or life insurance policy or if you receive an academic scholarship from a university endowment.

THE PLAYERS

The brokerage firm where you have an account is known as a **broker-dealer (BD)**. BDs—with a few exceptions—must register with the SEC by completing Form BD, which is filed with the Central Registration



INVESTORS

buy and sell stocks

Depository (CRD). You have access to the information the firm provides through FINRA or your state securities regulator.

A registered BD must be a member of a self-regulatory organization (SRO) and the Securities Investor Protection Corporation (SIPC). SIPC insures a firm's customer accounts up to \$500,000 in the event of bankruptcy or other firm failure, though not for investment losses.

Brokers act as agents, buying and selling securities for the firm's clients. Some brokers have only retail clients, some have only institutional, and some work with both. Stockbrokers—officially known as **registered representatives**—must register with FINRA and pass a qualifying examination, typically a Series 7. Assistant representatives who take unsolicited buy and sell orders must also be licensed.

Dealers act as principals rather than agents, buying and selling securities for the firm's account rather than on a client's behalf. Among other things, dealers may regularly buy and sell a particular security or securities, which is called **making a market** in the security.

In contrast, **registered traders**, also called competitive traders, buy



BROKERS

by giving orders, or instructions, to their

and sell securities for their own portfolios. Certain employees who handle a firm's securities trading are also known as traders.

GIVING ORDERS

Because you act through an intermediary—your broker—to buy and sell stocks, you give an order to initiate a trade. Most individual investors use four order types:

A **market order** instructs your broker to buy or sell at the current price, whatever that is at the time the order is executed. The risk, of course, is that you will pay more or receive less than you expect.

A **limit order** means the trade should occur at a specific price, called the **limit price**, which is higher or lower than the current price. This lets you choose the point at which you believe the trade is appropriately priced. So, you won't pay more or receive less than you wish. The risk is that in a fast market, where prices change quickly, your order may never be acted on.

A **stop order** means the trade will take place when the stock hits the **stop price**. You typically use stop orders to limit potential losses or protect profits, in both cases when the current price seems likely to fall. The risk is that a stop order becomes

WHERE THE COMMISSION GOES

A commission you pay to buy and sell stocks is divided—by prearranged contract—between your broker and the brokerage firm. Commissions and any additional fees are set by the firm, but your broker may be able to give you a break if you trade often and in large volume. Generally, the higher the commission rate the firm charges, the more room there is for negotiation.



BROKERS

who authorize the transactions

a market order when the stop price is reached, and the actual sales price could be less than you hoped. A combined **stop-limit order** tells your broker to sell when the stock hits the stop price but not for less than the limit price.

Contingent orders, such as one-cancels-all or one-triggers-all, are linked orders to be executed only under specific market conditions.

INSTITUTIONAL ORDERS

Institutional investors use many more order types. The New York Stock Exchange (NYSE) lists 30 for its traditional exchange and more than 50 on its electronic platform, NYSE Arca. Many order types are opaque, and some have been criticized as providing undue advantage to certain investors.

CUSIP IDENTIFIERS

Every security in the United States is assigned a unique nine-character CUSIP identifier that encodes the name of the issuer and the specific issue. Using these identifiers means that broker-dealers communicate orders clearly, trades are handled accurately and efficiently, and dividends and interest are paid on time to the right owner. Unless its issuer has a major structural change, an issuer's CUSIP remains the same as long as it's in the market.

Buying on Margin

Buying on margin lets investors borrow some of the money they need to buy stocks.

To buy on margin, you open a **margin account** with your brokerage firm and deposit a minimum of \$2,000 in cash or marginable securities. Most stocks, bonds, mutual funds, and ETFs qualify. With those assets as collateral, you're able to borrow up to 50% of the purchase price of a security that you expect to increase in value in the short term.

If you are correct in your expectation and can sell the stock at a higher price than it cost you to buy, you can repay the loan plus interest and commissions and keep the profit. But if it takes longer than you expect for the price to rise, interest charges mount. And, if the stock price falls, which it certainly could do, the loan must still be repaid, sometimes very quickly.

How It Works

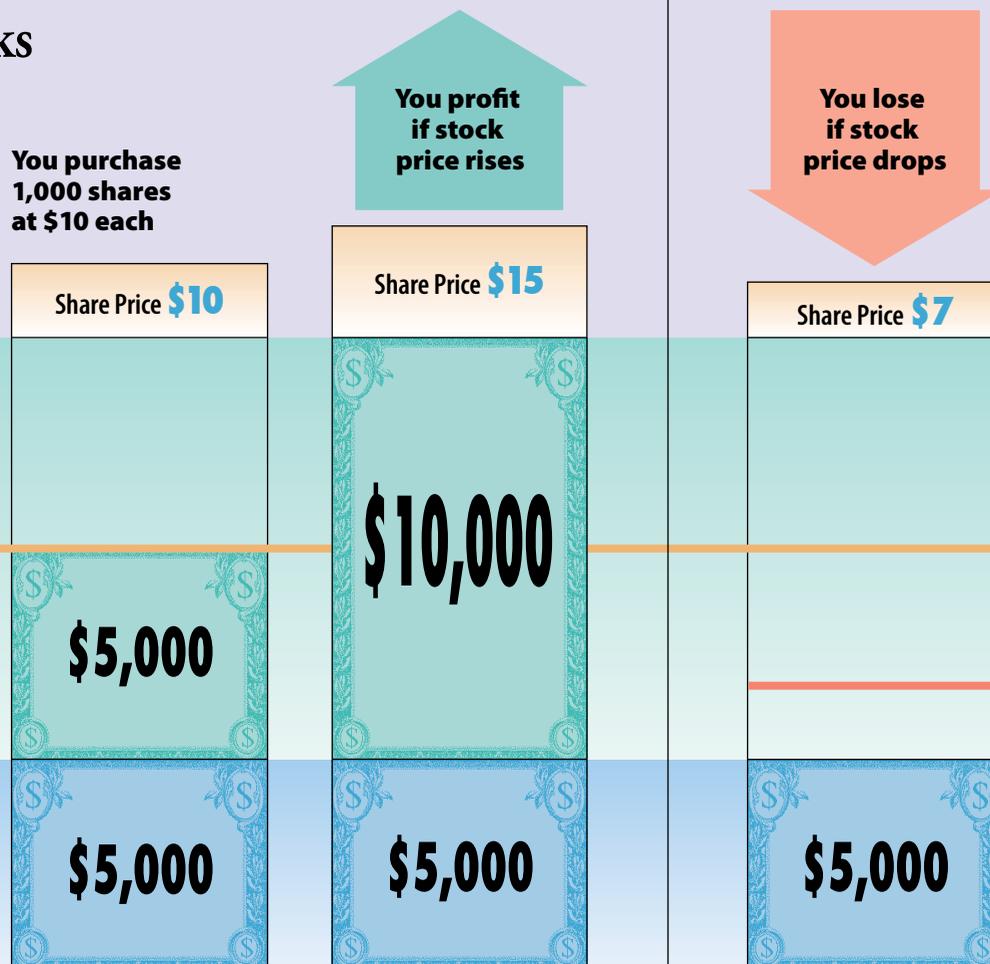
You open a margin account with your broker

You purchase 1,000 shares at \$10 each

The value of your investment

BREAK EVEN POINT

Your broker's investment



CLOSING THE BARN DOOR

During dramatic drops in the market, investors who are heavily leveraged because they've bought on margin may not be able to meet their margin calls. The result is panic selling to raise cash and further declines in the market. That's one reason the Federal Reserve instituted Regulation T, which limits the leveraged portion of any margin purchase to 50%.

LEVERAGING YOUR STOCK INVESTMENT

Leverage means investing with money borrowed at a fixed rate of interest in the hope of earning a greater rate of return. Like the lever, the simple machine for which it is named, leverage lets you use a small amount of cash to exert a lot of financial power.

Companies use leverage—called **trading on equity**—when they issue both stocks and bonds. Their earnings per share may increase because they expand operations with the money raised by bonds. But they must use some of the earnings to repay the interest on the bonds.

PROFIT MARGIN

The most persuasive reason to invest through a margin account is the potential for a better return. In the example shown here, if you buy 1,000 shares at \$10 a share, your total cost is \$10,000. But buying on margin, you put up \$5,000

and borrow the remaining \$5,000.

If you sell when the stock price rises to \$15, your account is credited with \$15,000. You repay the \$5,000 and keep the \$10,000 balance (minus interest and commissions). The \$5,000 is almost a 100% profit on your outlay. Had you paid the full \$10,000 with your own money, your percentage profit would be 50%, though still \$5,000.

MARGIN CALLS

Despite its potential rewards, buying on margin can be very risky. For example, the value of the stock you buy could drop so much that you could lose the entire amount you invested and perhaps more.

To protect brokerage firms from losses, FINRA, the Financial Industry Regulatory Authority, requires you to maintain a margin account balance of at least 25% of the purchase price of any stock you buy on margin. Individual firms can require a higher margin level—say 30%—but not a lower one.

If the market value of your investment falls below its required minimum, the firm issues a **margin call**. You must either meet the call by adding money to your account to bring it up to the required minimum, or sell the stock, pay back your loan in full, and take the loss.

For example, if shares you bought on margin for \$10 a share declined to \$7 a share, your equity would be \$2,000, or 28.6% of the total value of the shares ($\$7,000 - \$5,000 = \$2,000 \div \$7,000 = 0.286$ or 28.6%). If your broker has a 30% margin requirement, you would have to add \$100 to bring your margin account up to \$2,100 (30% of \$7,000).

When the margin call comes, there's still a cushion protecting your broker's share—in this case, \$5,000. Because your shares will be sold if you don't meet the call or sell the shares yourself, your money is at risk. In fact, your broker could sell other stock in your margin account to recoup a loss that selling the shares didn't cover. You may not be notified before such a sale occurs or be able to select the stock to be sold.

EXTRA CASH

Another appeal of buying on margin is that it can free up cash for additional investments, which you could also leverage or pay for in full. The more you borrow, though, the more attentive you need to be to changing prices and the amounts you may be required to add to your account if you receive a margin call.

Selling Short

Some stock investors take added risks in the hope of greater returns.

Not all stock trades are straightforward buys or sells. There are several strategies you can use to increase your gains, though they also increase your risk of incurring losses. Among these strategies is **selling short**.

Typically investors sell short to hedge their portfolios against potential losses from other stocks they own. But speculators may sell short expecting to realize a profit from a major drop in a stock's price.

How Selling Short Works

While most investors buy stocks they think will increase in value, others invest when they think a stock's price is going to drop, perhaps substantially. What they do is described as selling short.

To sell short, you borrow shares you don't own from your brokerage firm and give a sell order. The proceeds are held in escrow until the shares are returned. Then you wait for the price of the stock to drop. If it does, you buy the shares at the lower price, return them to the firm (plus interest and commission), and your account is credited with the difference.

For example, you might sell short 100 shares of stock priced at \$10 a share. If the price drops, you buy 100 shares at \$7.50 a share, return them, and keep the \$2.50-a-share difference—minus fees and commission. Buying the shares back is called **covering the short position**. In this case, because you sold them for more than you paid to replace them, you made a net profit.

**You borrow
100 shares
at \$10 per
share from
your broker**

**You sell the
100 shares
at the \$10
price, getting
\$1,000**

	Share Price \$10		
Shares you owe your broker	100 Shares		
Your cost to pay back the shares		Share Price \$7.50	Share Price \$12.50
		100 Shares	100 Shares
Your profit—or loss*		\$750	\$1,250
		\$250 Profit	\$250 Loss

SHORT INTEREST

Selling short often increases when the market is booming. Short sellers believe that a **correction**, or drop in market prices, has to come, especially if the overall economy does not seem to be growing as quickly as stock values are rising. But short selling is also considered a bullish sign, or a predictor of

increased trading, since short positions have to be covered.

WHO'S THE LENDER?

You might wonder where brokers find the stocks to lend their clients who want to go short. While they may tap their firm's inventory of shares, they are more likely to borrow from other investors' margin accounts or from shares held in institutional accounts, such as mutual fund portfolios or pension funds.

There's a certain lack of transparency, in the sense that the actual shareowners may never be aware that their shares have been loaned. On the one hand, that's not really a problem. Their ownership is not at risk because brokers who act on

*Before interest and commissions

FAILS TO DELIVER

The SEC's Regulation SHO restricts **naked short selling**, or selling short without confirmed access to the shares being shorted. Among other things, naked shorting can disrupt the settlement process, jump up brokerage fees, and undermine the value of the stock that's illegally shorted.

BUYING WARRANTS

Like a short sale, a warrant is a way to wager on the future price of a stock—though buying a warrant is definitely less risky. Warrants guarantee, for a small fee, the opportunity to buy stock at a fixed price during a specific period of time. Investors buy warrants if they think a stock's price is going up.

For example, you might pay \$1 a share for the right to buy a stock at \$10 within five years. If the price goes up to \$14 and you **exercise**, or use, your warrant, you save \$3 on every share you buy. You can then sell the shares at the higher price to

make a profit ($\$14 - (\$10 + \$1) = \3), or \$300 on 100 shares.

Companies sell warrants if they plan to raise money by issuing new stock or selling shares they hold in reserve. After a warrant is issued, it can be listed and traded like other investments. A **wt** after a stock table entry means the quotation is for a warrant, not the stock itself.

If the market price of the stock is below the set price when the warrant expires, the warrant is worthless. But since warrants are fairly cheap and have a relatively long life span, they are traded actively.

WHAT ARE THE RISKS?

The risk in selling short is that the price of the stock goes up—not down—or that the drop in price takes a long time. The timing is important because you're paying your broker interest on the stocks you borrowed. The longer the process goes on, the more you pay and the more the interest expense erodes your potential profit.

An increase in the stock's value is an even greater risk. If the price goes up instead of down, you will be forced sooner or later to pay more to cover your short position than you made from selling the stock. In fact, you can have a major loss.

SQUEEZE PLAY

Sometimes short sellers are caught in a squeeze. That happens when a stock that has been heavily shorted begins to rise. The scramble among short sellers to cover their positions results in heavy buying, which drives the price even higher.

short-sale orders hold the proceeds from the sales in escrow on behalf of the lender until the shares are returned.

But while the shares are safe, there is a potential downside to being a lender that may take you by surprise. Any dividends paid on your shares during the time they are on loan are taxed at your regular federal tax rate rather than the lower long-term capital gains rate that applies to qualified dividends. You may also be unable to vote on corporate issues with other company shareholders if that vote occurs when your shares are on loan.

These rules have prompted some investors to limit their use of margin accounts if they aren't doing a lot of margin buying or short selling. Or they may be careful to deposit only

non-dividend-paying stocks to meet the required minimum for being able to trade through the margin account.

THE LONG AND THE SHORT

The opposite of selling short is going long on a stock. This means buying stock to hold in your portfolio until you're ready to sell, either to realize a profit or to prevent further losses. The same idea is sometimes expressed as being long or as a long position.

In a related use of language, when you buy options on equities or other investment products, you are the long and an investor who sells options is the short. In options trading, unlike stock trading, the number of longs must equal the number of shorts.

Clearance and Settlement

A lot happens between the time you place an order and the time you own the stock.

Placing an order to buy a stock initiates a continuous flurry of activity that doesn't end until the shares are credited to your brokerage account and payment is credited to the seller's account.

The action begins when your broker sends the order to a trading platform and receives confirmation of execution. At that point the process of **clearance and settlement** begins, confirming the details of the transaction and finalizing the transfer of ownership and payment. It works the same way if you're the seller.

THE ROLE OF THE MIDDLEMAN

Once, the end of a day's active trading signaled the beginning of a mass migration of papers. Stock certificates representing thousands of shares were carted from the firms that sold them to firms that bought them, where they were exchanged for the checks that paid for them. But with about a billion shares currently trading daily on the NYSE alone, a physical exchange of securities and checks each evening would prove a filing and accounting nightmare, assuming it were physically possible.

Fortunately, mountains of paper are no longer necessary. Most trades in North America are cleared and settled electronically through The Depository Trust & Clearing Corporation (DTCC). One DTCC subsidiary, the National Securities Clearing Corporation (NSCC), handles the trade matching and clearing. Another subsidiary, The Depository Trust Company (DTC), facilitates the trades that NSCC clears. Part of DTC's job is to act as a bank, holding and transferring money and securities for NSCC and for the brokerage and clearing firms involved in the transactions.

Getting Settled

Clearance and settlement is basically a three-step process:

1 Shares bought must equal shares sold

Matching shares is the essence of the clearing process. Any discrepancies must be resolved before clearing can be completed.



2 Money paid must equal money received

A trade is settled when the account of the firm selling a security is credited with the purchase price paid by the firm buying that security.



3 Shares and money must move

Shares must be transferred from sellers to buyers, and money from buyers to sellers. In practice, these exchanges take place electronically, when accounts and records are updated to show new ownership and new account balances.



THE PAPERLESS CHASE

Certificates are paper documents representing stock ownership. Once ubiquitous, they're slowly vanishing, and many in circulation are not really in circulation at all: They're **immobilized**, or stored, in vaults at DTC. When shares are sold, the transfer is recorded electronically.

More recently, issued securities may be **dematerialized**, which means they're never issued in paper form at all. The records are strictly electronic.

Stocks held in **street name** are registered in your brokerage firm's name at DTC, but the



Netting Down

The clearance and settlement process begins when the details of the transaction are **compared**, or matched, at the point of execution using the security's CUSIP number.

The next step is **netting down**, or reducing, the number of transactions that need to be forwarded to NSCC by offsetting each firm's own buy and sell orders.

For example, if at the end of the day a brokerage firm's clients have bought 1,000 shares of a particular stock and sold 1,000 shares of the same stock, those orders offset each other—they net down. The firm simply needs to shift money and shares among its own clients' accounts.

Of course, there's little chance that buy and sell orders at any firm will match up perfectly, though some clearing and settlement may be handled among affiliated firms. All remaining transactions—on average, about 3% of a day's trades—are forwarded to NSCC, which acts as the **counterparty** to both buyer and seller in each transaction.

These trades are sent to DTC for settlement. Buyers pay for and receive shares and sellers deliver shares in exchange for payment.

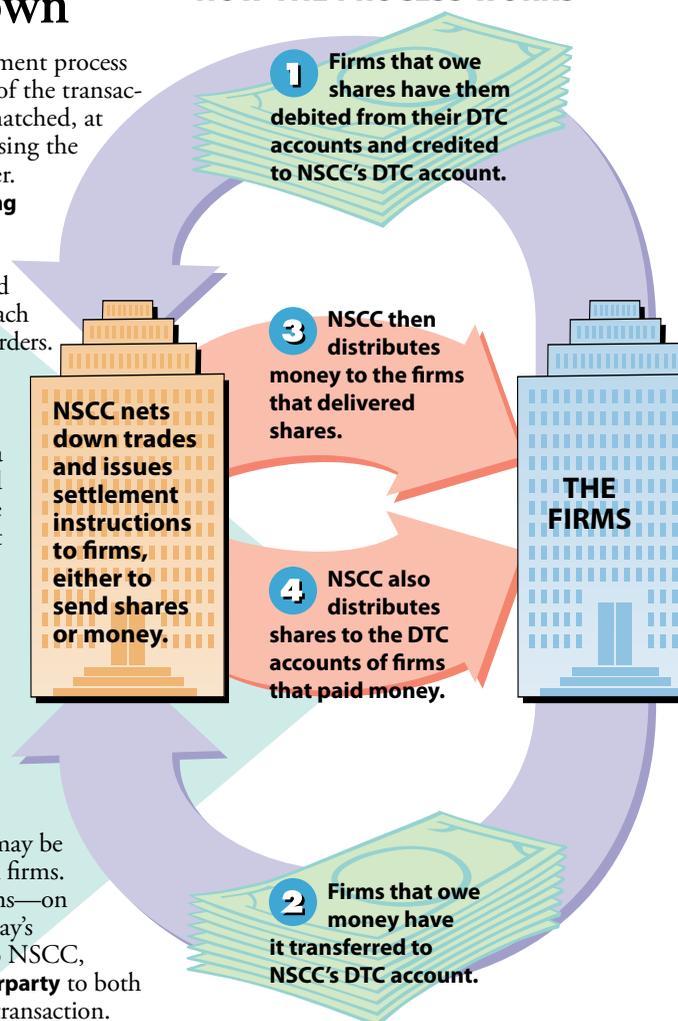
firm records you as the **beneficial owner**, or stockholder, in its own books. Owning in street name makes trading easier, since the firm can transfer shares directly without having to wait for you to sign and deliver paper certificates.

Some companies register ownership of securities you purchase from them using a **direct registration system (DRS)**. This means that the company holds the stock for you and keeps records of your ownership.

IS T+2 THE NEW T+3?

The law requires all equity trades to be settled within three days, or T+3. In 2014 DTCC proposed a faster pace, reducing T+3 to T+2. It's not a new idea. But the time may be right.

HOW THE PROCESS WORKS



PROTECTING YOUR TRADE

How do NSCC and DTC ensure that each firm involved in a transaction can meet its settlement obligations? For example, what would happen if a firm were to go bankrupt sometime between the trade date and settlement?

To address such an event, NSCC requires that member firms deposit cash and securities in a DTC account as collateral, which can be liquidated to settle transactions if a firm is unable to meet its obligations. In addition, NSCC limits the amount each firm is allowed to owe on unsettled trades. This system is designed to ensure that DTC always has enough assets on hand to settle the trades that NSCC clears.

Bonds: Financing the Future

Bonds are loans that investors make to corporations and governments. The lenders earn interest, and the borrowers get the cash they need.

A bond is a loan that pays interest over a fixed **term**, or period of time. When the bond matures at the end of the term, the **principal**, or investment amount, is repaid to the lender, or bondholder.

Typically, the rate at which interest is paid and the amount of each payment is fixed at the time the bond is offered for sale. That's why bonds are known as **fixed-income securities**. It's also why a bond may seem less risky than an investment whose return might change dramatically in the short term.

A bond's interest rate is competitive. This means it is comparable with that of other bonds of similar risk and term being issued at the same time and reflects the cost of borrowing in the economy at large.

TYPES OF BONDS

You can buy bonds issued by US companies, by the US Treasury, by cities and states, and by various federal, state, and local government agencies. Many overseas companies and governments also sell bonds to US investors. When those bonds are sold in dollars rather than the currency of the issuing country, they're sometimes known as **yankee bonds**. The advantage for individual investors is that they don't have to worry about currency fluctuations in figuring the bond's worth or interest payments.

ISSUERS MAY PREFER BONDS

When companies need to raise money, they often prefer issuing bonds to issuing stock. New stock tends to **dilute**, or reduce, the value of existing stock. What's more, companies may raise more money through a bond offering and can deduct interest payments on their tax returns. But bonds are debts that must be repaid. Too much debt can be a major drag on a company's success.

Unlike companies, governments can't issue stock because they have no equity to sell. Bonds are the primary way they raise money to fund capital improvements and keep everyday operations running when revenues, such as taxes and tolls, aren't available to cover current costs.

MAKING MONEY WITH BONDS

There are two ways to make money with bonds: income and capital gains. Conservative investors use bonds to provide a steady income. They often buy a bond when it's issued and hold it, expecting to receive regular interest payments until the bond matures and the principal is paid back. Then, they can invest in a new bond. Other

THE INDIVIDUAL AS LENDER



THE LIFE OF A BOND

The life, or **term**, of any bond is generally fixed at the time of issue. It can range from **short-** (usually a year or less), to **intermediate-** (two to ten years), to **long-term** (more than ten years). Generally speaking, the longer the term, the higher the interest rate that's offered to make up for the additional risk of tying up your money for a lengthy period. If interest rates are low and seem likely to rise in the fairly near future, you may decide to stick with short- or intermediate-term bonds.

investors may trade bonds, or buy and sell as they might with stocks, hoping to increase their total return.

It's also possible to sell bonds at a profit when interest rates fall. For example, investors may be willing to pay more than the face value of an older bond paying 8% interest if new bonds are paying 5%. An increase in the price of a bond, or **capital appreciation**, may produce more profits than holding bonds to maturity.

There are risks in bond investing. Issuers could default. If interest rates go up, you can lose money if you want to sell an older bond paying a lower rate of interest because potential buyers will typically

DOES IT FLOAT?

When a company or government wants to raise cash, it tests the waters by **floating a bond**. That is, it offers the public an opportunity to invest for a fixed period of time at a specific rate of interest. If investors think the rate justifies the risk and buy the bond, the issue floats.

want to pay less than you spent to buy it.

Inflation is another risk. Since the amount you earn on a bond usually doesn't change, its value can be eroded over time. For example, if you have a 30-year bond paying \$50 annual interest, the income will buy less at the end of the term than at the beginning.

THE INSTITUTION AS BORROWER



CORPORATE BONDS

Corporations use bonds to:

- Raise capital to pay for expansion, modernization
- Cover operating expenses
- Finance corporate takeovers or other changes in management structure

US TREASURY BONDS

The US Treasury floats debt issues to pay:

- For a wide range of government activities
- Interest on the national debt

MUNICIPAL BONDS

States, cities, counties, and towns issue bonds to:

- Pay for a wide variety of public projects: schools, highways, stadiums, sewage systems, bridges
- Supplement their operating budgets

ISSUING BONDS

For corporations, issuing a bond is a lot like making an initial public offering. An investment firm helps set the terms and underwrites the sale by buying the bonds from the issuer. In cooperation with other companies, together known as a **syndicate**, it then offers the bonds for sale.

The underwriter profits from the fees the issuer pays and the spread between the cost of buying the bonds and what it earns from selling them. If demand lags, it may need to reduce the price and even take a loss.

After issue, bonds trade in the **secondary market**, which means they are bought and sold through brokers, similar to the way stocks are. The issuer gets no money from these secondary trades.

US Treasury issues, with a face value, or **par**, of \$100, are available directly to investors through an online system called **TreasuryDirect** or through brokers. Most agency bonds and municipal bonds are sold through brokers, who buy bonds in large denominations and sell pieces of them to individual investors.

Bond Basics

Bonds have their own vocabulary, but it's easy to master.

When you invest in a bond at the time it's **issued**, or first offered for sale, you lend money to an **issuer**.

In return, you expect to earn **interest** the borrower pays for access to your capital and to have your **principal**, or investment amount, repaid when the bond matures at a specified future date. Interest is sometimes called the **coupon**, and the rate the bond pays is called the **coupon rate**.

Before 1983, bond buyers received certificates that detailed the terms of the loan. Originally, these **bearer bonds** had coupons that could be detached and exchanged for interest. Coupons are long gone, and certificates have mostly disappeared. Instead, **book-entry bonds** are registered electronically in your brokerage account. Interest is credited directly to your account, as is repayment of the principal when the term ends.

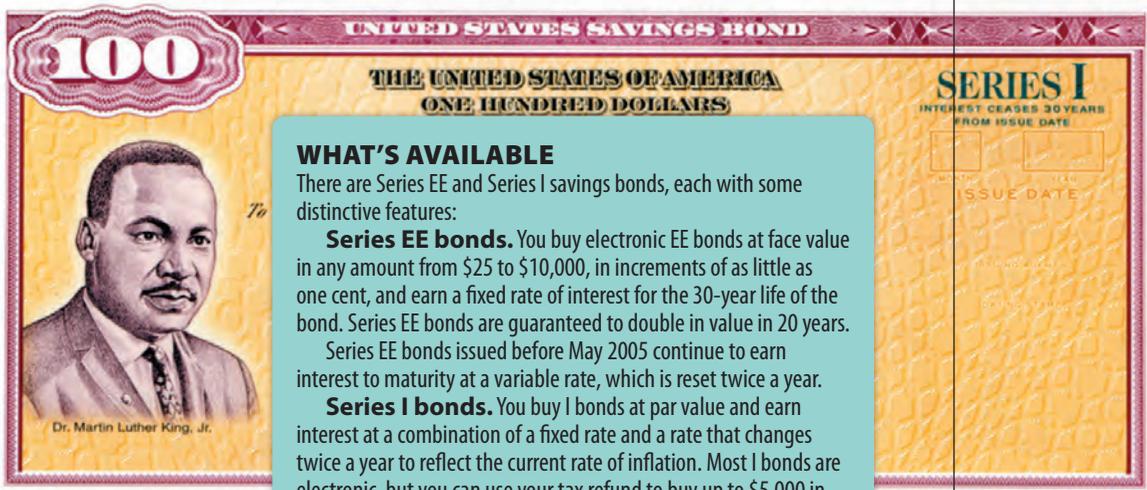
US SAVINGS BONDS

To many people, bonds mean the US savings bonds you buy through a regular savings program at your job or online at www.treasurydirect.gov, where you establish a TreasuryDirect account. Savings bonds share some similarities

with bond securities. You earn interest on your investment principal and can redeem the bonds for cash at maturity.

But they also differ in several important ways. Savings bonds aren't marketable, which means you can't sell them to another investor, and there's no secondary market where they are traded. You simply buy them and hold them until you cash them in. Or, you can buy savings bonds as gifts for other people.

You can find helpful information at www.treasurydirect.gov about how the different types of savings bonds work, the interest they pay, the way that interest is taxed, and the different ways to buy them. The site also explains how to use the interest you earn on eligible Series I and Series EE bonds to pay higher education expenses without owing any income tax on those earnings, provided you qualify based on your adjusted gross income (AGI).



WHAT'S AVAILABLE

There are Series EE and Series I savings bonds, each with some distinctive features:

Series EE bonds. You buy electronic EE bonds at face value in any amount from \$25 to \$10,000, in increments of as little as one cent, and earn a fixed rate of interest for the 30-year life of the bond. Series EE bonds are guaranteed to double in value in 20 years.

Series EE bonds issued before May 2005 continue to earn interest to maturity at a variable rate, which is reset twice a year.

Series I bonds. You buy I bonds at par value and earn interest at a combination of a fixed rate and a rate that changes twice a year to reflect the current rate of inflation. Most I bonds are electronic, but you can use your tax refund to buy up to \$5,000 in paper I bonds.

DEFINING BOND TERMS

When an issuer offers a bond for sale, all of its details are spelled out in a **prospectus** or offering circular that's filed with the SEC and available online at www.sec.gov/edgar or from your brokerage firm. It includes the information you need to make an informed decision.

Par value, or the dollar value of the bond at the time it is issued, is also the amount that will be repaid at maturity. Most bonds have a par value of \$1,000. However, US Treasury issues have a par value of \$100. Similarly, municipalities sometimes offer bonds with par values of \$500, nicknamed baby bonds.

Interest rate is the fixed percentage of par value that is paid to the bondholder annually. For example, a \$1,000 bond with a 4.5% interest rate pays \$45 a year.

Term is the length of time between the date of issue and the date of maturity. The term helps determine the interest rate.

Maturity is the date the bond comes due and must be repaid in full. A bond may be bought and sold in its lifetime and re-registered in the new owner's name. Whoever owns the bond at maturity receives par value.



BEARERS STILL

Eurobonds are bearer bonds denominated in a major currency, such as pounds or yen, that are issued and traded in countries outside of the country whose currency is being used. They're not registered with any regulatory authority, and the certificates can be traded or redeemed by the bearer. You're not likely to own one, though, since they're sold in very large denominations. Typical buyers are corporations and governments.

Bond Prices

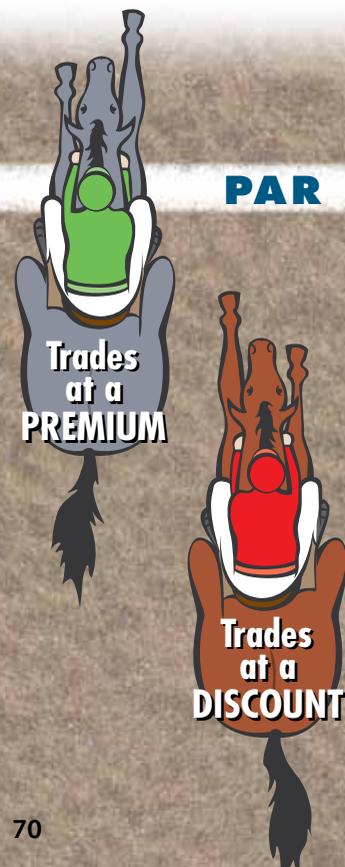
A bond's price starts changing as soon as it's out of the gate.

The only time a bond's purchase price is predictable is at issue, when you pay **par value**—usually \$1,000—which is also the amount you expect to get back if you hold the bond to maturity. After issue, however, bonds trade at prices above and below par, in response to current interest rates, predictions about future rates, the rating they are assigned by a credit rating company, and shifts in investor demand.

When a bond trades at a price above par, it's said to trade at a **premium**. When a bond trades below par, it trades at a **discount**. In the shorthand of bond pricing, a bond at par value is said to be priced at 100. Figuring the dollar price of a bond is easy: Just multiply by 10. So a bond listed at 98.7 has a price of \$987.

Like corporate and municipal bonds, US government issues are priced in

BONDS TRADE AT PRICES ABOVE OR BELOW THEIR PAR VALUE



INTEREST RATE CHANGES CAUSE BOND PRICE CHANGES

If interest rates go UP



Bond prices go DOWN

If interest rates go DOWN



Bond prices go UP

dollars and cents. But par value for Treasury bonds, notes, and bills is \$100 rather than \$1,000. So if a bond is trading at 98.7, its price is \$98.70. The lower price was introduced in 2008 to make the bonds accessible to more investors.

WHY PRICES MOVE

Change—or the expectation of a change—in the current interest rates exerts the strongest influence on bond prices. When interest rates rise, the prices of existing bonds drop. That's because demand for existing bonds decreases when newer bonds that are paying higher rates attract investors with their better yield. This is called **interest rate risk**.

Small changes in a bond's credit rating may lead to small price changes. But if a bond drops out of investment grade, rises into investment grade, or rapidly jumps several ratings categories, the result could be a larger shift in price. This is **credit risk**.

Bonds that have already been issued may also change in price to reflect what investors are buying and selling. If they're putting their money into bonds, bond prices go up, which means yields go down. If they're selling bonds, perhaps to invest in stocks, bond prices go down and yields go up. This up and down price movement is known as **market risk**.

TRACING A TRADE

Stock prices are everywhere, crawling across tickers and being updated as soon as they change. Bond prices tend to be less transparent.

The vast majority of bonds trade over-the-counter (OTC) as private arrangements between broker-dealers. Because of the current nature of the bond business, bond prices have been harder to track. But that's changing.

The FINRA Trade Reporting and Compliance Engine (TRACE) collects trading information on all OTC corporate bond transactions handled by member broker-dealers and makes the public data available at no charge at www.finra-marketdata.morningstar.com.

The real-time prices the site provides are for executed trades, not quotations, but those prices include markups, markdowns, and commissions. You'll have to contact your broker-dealer to buy or sell a bond, but the pricing data gives you a sense of what's happening in the current market. It may also help you negotiate a better price.

The site also has detailed information on municipal and Treasury issues as well as securitized products, plus relevant news articles and market analysis. And you can use a search function or set up a watch list to investigate possible investments based on the criteria you set.

WHAT'S THE SPREAD?

One way to find the markup for a bond is by asking for its **bid-ask spread**. The **bid** is the price a buyer wants to pay, and the **ask**, or offer, is the price the seller wants.

For instance, a bond might have a market

EVERY DAY PAYS

Coupon payments are usually made twice a year, but holders of corporate bonds technically earn interest every day. So when you buy a bond, on top of the price the broker-dealer charges, you pay **accrued interest**. This is interest that the previous owner earned since the last coupon payment.

MEET THE MARKS UP OR DOWN

Bond pricing differs substantially from stock pricing in the way dealers charge commissions. On a stock trade confirmation, you see the actual price of the stock and the price of the commission. In contrast, a confirmed bond price includes the commission, which is figured as a loosely regulated percentage of the broker-dealer's price.

When you buy a bond, the difference between the price the dealer pays and the price you pay is the **markup**. Markups may be substantial—up to 4% or 5% for some bonds—which could amount to a whole year's interest and have a major impact on the bond's yield.

If your broker-dealer doesn't have the bond in inventory, there may actually be two markups embedded in the price. That's because the firm must buy the bond from another broker-dealer, who charges a separate markup.

The harder a bond is to sell, the higher the markup tends to be. For example, if interest rates are rising, older bonds with lower rates become harder to sell. Smaller trades also involve higher markups.

But if you're buying or selling a bond with a lot of active trading, such as a Treasury security, the markup will be much lower than it would be with a high-yield corporate bond that trades infrequently. (Markups on Treasuries generally stay under 0.5%.)

When you sell, the difference between the market price of the bond and the amount you receive is the **markdown**. It covers transaction costs and whatever profit the broker-dealer makes on the trade. The term may also refer to the practice of sometimes reducing the prices of slow-moving bonds to spur trading.

spread of 80 bid/83 ask, which is a spread of 3, or \$300. The market spread is the spread for dealers—what they pay if they buy and sell. When you buy and sell, the spread will likely be wider. Commissions are negotiable, though. Your broker may be able to get you a better price—if you ask.

Figuring a Bond's Worth

The value of a bond is determined by the interest it pays and by what's happening in the economy.

In most cases, once a bond is issued, its interest rate doesn't change, even though market interest rates do. If the bond is paying more interest than new bonds with the same credit risk and term, you, as an investor, may be willing to pay more than its face value to own it. If the bond is paying less, the reverse is true.

Interest rates and bond prices fluctuate like two sides of a seesaw. As the table below illustrates, when interest rates drop, the price of existing bonds usually goes up. When rates climb, the price of existing bonds usually falls.

CHANGING RATES

Generally, when inflation is up, the money supply is tightened and interest rates go up. And conversely, when inflation is low, interest rates drop because more money is available. It's the change in market interest rates that causes bond prices to move up or down. Those price

fluctuations produce much of the trading that goes on in the bond market.

Suppose that a corporation floats a new issue of bonds paying 6% interest, and if it seems like a good investment, you buy some bonds at the full price, or par value, of \$1,000 a bond. Two years later, interest rates are up. If new bonds pay 8% interest, no buyer will pay full price for a bond paying 6%. To sell your bonds, you'll have to offer them at a **discount**, or less than you paid. If you must sell, you might have to settle for a price that wipes out most of the interest you've earned.

But consider the reverse situation. If, three years later, new bonds offer only 3% interest, you'll be able to sell your 6% bonds for more than you paid—since buyers will pay more to get a higher interest rate. That **premium**, combined with the interest payments for the last three years, provides your profit, or total return.

SELLER

Original bond issuer is selling bond
AT PAR VALUE

Par value:	\$1,000
Term:	10 years
Interest rate:	6%

If bondholder sells two years after issue when interest rates are higher, the bond is

SELLING AT A DISCOUNT

Market value	\$800
Interest (\$60 x 2)	+ 120
	<hr/> 920
Less original cost	- 1,000
RETURN (-)	- \$80

If bondholder sells three years after issue when interest rates are lower, the bond is

SELLING AT A PREMIUM

Market value	\$1,200
Interest (\$60 x 3)	+ 180
	<hr/> 1,380
Less original cost	- 1,000
RETURN (+)	\$380

BUYER

6%
At Issue

Interest rate at issue

BUYING AT PAR VALUE

- Pay par value at issue and keep to maturity
- Receive 10 annual interest payments of \$60
- Receive par value—\$1,000—at maturity

8%
2 Years Later

Interest rate at issue

BUYING AT A DISCOUNT

- Pay \$200 less than par value
- Receive 8 annual interest payments of \$60
- Receive par value—\$1,000—at maturity

3%
3 Years Later

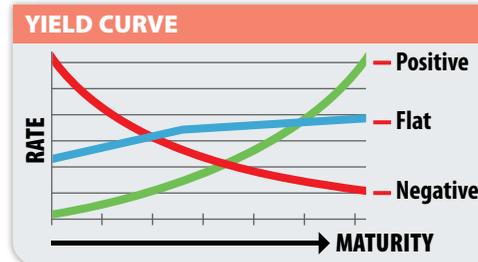
Prevailing interest rate

BUYING AT A PREMIUM

- Pay \$200 more than par value
- Receive 7 annual interest payments of \$60
- Receive par value—\$1,000—at maturity

THE YIELD CURVE

The relationship of the yields on bonds of the same credit quality but different terms can be represented as a **yield curve**, a graph that's created by plotting



the yields of long- and short-term US Treasury issues, which are backed by the creditworthiness of the US government.

Normally, longer-term bonds provide a higher yield, and the result is a **positive curve**—higher to the right. But if short-term rates are higher, the curve moves the other way—higher to the left. That's a **negative or inverted curve**, and it's more unusual. In other cases, the line is essentially flat. That happens when there is very little difference in yields between the shortest and the longest maturities.

The structure of the current yield curve is one of the market indicators that bond analysts evaluate in trying to determine where interest rates are headed.

YIELD AND RETURN

Yield is what you earn, expressed as a percentage of what you invested. There are several ways to measure yield, so it's important to know which one you're looking at when you compare bonds.

Coupon yield is the most basic type. It's calculated using the face value of the bond as the price, and the yield is always the same as the

bond's interest rate, or **coupon**. So, for example, the coupon yield for a bond with a par value of \$1,000 that's paying annual interest of \$60 is 6%.

FIGURING YIELD

$$\frac{\text{Annual interest}}{\text{Price}} = \text{Yield}$$

You can use this ratio to find coupon yield and current yield.

But if you buy a bond in the secondary market, you probably won't pay par. **Current yield** is based on the current, or market, price of the bond.

One measurement of yield, which is widely quoted by bond tables and brokers, is a more complicated calculation known as **yield to maturity (YTM)**. As the name suggests, YTM accounts for all a bond's earnings, on a percentage basis, from the time of the calculation until it matures. YTM includes the money you'll gain or lose (based on the price you paid) when par value is returned, all the interest the bond pays over its lifetime, and **interest-on-interest**, which is what you'd earn by reinvesting payments at the same coupon rate.

Because YTM assumes both that you reinvest every single payment at the same rate and that you hold the bond to maturity, your chances of actually realizing the YTM rate are slim. But it's a way to estimate a bond's total earnings potential. For example, you might compare the YTM for two bonds you are considering as possible investments.

RETURN*

YIELD

Original buyer gets

Par value	\$1,000
Interest (x10)	+ 600
	<hr/> \$1,600
Less original cost	- 1,000
RETURN	\$600

COUPON YIELD 6%

New buyer gets

Par value	\$1,000
Interest (x8)	+ 480
	<hr/> \$1,480
Less original cost	- 800
RETURN	\$680

CURRENT YIELD 7.5%

New buyer gets

Par value	\$1,000
Interest (x7)	+ 420
	<hr/> \$1,420
Less original cost	- 1,200
RETURN	\$220

CURRENT YIELD 5%

*Before commissions, fees, and other charges.

Securitization

Issuers assemble pools of individual loans to create new debt securities.

Securitization is the process of buying and bundling assets that produce a regular revenue stream—such as groups of mortgage loans, student loans, car loans, or credit card debt—to create **asset-backed securities (ABS)**. The bundlers, or issuers, sell ABS to investors who are looking for income-producing alternatives to traditional bonds. Selling the bonds allows the lenders to transfer the risk of holding outstanding debt.

Securitization is part of a recurring cycle that was developed to increase the amount of capital that's available to borrowers at the same time it provides financial benefits for lenders, issuers, and investors. Here's how it works.

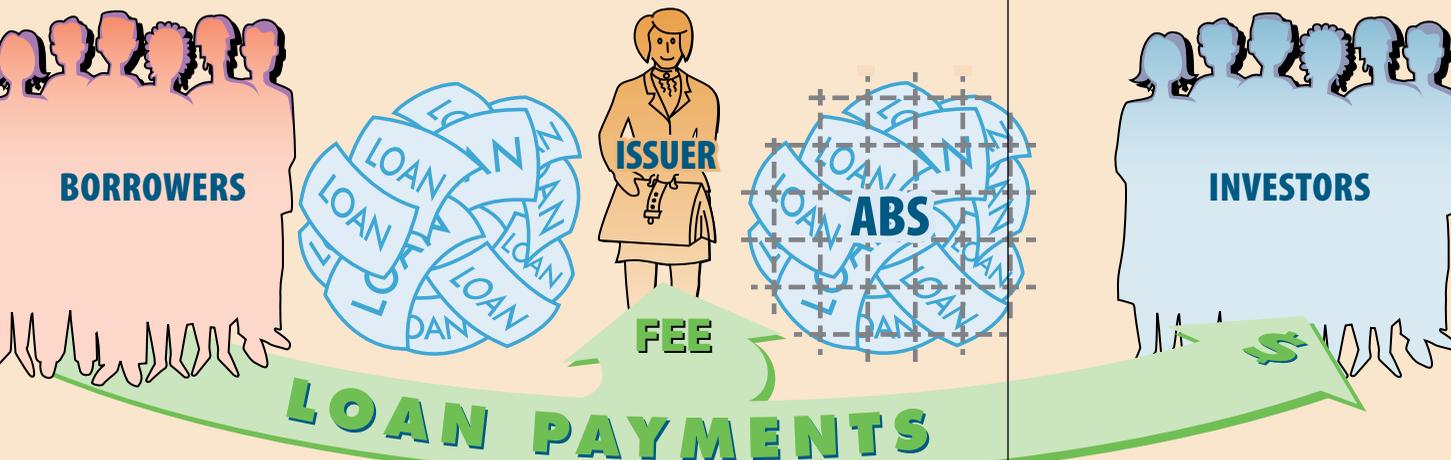
- Lenders originate, or make, loans and sell them to issuers who pool them to

create ABS. Selling the loans allows the lenders to transfer the risk of holding outstanding debt.

- Lenders use the money they receive from selling loans to make more loans that they can also sell.
- Issuers sell the ABS to investors and use that revenue to purchase new loans.

The individual borrowers whose loans are included in an ABS asset pool make their regular payments to the ABS **servicer**, who handles the recordkeeping, collection, and other administrative details for the issuer. After subtracting its fee, the servicer forwards the payments to the investors. That's why ABS are known as **pass-through securities**.

How Securitization Works



- 1** An issuer bundles a pool of loans or payment streams that typically share a number of key features, such as term length and type of interest rate, either fixed or variable.

- 2** The issuer sells interests in the ABS to investors and uses the money it raises to buy a new group of loans that it will securitize and sell.

MORTGAGE MONEY

Mortgage-backed securities (MBS) created from pools of mortgage loans are the most common ABS. They can be attractive to investors because they have longer terms than most other ABS, and they tend to pay a somewhat higher interest rate than conventional bonds with comparable terms.

Most MBS are issued by a federal government agency, such as Ginnie Mae, or by a government sponsored enterprise (GSE), such as Fannie Mae.

Private MBS issued by arrangers or packagers created by banks and other financial institutions were plentiful in the years leading up to the financial crisis of 2008 but have essentially disappeared. The exceptions are a small number of securities backed by jumbo loans, which the GSEs don't securitize because the loan amounts exceed their cap.

Before 2008, financial institutions also created multi-class mortgage-backed securities known as **collateralized debt obligations (CDO)** or **collateralized mortgage obligations (CMO)**. They were

MARKET MELTDOWN

The process of buying residential mortgages, creating MBS, and packaging them into CDOs was described, before 2008, as a way to reduce credit risk through diversification. That view ignored the fact that the subprime loans that backed these products were actually highly correlated as well as default prone.

The large returns that investment firms were realizing on the CDOs led some of them to buy loans indiscriminately from lenders who, eager to meet the demand, relaxed their criteria for evaluating borrowers. In this environment, credit rating firms, who were generating profits by rating the issues, were slow to raise red flags. So were the regulators who misread the booming real estate market as healthy growth.

pools of MBS with different credit qualities structured into **tranches**, or slices, which matured at different times and paid different rates of interest to meet different investment objectives.

ASSESSING ABS CREDIT RISK

In the case of pass-through securities, credit risk is the potential that the borrowers whose loan repayments create the income streams that the issuers promise to deliver to investors will default.

MBS guaranteed by a federal agency, such as Ginnie Mae, have minimal credit risk. Those issued by GSEs, including Fannie Mae and Freddie Mac, while not explicitly guaranteed, were not allowed to default in the financial crisis. Investors continue to assume there's minimal credit risk exposure with these products.

On the other hand, one of the reasons that private sector MBS and CDOs have all but disappeared is that there is no government guarantee. Investors, who suffered major losses in the crisis, have little appetite for these products.

INTEREST RATE RISK

Because of prepayments, mortgage-backed securities fare worse than other bonds when interest rates change.

Normally, when rates drop, bond prices rise. But investors tend to refinance when rates drop, causing a spike in prepayments. Prepayments decrease an asset-backed issue's yield to maturity, making it less attractive to investors.

When rates rise, however, bond prices fall—and the prices of asset-backed bonds fall even more. That's because prepayments slow down when rates are high, lengthening the lifespans of MBS with lower-than-market yields.

CASH FLOWS...AND EBBS

The income stream, or **cash flow**, from ABS differs substantially from the cash flows of traditional bonds. Investors typically receive their pass-through payments monthly rather than semi-annually as they do with most bonds. In addition, each payment is a combination of interest and principal, just like

the payment on the underlying loan. Instead of receiving a lump-sum return of principal when the ABS matures, investors collect it throughout the term.

However, borrowers usually have the right to pay off their loans early, something that homeowners in particular are likely to do, either because they move and sell their property while they still

have a mortgage loan—a common occurrence—or they refinance because interest rates have dropped.

Prepayments initially increase cash flow and current yield. But you can't tell exactly how long any particular asset-backed product will pay out, or how much. This unique phenomenon is called **prepayment risk**.

Corporate Bonds

From plain vanilla to bells and whistles—corporate bonds run the gamut.

When corporations need to raise money, they can borrow the cash from investors by issuing bonds. There's a substantial market for these bonds—as evidenced by the more than \$8 trillion of corporate debt that's currently outstanding.

But investing in corporate bonds can require making a number of potentially complex decisions. For starters, the companies that issue debt range from large, well-known blue chips to small, new startups that are privately held.

What's more, corporations can craft a bond to control the cost of borrowing and to encourage investors to purchase. As a result, two bond issues from the same corporation may be very different investments.

Corporate bonds also involve risks that don't apply to government or agency bonds. Some of these risks are linked to the specific fortunes of a company, some to the state of the economy, and some to the special features of the bonds themselves.

To make up for these added risks, corporate bonds generally pay higher interest rates than Treasuries or municipals with comparable maturities. But there's a catch. Interest you earn from corporate bonds is taxed as ordinary income at federal, state, and local levels.

BIG HAS ITS BENEFITS

Large institutional investors have advantages over individual investors in purchasing corporate bonds. That's because institutional investors trade in larger lots—a minimum of \$100,000 per transaction—so their markups tend to be lower. In addition, since broker-dealers cultivate institutional investors, they tend to give them preference on the most attractive bond offerings.

NOT DEAD YET

Defaulted bonds aren't always worthless, since bondholders are fairly high on the priority list of who gets paid if a company emerges from bankruptcy or is reorganized. Bondholders may eventually get some, if not all, of their investment back. So some investors actually buy up defaulted bonds for pennies on the dollar, speculating on the eventual payout.

TAKING A RISK

Many institutional investors are required to limit their bond holdings to highly rated issues known as investment-grade bonds. So investment-grade pickings can be slim for individuals shopping for bonds, since the supply is limited.

In the market of bonds that fall below investment grade, however, individual investors find more opportunities. These bonds—known as **speculative grade**, high yield, or less flatteringly as junk—carry a higher risk of default than investment grade bonds, but they yield considerably more. Investing in high-yield bonds, however, requires a different strategy from investing in investment-grade bonds.

The most important difference is this: While the value of investment-grade debt depends mostly on shifts in interest rates, the value of junk bonds depends mostly on the credit risk of the companies that issue them. As a result, junk-bond markets tend to act more like stock markets, rising and falling with company performance.

WHAT'S A REPO?

Repurchase agreements, better known as repos, are very short-term loans between financial institutions that help to keep markets liquid. What's unique about a repo is that the firm initiating the deal borrows collateral, usually a US Treasury issue, and, using a bank as intermediary, sells the collateral for cash,



THE PAPER ROUTE

Sometimes a company borrows money to finance a huge long-term project or a major expansion. Other times, they borrow to meet short-term book-keeping needs—for example, to keep up inventories and make

provisions for the uncertain timing of accounts receivable. If the company has a high credit rating, it's often cheaper and easier to borrow from investors than from a bank. This short-term, unsecured corporate debt is known as **commercial paper**. It's mostly issued by large financial companies, which need a lot of short-term loans to manage their cash flows.

Like other short-term debt, the paper trades at a discount and pays par at maturity, which is usually around 30 days from issue and no more than nine months. Unlike longer-term corporate debt, commercial paper doesn't have to be registered with the SEC. Investors consider it very safe and highly liquid in both US and international markets. That low risk typically translates into low yield.

Who buys commercial paper? Mostly, other companies do. That's because the paper comes in denominations of \$100,000 and up—and sometimes over \$1 million. Individual investors usually get exposure to commercial paper through **money market funds**, which invest heavily in short-term issues.

agreeing to buy it back at a slightly higher price, sometimes as quickly as the next day.

In a **reverse repo**, in contrast, an institution with excess cash may initiate an arrangement, agreeing to buy a security and sell it back in the future for a higher price.

Repos are low-risk products but they aren't risk free. A deal can fail if one of

the counterparties fails to provide the required collateral. It can become more complicated if the value of the collateral changes, or if the collateral can't be transferred easily between parties, which may occur in a cross-border transaction.

GOT COLLATERAL?

Some corporate issuers back up their bonds with collateral, which can be liquidated to repay bondholders if the company should default. For example, **collateral trust**

bonds are backed by securities, usually those issued by wholly owned subsidiaries of the issuer. If a corporate bond has no collateral backing it up, it's known as a **debenture** or **note**.

Municipal Bonds

Munis offer investors a less taxing way to earn bond income.

Municipal bonds, widely known as **munis**, are a way for governments below the federal level, such as states, cities, and counties, to raise money. Their major appeal for investors is their tax treatment. In most cases, muni interest isn't subject to federal income tax, though there are some exceptions.

If you invest in your own state's munis, the income is usually free of state tax, too. The same goes for the munis of your own city or county. So even though munis may offer a lower

coupon rate than comparable taxable bonds, the tax break can push their value higher, especially if you're in a higher tax bracket.

You do take certain risks when you buy munis, however. Bonds with longer maturities are vulnerable to **interest rate risk**, which would mean receiving less than par if you sold. **Inflation risk** could reduce the buying power of the interest you earn. Also, some munis can be **called**, or redeemed by the issuer, before maturity.



WHERE THE MONEY GOES

State, county, and local governments issue bonds to fund ongoing activities, new projects, and improvements. So do other public enterprises and authorities, such as public hospitals, toll roads and bridges, universities, and public utilities.

When these municipalities or municipal agencies issue bonds, they release an **official statement (OS)** to investors, containing all the details about the bond—including how the issuer plans to raise the cash to pay its debt. If the interest will be paid out of tax revenues, the muni is a **general obligation (GO) bond**. If the bond will be paid with specific fees collected by

the issuer—such as the tolls on a bridge—it's called a **revenue bond**. Sometimes an issuer uses a combination of taxes and fees to pay for a bond, known as a **double-barreled bond**.

Although some investors consider GO bonds safer than revenue bonds, it's rarely wise to generalize. Interest on many revenue bonds is paid with regular, predictable fees for services that are in constant demand, such as bridge tolls or airport departure fees. And some GO bonds are issued by governments in dire fiscal circumstances that can't raise enough in taxes to meet their obligations. Before you invest, it's best to review each bond on its own merits.

WHO INVESTS IN MUNIS?

Big institutional investors like pension funds, mutual funds, and life insurance companies don't dominate the muni market as they do other bond markets. So muni underwriters tend to cater to individual investors, in part by

making it possible to make an investment in the \$5,000 to \$10,000 range. Another advantage of muni investing is that prices tend to be relatively stable, since individuals are less likely than institutions to trade bonds before maturity.

IT'S A TEAM EFFORT

Municipals' advisers work with governments to create borrowing plans, collaborate on determining the details of new issues, represent their interests in negotiations with underwriters, and help to prepare disclosure documents. These advisers, who are overseen by the Municipal Securities Rulemaking Board (MSRB), have a fiduciary responsibility to act in the best interests of their clients.

INCOME TAX-FREE

- State Muni
- GO Bond
- Public Hospital Muni
- Revenue Bond
- Double-Barreled Bond

TAX-DUE

- Private-Purpose Bonds

TAX EXCEPTIONS

Not all munis are tax exempt. Some, called **taxable munis**, are subject to federal income tax. They're issued by governments on behalf of private enterprises that don't provide qualifying public services. For example, proceeds from a taxable muni may be used to build a sports stadium or a shopping mall.

Other munis that are exempt from ordinary federal income tax are subject to the **alternative minimum tax (AMT)**. About 9% of munis fall into this category, because the tax law defines them as **private-purpose bonds**. They're used to fund non-governmental projects like housing and airports.

You'll also have a taxable **capital gain** if you sell the bond at a higher price than you paid to buy it. The same is true if you buy a muni at a discount and redeem the bond at par. If you've held the bond for more than a year, you can

figure the tax at your long-term capital gains rate, which is determined by your adjustable gross income (AGI).

GETTING A GUARANTEE

Better credit quality can mean greater investor demand and lower coupon rates. And the lower the rate, the less borrowing costs. So municipalities have found ways to improve the credit rating of their bonds. One way is through **bond insurance**, which guarantees coupon and principal payments. If the issuer defaults, the insurer makes the payments.

The companies that insure municipal bonds assess the credit quality of the issuer before agreeing to the coverage.

In that sense, investors may consider bond insurance to be an expert second opinion on credit risk. While bond insurance may help protect you from the credit risk of a municipal default, it doesn't protect against interest rate risk.

Keep in mind, however, that if these insurers suffer major losses on other investments they have guaranteed, they may have trouble meeting their obligations on a municipal bond default.

ASSIGNING RATINGS

The credit quality of municipal bonds tends, overall, to be higher and the default rate lower than for corporate bonds.

When rating agencies are assessing municipal credit risk, one element they look at is a ratio known as **debt coverage**—how much money an issuer has available for its debt divided by the amount it owes. If that ratio is below 1 then the rater concludes that the issuer doesn't have the money to cover the debt. A debt coverage ratio of 2 is considered good, and of 4 or higher, excellent.

BOND OFFERINGS

Municipalities seeking capital may bring bonds to market in two ways: through a negotiated arrangement or a competitive bid. In a negotiated arrangement, the issuer works with a securities firm—often the same one over a period of years. The firm underwrites the issue and guarantees a presale. In a competitive bid, the issuer is obligated to choose the firm that submits the lowest price for its services. In many states, the law requires competitive bidding in the issue of general obligation bonds.

US Treasury Issues

Investors line up to make loans to the US government.

The US Department of the Treasury issues a variety of **debt securities** to raise money that, along with the taxes it raises and other revenues it collects, helps to pay for government operations. The amount the Treasury can borrow—known as the **public debt**—is authorized by Congress, as is the annual budget that determines how much the government needs to raise.

Investors of all types—individuals, corporations, state and local governments, Federal Reserve Banks, and non-US governments and institutions—own Treasury issues. They're sometimes described as **safe harbor investments**, because they're considered essentially free of credit risk and safe from default. Like all debt securities, though, individual US issues are subject to market risk, which means their market prices and yields are affected by changing interest rates and investor demand.



BONDS ON THE RUN

On-the-run Treasuries are the latest issues in a particular maturity. For example, all the notes sold in the most recent auction of 10-year notes would be the on-the-run 10-year issue. Any 10-year notes issued previously would become **off-the-run**.

When the financial press talks about Treasuries, it's generally talking about on-the-run issues because they're most in demand and the most frequently traded. So they're often more expensive than off-the-run issues, even if the coupon and maturity are almost identical. This makes off-the-run issues a potential bargain.

Types of Treasury Securities

The US Treasury offers six types of marketable securities that can be held to maturity or traded in the **secondary market** after issue. They differ from each other in length of term, the frequency with which they're offered, the interest rates they pay, and when the interest is paid.

The range of issues includes **bonds**, with 30-year terms, **notes**, with 2-, 3-, 5-, 7-, or 10-year terms, and **bills**, with 4-, 13-, 26-, and 52-week terms. You can also buy inflation-indexed notes and bonds known as **TIPS** (for Treasury Inflation Protected Securities). They're available with maturities of 5, 10, or 20 years.

The newest type—**floating rate notes (FRN)**—were introduced in 2014. They're

issued with 2-year terms and, unlike other notes, their interest rate changes quarterly, based on the 13-week T-bill rate, and is paid quarterly.

Bills, notes, and bonds—including TIPS notes and bonds and FRNs—are sold in \$100 increments, and you can invest as little as \$100 or as much as \$5 million each time you make a purchase. You buy bills at a discount to par and receive par at maturity. The difference between those amounts is the interest.

Interest on bonds and notes except FRNs is paid semi-annually at a fixed rate. With TIPS, the principal is adjusted twice a year, based on changes in the Consumer Price Index (CPI), and interest is paid semi-annually on the inflation-adjusted principal.

THE AUCTION SYSTEM

The US Treasury sells its bonds, notes, and bills through public auction in which individuals can participate by making noncompetitive bids. You can buy directly, by enrolling in a program known as TreasuryDirect, or through a broker or bank.

As an auction takes place, the Treasury accepts competitive bids, starting with the lowest rate that's bid and gradually accepting higher bids until the quota for that auction is filled. That rate becomes the **auction rate**. All the competitive bidders who bid rates lower than the cut-off bid have their orders filled at the auction rate, as do all noncompetitive bidders. However, institutions that bid the cut-off rate may not be able to invest as much as they would like if the quota is already filled.

Treasury bills are auctioned every week. The 2-, 3-, 5-, and 7-year notes and FRNs are auctioned once a month, the 10-year notes eight times a year, and 30-year bonds four times a year. The frequency of those auctions changes from time to time, depending on the government's need for cash. You can get current auction information by visiting the TreasuryDirect website (www.treasurydirect.gov).

Like other debt securities, Treasuries can be traded in the secondary market after issue, and their prices fluctuate to reflect changing demand. Details of those trades, in the order of maturity date, are reported regularly. In fact, the changing yield on 10-year notes and 30-year bonds are used as benchmarks for evaluating the current state of the securities markets and the economy as a whole.

BOND LADDERS

Individual investors may use a strategy called **laddering** when they invest in Treasury issues or other fixed-income products. The goals of laddering include:

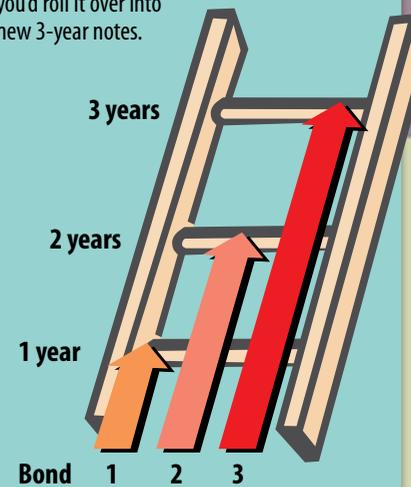
- Providing regular return of principal that is available to reinvest or supplement income
- Avoiding the potential problem of having to reinvest the entire principal of a fixed-income portfolio at one time, especially if rates are low

When you ladder, you split the investment principal you've allocated to fixed income into

equal amounts and invest each portion in a debt security that differs from the others you're buying by maturity date.

For example, you might put \$5,000 into 52-week Treasury bills that mature in June, 2016, \$5,000 into 2-year US notes that mature in June, 2017, and \$5,000 into 3-year notes that mature in June, 2018. Then, each year as an investment matured, you'd roll it over into new 3-year notes.

Bond laddering helps you manage risk



Like Treasury bills, Treasury **STRIPS** are zero-coupon securities that are sold at a **deep discount**. They're available only through a financial institution or broker-dealer. You aren't paid interest in regular installments over the term. Instead, the interest accumulates, and you receive it in a lump sum at maturity. However, you owe taxes each year on the accruing interest. STRIPS are free from credit risk, but market prices can be volatile during the issue's term.

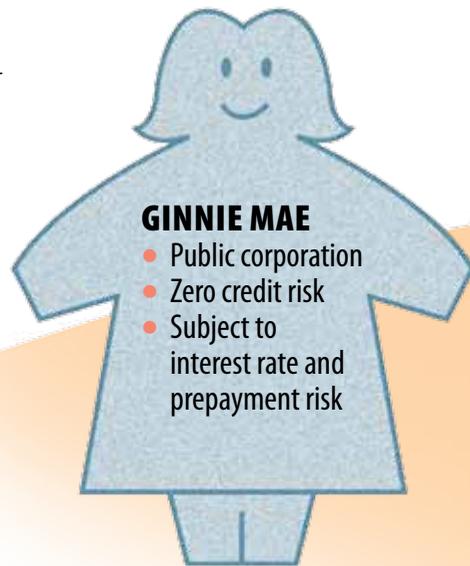
Agency Bonds

You may want to meet Ginnie, Fannie, Freddie, Farmer, and their friends.

Agency bond is an umbrella term that covers different types of securities. The Rural Electrification Program, for example, issues bonds through the Federal Financing Bank, a unit of the US Treasury that helps government agencies raise capital. Bonds issued by most federal agencies carry the same risk-free credit status as Treasury issues.

Another category, Ginnie Mae securities, is also free of credit risk, though these government-guaranteed issues are actually offered by private companies.

Positioned somewhere between the federal government and publicly held companies are entities called **government-sponsored enterprises (GSEs)**. GSEs are run as corporations under government charters specifying their specific mission. Their issues provide higher yields than Treasuries, are seen as having an implicit zero credit risk, but aren't technically guaranteed.



GINNIE MAE, GOVERNMENT AGENT
Ginnie Mae is a corporation that's part of the US Department of Housing and Urban Development (HUD). The corporation doesn't actually issue bonds. Rather, it guarantees that investors who buy GNMA **mortgage-backed securities (MBS)** will receive timely payment of principal and interest. These MBS are created from federally insured loans made by the Federal Housing Administration (FHA) or federally guaranteed loans from the Department of Veterans Affairs (VA) and issued by private firms.

Even though the bonds Ginnie Mae guarantees have zero credit risk, they're still vulnerable to **interest rate risk**, so their market prices change as interest rates change. They're also subject to **prepayment risk**—the risk that homeowners will pay off their mortgages ahead of schedule, interrupting an anticipated income stream. To compensate investors for this risk, Ginnie Maes yield more than Treasuries, though generally less than GSE securities.

In addition to MBS backed by mortgage loans on single- and multi-family properties, Ginnie Mae issues securities backed by home equity conversion mortgages (HECM)—better known as reverse mortgages—insured by the FHA.

TYPES OF AGENCY ISSUES

Discount notes mature in less than a year. Like Treasury bills, discount notes don't pay a coupon. Instead, as the name implies, you buy them at a discount and cash them in at par at maturity. The interest earned is the difference between the original price and par.

Zero-coupon bonds or **zeros** pay no coupon and are created by securities firms out of agency bonds. Interest accrues unpaid at a fixed compounded rate. At maturity, you get one payout consisting of both principal and interest.

Interest-only issues are created by investment firms by splitting up mortgage-backed agency securities into different tranches, or tiers. They pay investors only the interest portion of mortgage payments.

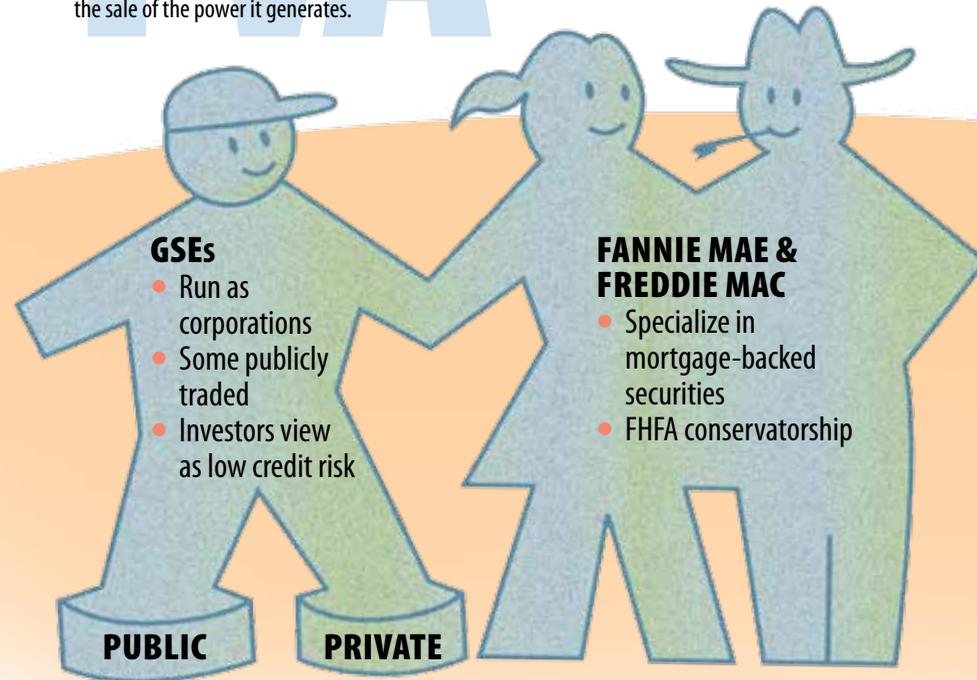
Principal-only issues, like interest-only issues, are created by investment firms out of mortgage-backed agency securities. They're sold at a discount and pay investors principal payments but no interest.

FLOOD CONTROL

The Tennessee Valley Authority (TVA) is a public power utility that's owned by the federal government. Unlike a public company or GSE, it can't issue stock, but it can issue bonds to provide capital for its electricity generating programs. TVA bonds, some of which are targeted at individual investors, are backed entirely by revenues from the sale of the power it generates.

FLOATING RATES

Most agency bonds pay interest at a fixed rate. Others, sometimes called **floaters**, pay a variable rate that's adjusted within prescribed limits in relation to a specific benchmark rate.



A FOOT IN EACH CAMP

GSEs are organized and managed as corporations. Some, like Farmer Mac, are publicly owned companies listed on the New York Stock Exchange. Others, including the Federal Home Loan Bank, are not publicly traded. But all GSEs enjoy a special relationship with the government, which defines their roles, oversees their activities, and provides an implicit guarantee for their debt.

The implicit guarantee of GSEs is not as solid as the "full faith and credit" guarantee of Treasuries. But investors—and the financial markets—generally assume that a GSE default would be so disastrous to the economy that the government would use Treasury funds to bail it out.

That's not a rash assumption. The government has come to the assistance of a GSE in the past, when the Farm Credit System faced financial trouble during the 1980s. Most GSEs also have backup for their debt in the form of lines of credit that authorize borrowing from the Treasury to pay their obligations, if need be.

FANNIE AND FREDDIE

Perhaps the most complicated GSE relationship is the one the federal government has with Fannie Mae and Freddie Mac, the two damaged giants of the residential mortgage industry. Once highly regarded and widely owned corporations, their future—and the future of government involvement in mortgage lending—remains unresolved.

These separate but similar organizations were created to make home ownership more available to borrowers who met clearly defined criteria for down payments and debt ratios. They buy conforming mortgage loans from lenders, providing cash to make more loans. Then they bundle the loans into pass-through securities and sell the securities to raise money for the purchase of additional loans.

But when the real estate bubble, which had been created in part by relaxed lending standards, finally burst and mortgage delinquencies rose, both GSEs were at risk of collapse. The federal government placed them in conservatorship to reduce pressure on the financial system. Among other consequences, stock in these firms lost most of its value.

Bond Variations

The fine print can have a big impact on the value of a bond.

Like the word **security**, which once meant the written record of an investment, the word **bond** once referred to the piece of paper that described the details of a loan transaction. Today *bond* describes a vast and varied market in debt securities.

Plain vanilla bonds pay a fixed rate and mature at a set time. Others, with lots of **bells and whistles**, may suit your investment needs but expose you to risks you hadn't anticipated. So it's essential to be on the lookout for potential red flags.

BONDS WITH STRINGS ATTACHED

Callable bonds don't always run their full term. The issuer may call the bond, which means paying off the debt before the maturity date. The process is called **redemption**. The first date a bond is vulnerable to call is stated at the time of issue. Callable bonds come with either a call schedule, which lists specific dates and prices at which a bond can be called, or a date beyond which the issuer could call the bond at any time.

Issuers may want to call a bond if interest rates drop. That way they can pay off their outstanding debt and float new bonds at the lower rate. (It's the same idea as refinancing a mortgage to get a lower interest rate with lower monthly payments.) Sometimes only part of an issue is redeemed, rather than all of it. In that case, the bonds to be called are chosen by lottery. Some bonds

are issued with a **sinking fund**, which is a cash reserve set aside specifically to retire portions of the bond issue before maturity.

Callable bonds can be less attractive to investors than noncallable ones because an investor whose bond has been called is often faced with reinvesting the money at a lower, less-attractive rate. To reassure bondholders expecting long-term steady income, call provisions usually specify that a bond can't be redeemed before a certain number of years, such as five or ten.

Sometimes issuers offer to redeem bonds at a **premium**, or a price higher than par, to make the bonds more attractive. But this could result in a capital gain if the premium price is higher than the price an investor paid to buy.

BONDS WITH CONDITIONS

A **subordinated bond** is one that will be paid after other loan obligations of the issuer have been met. **Senior bonds** are those with stronger claims. Corporations sometimes sell senior and subordinated bonds in the same issue, offering higher interest and a shorter term on the subordinated ones to make them more attractive.

Floating-rate bonds promise periodic adjustments of the interest rate to persuade you that you aren't locked into what seems like an unattractively low rate.

Prerefunded bonds are corporate or municipal bonds, usually AAA rated, whose repayment is guaranteed by a second bond issue. The money the issuer raises with the second bond is usually invested in US Treasury securities, timed to mature at the first bond's

initial call date. Prerefunded bonds typically offer a lower-than-average coupon rate and are called at the first opportunity.

Insured bonds are backed by bond insurance. If the issuer can no longer make timely interest payments, the insurer pays. But the reduced risk generally means the bonds are offered at a lower-than-average coupon rate.

Bonds with equity warrants are corporate bonds that give investors the right to buy the issuer's stock at a certain price on a specific date.

Put options give investors the right to redeem a bond before maturity at par value. In general, put bonds are issued at a lower-than-average coupon rate because they have what amounts to an escape clause that most bonds don't provide.

BONDS WITH OPPORTUNITIES

Convertible bonds give you the option to convert, or change, corporate bonds into company stock instead of redeeming the bonds for a cash repayment. The terms, set at issue, include the date the conversion can be made and how much stock each bond can be exchanged for. The conversion option lets the issuer offer a lower initial interest rate and makes the bond price less sensitive than conventional bonds to changes in the interest rate.

The dual appeal of convertibles, from an investor's perspective, is that they provide higher **yields** than are typical with common stock, and, at the same time, some of the opportunity for growth that stock offers. That's one reason they're sometimes described as **hybrid investments**.

There's some downside protection. If the stock price falls, the convertible will be affected. But because factors that negatively affect stocks sometimes positively affect bonds, the issue is likely to retain much of its value.

There are risks, though. Convertibles are usually subordinated debentures, which means they're at the end of the line if the issuer defaults. Most convertibles are also callable, and the issuer is likely to exercise that right if the stock price begins to rise. That would limit any potential profit.



ZERO COUPON BONDS

Zero-coupon bonds are a popular variation on the bond theme for some investors. Since **coupon**, in bond terminology, means interest, a zero coupon by definition pays out no interest while the loan is maturing. Instead, the interest **accrues**, or builds up, and is paid in a lump sum at maturity.

You buy zero-coupon bonds at a **deep discount**, or prices far lower than par value. When the bond matures, the accrued interest and the original investment add up to the bond's par value.

Bond issuers like zeros because they provide an extended period to use the money they have raised without paying periodic interest. Investors like zeros because the discounted price means you can buy more bonds with the money

you have to invest. You can also buy bonds of different maturities, timed to coincide with anticipated expenses, such as college tuition bills, for example. What's more, there's no reinvestment risk with zeros since you have no interest payments to reinvest. Amounts you've earned but haven't been paid compound exactly at the yield-to-maturity rate.

Zeros have two potential drawbacks. They are extremely volatile in the secondary market, so you risk losing money if you need to sell before maturity. And, unless you buy tax-exempt municipal zeros or invest through a tax-deferred account, you have to pay taxes every year on the interest you would have received had it, in fact, been paid.

ZERO-COUPON BONDS

- 1 Purchase at Discount
- 2 Interest Accrues
- 3 At Maturity Receive Accrued Interest + Principal

Buying and Selling Bonds

Investors can buy bonds from brokers, banks, or directly from certain issuers.

You can buy newly issued corporate, municipal, and agency bonds, or bonds trading in the secondary market through your broker or from certain banks. In the secondary market you buy bonds that are being sold at some point after issue by a previous investor. You can also buy US Treasury issues through these intermediaries or you can buy them directly in a regularly scheduled Treasury auction with no middleman and no commission.

HOW TRADING WORKS

Most already-issued bonds are traded **over-the-counter (OTC)**, a term that really means over the phone or by computer. Bond dealers across the country are connected via electronic



display terminals that give them the latest information on prices. A broker buying a bond tries to find the dealer who is offering the best price and calls to negotiate a trade.

Brokerage firms also have inventories of bonds to sell to clients looking for bonds of particular maturities or yields. Often, investors make out better buying bonds their brokers already own—or **make a market in**—as opposed to bonds the brokers have to buy from another firm.

TRADING TREASURYS

The Bureau of the Fiscal Service handles transactions in new Treasury issues. To buy, you establish a **TreasuryDirect** account, which keeps electronic records of your transactions and pays interest

directly into your bank account. You can find the forms you need on the TreasuryDirect website at www.treasurydirect.gov to enroll online.

You can sell your Treasury securities before maturity, but, if they're in a TreasuryDirect account, you must move them to a brokerage account. With small balances or relatively short times to maturity, this may not make financial sense.

WHO BUYS WHAT?

High minimum investment requirements can make it hard for individuals to invest in most bonds. Even though par value is usually \$1,000, bonds are often sold in minimum lots of five or more and may require an investment of at least \$10,000. US Treasuries are the exception, since you can purchase just one bill, note, or bond at a time if you wish.

As a result, institutional investors, such as banks or mutual funds, hold the majority of individual bonds, corporate bonds in particular. Many high net worth individual investors hold substantial numbers of munis.

An alternative is buying bonds through an **actively managed account**, or portfolio of individual bonds chosen and overseen by a professional investment manager. You're just one of hundreds of investors whose accounts are overseen by the same manager. But while all the accounts will include many of the same bonds, you can customize your individual account to some extent in collaboration with your investment adviser and the professional manager.

Other investors may choose bond funds, rather than bonds. A bond fund makes it easier to diversify a fixed-income portfolio and allows you to reinvest your earnings to buy more shares. But funds don't promise return of principal at a set maturity date or pay a fixed interest rate.

In fact, in one sense, buying a bond fund is actually making an equity investment in debt securities, as you own shares of the fund that owns bonds.

The Treasury Bill Auction Process

MONDAY, SEPTEMBER 20

T-bills offered on Thursday for Monday sale

The US Treasury offers 13-, 26- and 52-week T-bills for auction every Monday.

Across the country, institutional investors (such as pension funds and mutual funds) who want to buy the major part of the issue ready their competitive bids. Their bids must arrive at the Treasury by 1:00 p.m. on Monday, the auction deadline. Bidders state the rate they are willing to accept on the bills.

At the same time, individual investors can submit non-competitive tenders, or offers, through TreasuryDirect. Investors decide how much they want to put into T-bills, and authorize a debit to cover that amount.

1pm Deadline for all bids

The Treasury accepts bids, from the lowest to the highest rate, until the quota is filled.

1:10 – 1:15 Results announced

Within minutes, the Treasury announces the auction results, and bidders learn what the auction rate is and the price they will pay to buy the bills. All the competitive bidders who bid rates lower than the cutoff bid have their orders filled at the auction rate. However, any institution whose bid is at the cutoff, or auction rate, may not be able to invest as much as it had wanted if the quota has already been filled.

Individuals and small institutions that have submitted non-competitive bids get the auction rate that's been determined by the competitive auction. They can invest as much as they wish, up to \$5 million in an individual purchase.

A noncompetitive bidder's transaction is completed when the amount due for the purchase is debited from the bank account linked to his or her TreasuryDirect account. At maturity, par value is credited to that account, or \$100 for each bill. If the purchase price was \$99 per bill, the \$1 per bill difference is the interest.

At maturity, noncompetitive bidders can roll over their T-bill investment in their TreasuryDirect at the new auction rate, or they can opt for redemption at par value.

Rating Bonds

Investors want to know the risks in buying a bond before they take the plunge.

Just as potential lenders turn to credit reporting agencies as a way to check the risk they'd be taking in extending credit to you, potential bond investors turn to bond rating firms for a sense of the credit risk they'd be assuming in buying a particular debt security.

The best known firms are Standard & Poor's (S&P), Moody's Investors Service, Inc., and Fitch Ratings. These companies assess the creditworthiness of a bond issuer or an issue rather than the bond's market appeal. They look at other debt the issuer has, how fast the company's revenues and profits are growing, the state of the economy, and how well other companies in the same business (or municipal governments in the same general shape) are doing. However, the firms' reputations have suffered since 2008, in the wake of the high ratings assigned to risky mortgage-backed securities (MBS).

WHAT IS RATED?

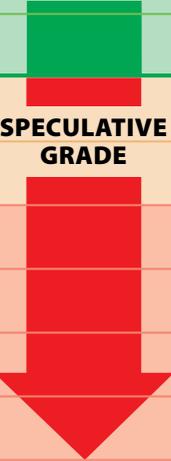
The rating services evaluate sovereign, municipal, corporate, and international bonds, and structured products, as well as MBS. US Treasury issues are not rated on an individual basis, though the US government is rated. Since Treasury issues are obligations of the federal government, they are backed by its **full faith and credit**. This means the government has the authority to raise taxes to pay off its debts.

What rating services don't evaluate is **market risk**, or the impact that changing interest rates and other factors will have on the market price of a bond that you sell before maturity. Even the highest rated bonds and US government issues are vulnerable to loss of market value as interest rates rise.

WHO USES RATINGS?

Individual investors use credit ratings to help make purchase decisions that are in line with their risk tolerance. In addition, they may want to check how much they could reasonably expect to recover if the issuer defaulted. But before investing in any bonds, including rated bonds, investors should do their own analysis or consult with their financial advisers.

Institutional investors, such as mutual fund companies, university

RATING SYSTEMS		Each credit rating firm focuses its analysis slightly differently and uses a slightly different grading system to indicate its opinions. A synopsis of the S&P and Moody's systems is illustrated below. The Fitch system is similar though not identical to S&P's.	
Standard & Poor's	Moody's	Synopsis of meaning*	
AAA	Aaa	Best quality, with the smallest risk	 INVESTMENT GRADE BONDS
AA	Aa	High quality, slightly higher risk	
A	A	High-medium quality	
BBB	Baa	Medium quality, currently adequate	 SPECULATIVE GRADE JUNK BONDS
BB	Ba	Speculative element	
B	B	Able to pay now but at risk of default	
CCC	Caa	Poor quality, clear danger of default	
CC	Ca	Highly speculative quality, high risk	
C	*	Lowest-rated, often in default	
D	D	In default	

endowments, and pension funds, typically use ratings in conjunction with their own credit analysis to evaluate the relative credit quality of specific issues. Some institutional investors operate under guidelines that require them to purchase issues of at least a minimum credit quality.

Businesses and financial institutions often use credit ratings to evaluate how much risk they would be taking by entering into a financial agreement with another firm, described as a **counterparty**.

In addition, issuers themselves use credit ratings to provide independent verification of their creditworthiness and the credit quality of their securities.

RATINGS REGULATION

The SEC's Office of Credit Ratings (OCR) was created by the Dodd-Frank Act to enhance investor protection by improving the quality of ratings and increasing the accountability, transpar-

THE RISK OF DOWNGRADING

One danger bondholders face is deterioration of the bond issuer's financial condition. When that happens, a rating service may downgrade, sometimes substantially, its rating of the issuer, based on how serious that financial difficulty is. If the downgrade

is from investment grade to speculative grade, the issuer is sometimes known as a fallen angel.

If downgrading occurs, implying increased credit risk, investors usually demand a higher yield for the existing bonds to compensate for that higher risk. Then the price of the bond falls in the secondary market. It also means that if the issuer wants to float new bonds, it may have to offer them at a higher interest rate to attract buyers.

Each credit rating firm focuses its analysis slightly differently and uses a slightly different grading system to indicate its opinions. A synopsis of the S&P and Moody's systems is illustrated below. The Fitch system is similar though not identical to S&P's.

Synopsis of meaning*

Best quality, with the smallest risk

High quality, slightly higher risk

High-medium quality

Medium quality, currently adequate

Speculative element

Able to pay now but at risk of default

Poor quality, clear danger of default

Highly speculative quality, high risk

Lowest-rated, often in default

In default

ency, and competitiveness of the credit rating industry. It oversees the credit rating firms that have registered as **nationally recognized statistical rating organizations (NRSROs)**, including S&P, Moody's, and Fitch Ratings, and a number of other firms.

The OCR focuses on potential conflicts of interest in assigning ratings, compliance with securities laws and SEC rules, and adherence to internal methodologies the NRSROs have been required to develop.

In addition, the SEC has taken steps to limit reliance on NRSRO ratings as assurance of creditworthiness. For example, rules finalized since 2011 eliminate, among other provisions, the requirements that:

- Money market funds use the ratings to establish that a company is an eligible investment
- Broker-dealers include ratings in capital calculations and transaction confirmations

because the yields are much higher than on other, higher-rated bonds. However, the prices are volatile as well, exposing investors to increased market risk.

RATINGS MAY INFLUENCE RATES

Credit ratings can sometimes impact the interest rate an issuer must pay to attract investors. In bonds with the same maturity, typically the higher the bond's rating, the lower its interest and yield. Minor upgrades and downgrades tend to result in relatively small adjustments to yield. But if a bond's credit rating is moved up to investment grade or down to junk, there may be a big change in demand and therefore in yield.

TIME IS MONEY

When bonds have the same credit risk but different terms, those with longer terms typically pay higher rates. Offsetting the promise of higher yield are the potential for increased inflation, interest rates, and credit risks.

* Not actual rating definitions.

The World of Bonds

Type of bond	Par value	Maturity period	Trading details	Rated	Tax status	Call details	Interest and safety
 <p>CORPORATE BONDS Corporate bonds are used to finance expansion and other activities.</p>	\$1,000 (typically must buy multiples)	<p>Short term: 1 to 5 years</p> <p>Intermediate term: 5 to 10 years</p> <p>Long term: 10 to 20 years</p>	Through brokers, either on an exchange or over-the-counter (OTC)	Yes	Taxable	Callable	Riskier than government bonds, but potentially higher yields . Default risk depends on issuer
 <p>MUNICIPAL BONDS Municipal bonds are issued by states, cities, and other local governments to pay for operations and projects.</p>	\$1,000 (but may vary)	From 1 month to 40 years	Through brokers, OTC	Yes	Exempt from federal income taxes and state and local income taxes under certain conditions	Sometimes callable	Lower interest rates than comparable corporate bonds because of tax exemption
 <p>T-BONDS These long-term 30-year bonds are a major source of government funding.</p>	\$100	20 years (TIPS) 30 years	<p>New issues: Through Treasury Direct when available</p> <p>Outstanding issues: Through brokers, OTC</p>	Not rated	Exempt from state and local income taxes	Sometimes callable	<p>Maximum safety from default because backed by federal government</p> <p>Long maturities increase interest rate risk and inflation risk</p> <p>Low interest rates</p>
 <p>T-NOTES These intermediate-term debt issues are a major source of government funding.</p>	\$100 (issued in amounts up to \$5 million)	<p>2 years</p> <p>3 years</p> <p>5 years</p> <p>7 years</p> <p>10 years</p> <p>5 and 10 years (TIPS)</p> <p>2-year floating rate</p>	<p>New issues: Through Treasury Direct</p> <p>Outstanding issues: Through brokers, OTC</p>	Not rated	Exempt from state and local income taxes	Sometimes callable	Maximum safety from default since backed by federal government, but relatively low interest rates
 <p>T-BILLS Treasury bills are the largest component of the money market—the market for short-term debt securities. The government uses them to raise money for immediate spending at lower rates than bonds or notes.</p>	\$100 (issued in amounts up to \$5 million)	<p>4 weeks</p> <p>13 weeks</p> <p>26 weeks</p> <p>52 weeks</p>	<p>New issues: Through Treasury Direct</p> <p>Outstanding issues: Through brokers, OTC</p>	Not rated	Exempt from state and local income taxes	Not callable	Maximum safety from short-term investments with no periodic interest payments. Instead, interest consists of the difference between a discounted buying price and the par amount paid at maturity
 <p>AGENCY BONDS The issues may be floated by US government agencies or government-sponsored enterprises.</p>	\$1,000 (often sold in lots of \$25,000)	From 30 days to 20 years	By brokers, OTC, or directly through banks	Some issues rated by some services	Some issues taxable and others exempt from state and local income taxes	Sometimes callable	Marginally higher risk and higher interest than Treasury bonds



Tracking Securities Markets

An index provides a continuously updated record of financial market performance.

An index tracks the prices of a specifically selected group of securities to measure the performance of the financial market or market segment to which the securities belong.

A financial market can be defined in a variety of ways—by asset class, security size, risk level, geography, and a variety of other factors. For example, an index might track large-company US stocks, corporate bonds issued in developing markets, or global oil prices, to name just a few.

An index can be **broad**—tracking hundreds or sometimes thousands of securities—or **narrow**—tracking only a few—or somewhere in between.

But what each of an index's components must have is a publicly available market price. Without a price, there can be no calculation. And if the price isn't publicly available, there's no way to be sure that the index is objective and therefore a reliable indicator of performance.

TRACKING PERFORMANCE

As an index moves up or down to reflect gains or losses, the change is expressed both numerically and as a percentage. Percent change is generally considered a more revealing indication of what happened in the market during the time period being measured—seconds, hours, days, weeks, or longer.

Percent change lets you compare the performance of different market segments, such as large- and small-cap stocks, or of the same market sector in different regions, such as the United States and Europe.

FOLLOWING THE RULES

Every index has a **methodology**, or set of rules, which states the index objective, the market it will track, and the criteria that will determine which securities are eligible for inclusion.

Methodology, in fact, governs every facet of an index's creation and operation and underlies its reliability and credibility. Methodology is also the reason that two indexes tracking what seems to be the same market produce different results.

In a small number of indexes, including two of the best-known and most-widely used—the Standard & Poor's 500 Index (S&P 500) and the Dow Jones Industrial Average (DJIA)—final decisions about the composition of the index are made by an index committee choosing among qualifying securities. In other cases, index components are determined statistically, based on the index's methodology.

INDEX VARIETY

The number and variety of financial indexes is staggering—essentially beyond counting. They track markets in every region of the world, on every continent except Antarctica, and every type of financial investment you've ever heard of—and perhaps some you haven't.

Equity indexes track stock markets and market segments in individual countries, in regional or other groupings, and globally. They have



USING INDEXES

Individual and institutional investors use indexes in different ways:

- As **benchmarks** for evaluating the performance of a specific investment, an investment portfolio, or the effectiveness of active investment managers
- As the basis of **index products**, including mutual funds, exchange traded funds (ETFs), options contracts, futures contracts, and others whose returns are linked to the return of an underlying index
- As a way to evaluate, in real time, investment performance in markets at home and around the world
- As indicators of economic strength or vulnerability

Index data is also analyzed in great detail. It enables researchers to better understand how markets work, investment managers to make informed decisions, and economists to formulate or rebut economic policy.

SPREADING THE WORD

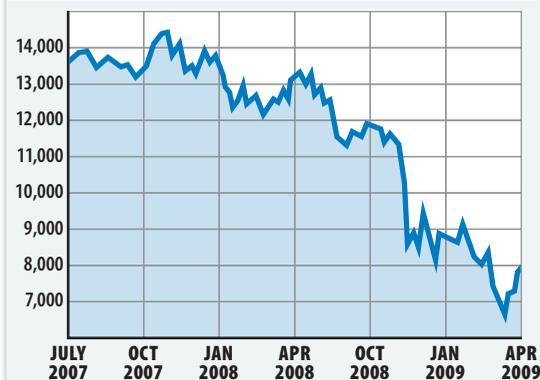
Indexes have a major impact in the financial world because they provide succinct answers to the question "How's the market doing?" For example, when you hear that the S&P gained 2% or the Nasdaq Composite dropped 150 points, you have a sense of what's going on, at least in the segments of the market those indexes track.

Indexes provide perspectives over longer periods as well, from weeks or months to decades, as the markets move in recurrent cycles of gains and losses.

Here's just one example of how an index provides a market snapshot: The impact of the financial crisis of 2008 reduced the level of the DJIA from 14,000 (in July 2007) to 6,547 (in March 2009), a more than 50% loss.

You can trace index performance for the DJIA back to May 1896, when it was published for the first time as an average of 12 major industrial compa-

MARKET MELTDOWN – DJIA JULY 2007 – MARCH 2009



nies and closed at 40.94. The S&P 500, in its current form, though not with the same components, was introduced in March 1957, though earlier versions had been calculated since 1923. It closed at 44.22 on its first trading day.

Each index has a **baseline value**, an arbitrary level the index company chooses as a starting point for its calculation. For example, the baseline of the S&P was set at 10 for the period 1941-1943, which is the value against which subsequent changes in the index have been measured. The fact that different indexes start from different baselines helps to explain their sometimes widely divergent levels even when they track the same market or market segment. Other factors contribute as well, including the index methodology.



the longest history and are the best known.

Fixed-income indexes track corporate, municipal, and sovereign debt, as well as asset-backed securities, money markets, and hybrid investments including convertible bonds and preferred stock.

Commodity indexes track futures contracts on a wide variety of commodities in domestic or world markets.



Thematic indexes track groups of components selected because they exemplify a specific characteristic, such as environmental responsibility or religious precepts.

Strategy indexes are designed to provide a return that's better or more consistent than the return of the market from which the indexes' components are selected.



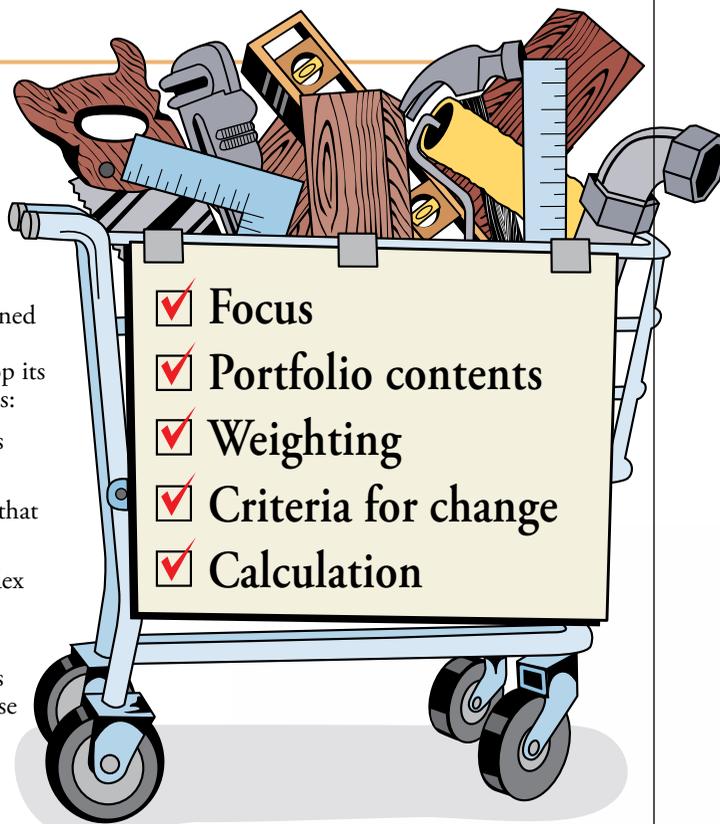
Constructing an Index

Crafting an index begins with making some critical decisions.

An index doesn't just happen. It's created by an index provider to meet one or more objectives, such as providing a benchmark, serving as the basis of a financial product, or both.

Having identified the index's purpose and determined that it can be calculated, the provider can begin to develop its methodology, which involves:

- Defining the index's focus and scope
- Identifying the securities that will form its portfolio
- Determining how the index will be weighted
- Setting the criteria for changing the components of the index and how those changes will be made
- Deciding how it will be calculated



WEIGHTING THE OUTCOME

Most stock indexes are **weighted**, which means that some stocks in the index have greater impact on the outcome of the calculation than others.

Capitalization-weighted indexes are designed to reflect the economic impact of companies with the highest **market capitalization**. Market cap is calculated by multiplying the number of shares by the stock's current market price. The majority of indexes are capitalization weighted, including the S&P 500 and the Nasdaq Composite Index.

Price-weighted indexes are more impacted by changes in the prices of higher-priced stocks than by changes in the value of lower-priced stocks. The DJIA is a price-weighted index as is Japan's Nikkei.

In **equal-weighted** indexes, on the other hand, each security has the same weight regardless of market cap. This means that the smaller companies in the index have as much influence on its value as the large companies.

A **fundamental-weighted index** includes securities notable for one or more fundamental measures, such as history of providing a high dividend yield. It gives the most weight to components that rank the highest among a group of securities that meet its criteria.

INDEX ANALYSIS

If you're investing in an index-based product, you need to know how the underlying index is weighted and what impact that weighting system is likely to have on performance.

Most equity indexes are market-cap weighted. These indexes are sometimes described as providing the most accurate reading of what the market is doing. That's because the largest companies with the most shareholders tend to have a greater impact on market return than smaller companies that are less widely held. However, there can be a disconnect between index results and the economy if the robust performance of a few large companies drives the index up while most companies are posting mediocre returns.

Equal-weighted indexes tend to provide stronger returns than market-cap indexes in periods when smaller-cap stocks outperform larger-caps ones, something that happens periodically. But these indexes provide weaker returns when the reverse is true.

A fundamental-weighted index may outperform a market-cap index if it tracks a group of stocks chosen because their returns are less impacted by volatility or other market forces than the more diverse overall market. Similarly, such an index may outpace a market-cap index if its components provide a higher total return. But a stronger performance is not guaranteed.

CHANGING THE LIST

Some indexes are modified when appropriate based on the index methodology. Others are updated regularly, such as on an annual schedule. Providing a

mechanism for change enables an index to keep up with the market it tracks.

One of the best examples is the DJIA, which has evolved from 12 industrial companies to 30 companies that represent a range of sectors, including technology, financial services, and retail.

The flip side of choosing securities for inclusion in an index is identifying those that should be dropped.

The most obvious disappearing acts are by companies that have been merged or acquired out of existence. Also excluded are formerly public companies that have been taken private. Some companies may be deleted because they no longer meet the defining terms, such as minimum market capitalization. In some cases, being deleted from an index is in effect a promotion—when, for example, a company moves up to the S&P 500 from the S&P MidCap 400.

FINDING A FOCUS

There are limitless possibilities for what an index might track, and the companies that could be included in its roster. An example of this diversity is provided by three different indexes, each looking at the US stock market from a different perspective:

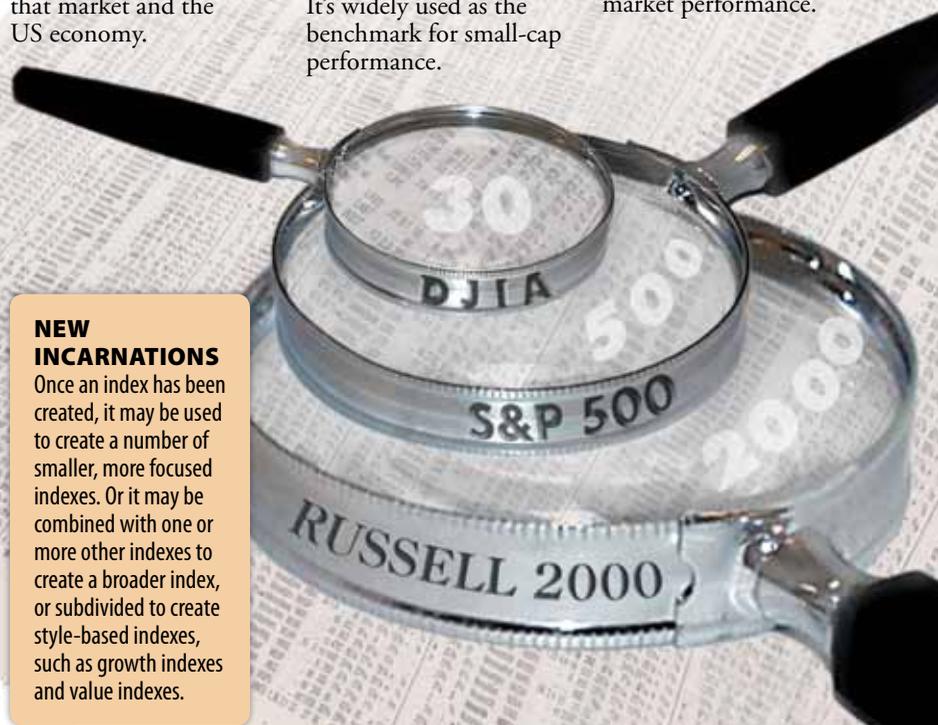
The S&P 500 tracks 500 US companies in ten sectors representing about 80% of the large-cap market. It serves as the benchmark for that market and the US economy.

The Russell 2000 tracks about 2,000 small-cap US stocks, which represent about 10% of the capitalization of the overall stock market. It's widely used as the benchmark for small-cap performance.

The Dow Jones Industrial Average (DJIA) tracks 30 widely held US large-cap stocks that represent different sectors of the economy and reflect market performance.

NEW INCARNATIONS

Once an index has been created, it may be used to create a number of smaller, more focused indexes. Or it may be combined with one or more other indexes to create a broader index, or subdivided to create style-based indexes, such as growth indexes and value indexes.



Decoding an Index

There's more to an index than meets the eye.

Whether a market index is up or down at the end of the trading day may be all you want to know. But if you're curious about where that closing number comes from, you'll need to understand how changes in an index are calculated.

DOING THE MATH

Index values are calculated on an ongoing basis throughout every trading day. An index's methodology specifies the calculation formula, which varies from index to index, though market-capitalization equity indexes generally require similar data:

- Prices of the stocks in the index at a series of particular moments—for example, the S&P 500 is updated every 15 seconds during the trading day
- Number of outstanding shares for each company in the index
- Weighting factor, which is used to find number of floating shares
- A divisor, or scale factor

In the first step of the automated calculation, the price of each stock is multiplied by the number of floating shares. Next, these individual values are added to find the total value of the components. That amount is divided by a divisor to find the new index level. Both the weight factor and the divisor are unique to the index provider, though one or both may be public information.

A MATTER OF SCALE

An index **divisor** is set at the time the index is created and is modified over time to keep the index stable as changes are made to the index portfolio. For example, if the hypothetical market value at the end of one trading day is \$14 billion and the index level is 20, the divisor was 0.7 billion (if $\$14 \div x = 20$, then $x = 0.7$). If changes are made after the market closes so that the market value of the new portfolio is \$14.25 billion, and the index level remains 20, the divisor on the next day will be 0.7125 billion (if $\$14.25 \div x = 20$, then $x = 0.7125$).

With a capitalization-weighted index, the divisor is modified each time its portfolio is changed. With a price-weighted equity index, the divisor must also be adjusted to account for stock splits since the lower price (and corresponding greater number of shares) will affect the stock's weighting. That isn't an issue in a capitalization-weighted index, since the capitalization remains the same whether there are more shares at a lower price or fewer shares at a higher price.

FINDING TOTAL RETURN

The total return of a stock index like the S&P 500, which is widely quoted as a benchmark for stock performance, is a calculation that depends on the change in the index, either positive or negative, plus reinvested dividends. Since an index is not an investment, but a statistical computation, however, the reinvestment occurs only on paper—or more precisely, in a software program. Rather than reinvesting dividends in the stocks that pay them, the index provider reinvests all dividends in the index as a whole.

Total return on an index is calculated daily, though the results are more typically provided as monthly, annual, or annualized figures, expressed as a percentage.

BEYOND THE OBVIOUS

Market indexes provide much more than a daily report on changing prices. They capture the market's history, which enables you to compare the present with the past. While the past can't predict the future, it can provide a context for thinking about what is possible.

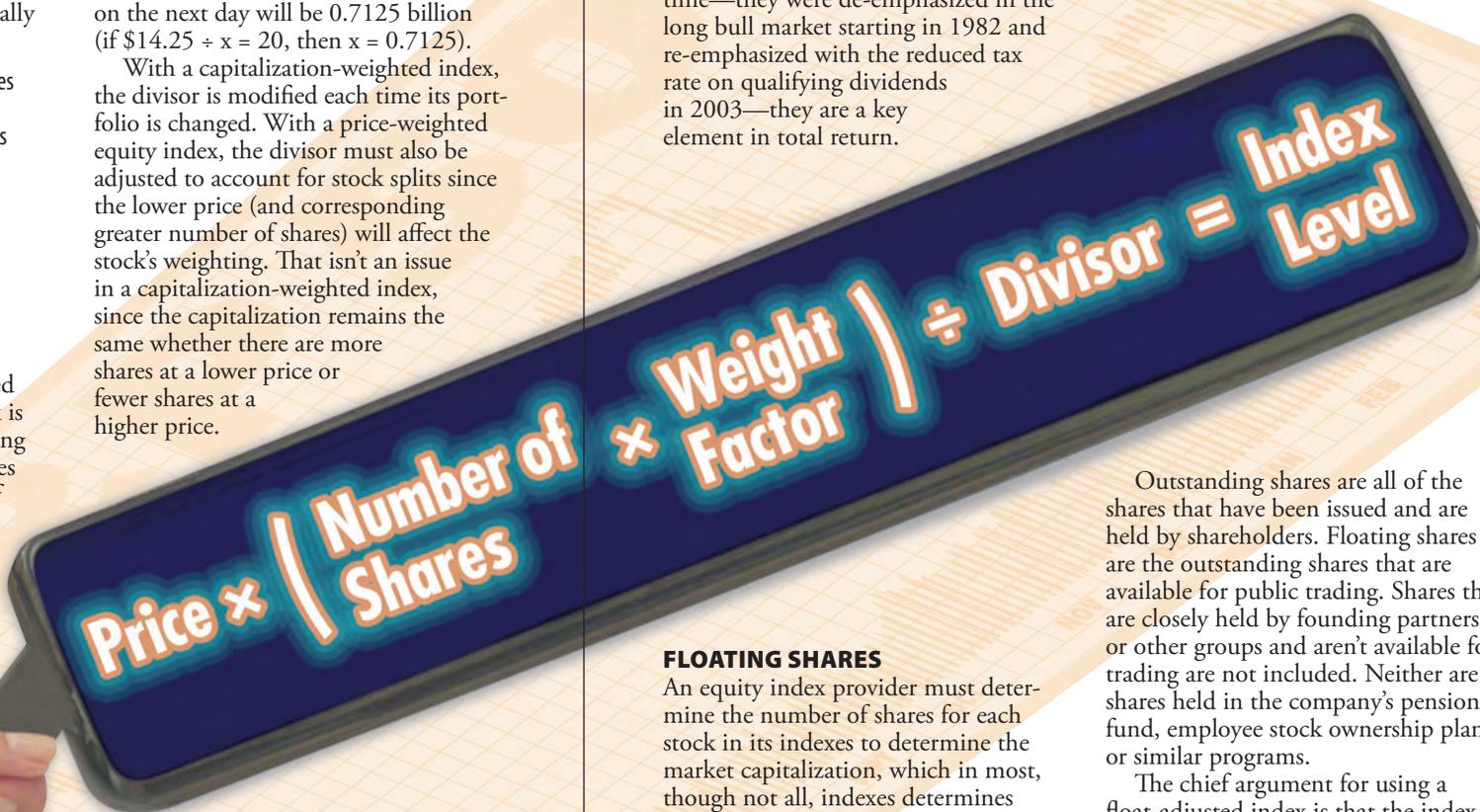
For example, you can mine relevant data from an index, including earnings growth, price/earnings and other ratios, relative strength, and total return.

Dividend **yield**, or the amount of the dividend divided by the stock price, is one measure that may have particular relevance for stock investors. Though the role of dividends as an indicator of business success tends to shift over time—they were de-emphasized in the long bull market starting in 1982 and re-emphasized with the reduced tax rate on qualifying dividends in 2003—they are a key element in total return.

ANOTHER APPROACH

Instead of using a divisor to find the percentage change in an index, an index provider can calculate the percentage change in each security's price and combine them to determine the index level. The result is the same, but the second method may be preferable if the index tracks securities denominated in different currencies.

Comparing the dividend yield of a specific company with the average yield of its industry can be helpful in making investment decisions. An unusually high yield, for example, may be an important danger sign, either of an impending dividend cut or an imploding company.

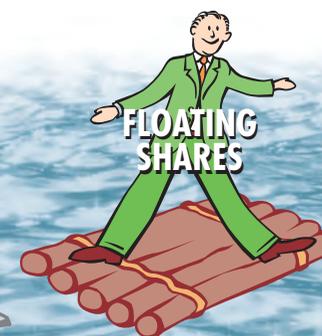


FLOATING SHARES

An equity index provider must determine the number of shares for each stock in its indexes to determine the market capitalization, which in most, though not all, indexes determines weighting. There are two ways to calculate the number of shares: An index may use **outstanding shares** or **floating shares**.

Outstanding shares are all of the shares that have been issued and are held by shareholders. Floating shares are the outstanding shares that are available for public trading. Shares that are closely held by founding partners or other groups and aren't available for trading are not included. Neither are shares held in the company's pension fund, employee stock ownership plan, or similar programs.

The chief argument for using a float-adjusted index is that the index provides a more accurate reflection of the value of the securities being traded in the marketplace.



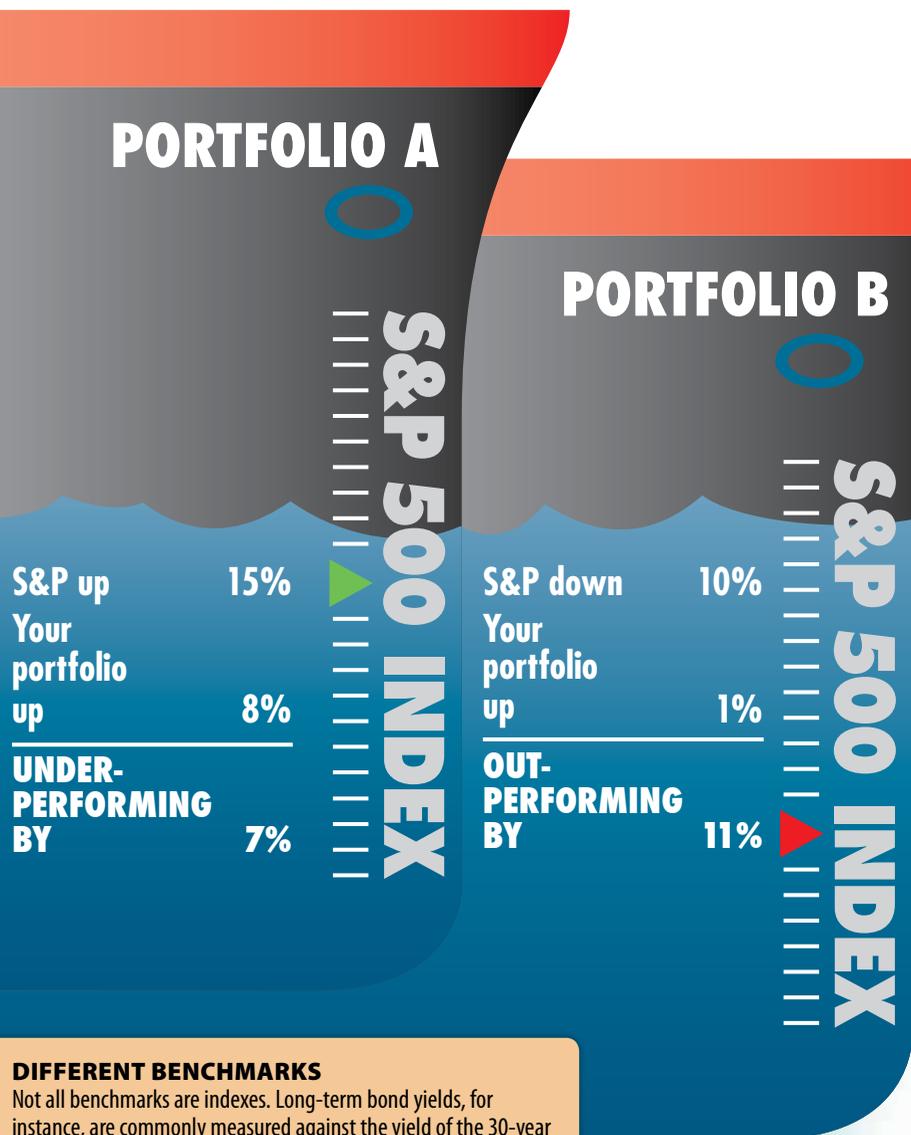
Indexes as Benchmarks

You can use indexes as yardsticks to measure the performance of an investment or portfolio.

Investors use indexes as **benchmarks**, or yardsticks of investment return. These benchmarks can help you evaluate the performance of the overall market, particular market sectors and industries, individual securities, and active investment management.

For example, you can measure the performance of a large-cap stock portfolio of US companies against the S&P 500, the DJIA, the MSCI Large-Cap 300, or the Russell 1000.

What's more, since the goal of an active investment manager, whether he or she is overseeing a portfolio of individual investments or an actively managed mutual fund, is to provide a stronger return than the relevant index, you can evaluate the manager's results against that same standard. You'll find that some managers outperform some of the time, but only a few of them are able to do so over extended periods.



DIFFERENT BENCHMARKS

Not all benchmarks are indexes. Long-term bond yields, for instance, are commonly measured against the yield of the 30-year US Treasury bond. Similarly, the benchmark for cash equivalent investments is the return on the 13-week US Treasury bill.

TRACKING A BENCHMARK

Since there's no absolute measure of investment performance, comparing your investments to benchmarks is really the only way to evaluate your results. For example, suppose your portfolio of large-cap stocks gained 8% in a particular year. That might seem fine. But if the S&P 500 gained 15%, that means your portfolio underperformed its benchmark by a wide margin.

Of course, you may want to give your large-cap portfolio a year or two to live up to your expectations. But if your investment mix underperforms its benchmark year after year, it may be time to rethink your strategy. On the other hand, if your portfolio of mid-sized company stocks held steady in a year that the S&P MidCap 400 lost 10%, you might decide that you've done well under the circumstances, even though your portfolio didn't realize any gains.

APPLES TO APPLES

One thing you want to avoid is measuring the performance of one **asset class** or **subclass** against the benchmark of another. For instance, let's say you are trying to evaluate the performance of your small-cap portfolio. In that case, an index that tracks small-company stocks, such as the S&P 600 or the Russell 2000, would be a much more accurate yardstick than a large-cap benchmark, such as the S&P 500.

From one year to the next, large-cap and small-cap stocks may report significantly different returns. For instance, in 2010, large-company stocks gained 15% while small-company stocks gained just over 31%. In 2011, on the other hand, large caps gained just over 2%, while small caps lost 3%. In other years, such as 2001 or 2007, the disparity was even more dramatic.

The same caution applies when you evaluate bond performance against a benchmark. For example, the annual return on long-term US Treasury bonds is likely to be very different from the

INSTITUTIONAL BENCHMARKS

Just as individual investors use market indexes to evaluate the returns their investment advisers are providing, institutional investors—including pension funds, endowments, and mutual funds—use benchmarks to evaluate the professional

KEEPING A PERSPECTIVE

Just because an investment outperforms its benchmark in a particular year doesn't necessarily mean it's right for your portfolio. You still want to evaluate each investment in light of your risk tolerance, time horizon, and overall investment strategy. Similarly, an investment that misses its benchmark from time to time may still be a smart addition to your portfolio if it helps you diversify.

return reported for high-yield corporate bonds or 12- to 22-year general obligation (GO) municipal bonds.

A TWO-WAY STREET

In addition to measuring performance, you can use benchmarks to evaluate the suitability of an asset class or subclass you're considering for your portfolio.

Let's say you want to diversify a stock portfolio that contains predominately large-cap stocks and you're planning to add a small-cap mutual fund or ETF. As part of your research, you can compare the performance of the individual small-cap funds you're investigating to the historical performance of this class overall as recorded by the S&P 600 or the Russell 2000. The benchmark will show where a particular fund fits in the universe of similar funds. (Keep in mind, however, that past performance is no guarantee of future results.)

You might also use indexes to compare the behavior of small-cap stocks as a group to that of large- or mid-caps. For example, you may want to take a look at relative volatility or the extent to which small- and large-cap performance was correlated in different market environments. While the numerical levels of the indexes will vary, the percentage change, up or down, will provide the information you're looking for.

Remember, too, that when you're evaluating a specific mutual fund, it's smart to compare its past performance to its target index over a number of years, rather than focusing on a single year in which the fund might have fared significantly better or worse than its benchmark.

managers they hire to oversee their portfolios. One big difference is that these institutional investors have a fiduciary duty to deliver returns that are in the best interest of their stakeholders. That makes a reliable benchmark an extremely valuable tool.

Index Investing

You can ride the ups and downs of the market with an index-based investment vehicle.

An index might seem to be an ideal investment to capture market performance. The catch is that you can't invest in an index. It's a statistical calculation, not a security. And there are no shares for sale.

But you can invest in a wide range of investments linked to an index, including **mutual funds** and **exchange traded funds (ETFs)** as well as options contracts, futures contracts, and a variety of others.

EXCHANGE TRADED FUNDS

Most ETFs are linked to an underlying index, often an equity index, but also indexes tracking a fixed-income or commodity market. An ETF portfolio, like an index fund portfolio,

changes only when the securities in its underlying index are updated.

Like an index mutual fund, an ETF strives to replicate the performance of its underlying index. ETFs resemble index funds in other ways too, but they trade as stocks do, on an exchange, where the share price is set by the changing forces of supply and demand.

You buy shares through your broker at the market price and sell them in the same way. The ETF sponsor doesn't buy your shares back as an open-end mutual fund does.

and all the day's buy and sell orders are transacted at that price.

Index funds aren't as numerous as actively managed funds. But they're increasingly being added to retirement savings plans, including target date funds and investor portfolios overseen by investment advisers.

MEETING THE DEMAND

The appeal of index-based investing has produced an interesting by-product. Not only has the number of investment possibilities increased, but so, too, has the number of indexes. The creation of new indexes is a direct response to increased demand from financial institutions that want to offer a greater number and wider variety of index-based products.

In order for a financial institution to offer an index fund or ETF that tracks a specific sector, a particular investment

MODEL T FUND

In 1975, John Bogle, one of the pioneers of index investing, proposed a new category of mutual fund with what was, for the time, a radical investment objective:

The fund wouldn't aim to beat the market as measured by the S&P 500, but would attempt to match it. That fund, the Vanguard 500 Index Fund Investor Shares (VFINX) is now the largest stock mutual fund in the United States.



CONTRACTUAL ISSUES

Index options contracts and futures contracts linked to underlying financial indexes such as the S&P 500, the Nasdaq 100, or short-term interest rate indexes let you:

- Hedge your portfolio against potential losses or the cost of future purchases
- Speculate on potential changes, up or down, in an index

What each contract is worth at any time before it expires is determined by a variety of factors, including what investors anticipate will happen to the index levels.



INVESTMENT PRODUCTS

Index-based investments are different than individual securities. You're likely to hear them called investment products, investment instruments, or investment vehicles. They're also described as passive investments since they aren't actively managed.

INDEX MUTUAL FUNDS

Index mutual funds are the oldest and most widely held index products. An index fund's portfolio is determined by the specific index to which the fund is linked. So the fund's portfolio changes only as the securities in the underlying index change. And the fund's objective is to replicate the return of the index.

Index mutual funds are **open-end funds**, which means the fund company issues as many shares as investors want to buy and buys back any shares investors want to sell. The sales and repurchase price is set once a day at the end-of-day **net asset value (NAV)**

style, or a socially responsible position, there must be an index that tracks that sector, style, or position.

Index providers, including Standard & Poor's Dow Jones Indices, MSCI, FTSE, and others, create and maintain indexes, which they license to financial institutions, giving them the right to use those indexes as the basis for their investment products. And financial institutions are willing to pay for the licenses because index-based products are both an important source of revenue and a key to staying competitive in the marketplace.

While mutual funds, ETFs, options and futures contracts are the best-known index-based investments, indexes also underlie index-linked certificates of deposit as well as equity indexed annuities, guaranteed investment contracts, structured products, and SWAPs.

BEING EFFICIENT

Interest in index-based investment products developed in tandem with the late-20th century emphasis on diversification and cost efficiency as the keys to maximizing investment return while managing investment risks.

Proponents of the **efficient market theory (EMT)** argue that a stock's current price accurately reflects all the information an investor can possibly know about that stock. As a result, they maintain that the market itself is the most efficient investment you can make.

Their conclusion—which is vigorously contested by a variety of market participants, technical analysts in particular—is that because it's impossible to predict market performance, it's also impossible for an individual or institutional investor to outperform the market as measured by an index like the S&P 500.

What's not controversial, however, is that index-based investing provides greater diversification at more modest cost and with more convenience than individual investors are able to achieve by assembling portfolios of individual securities.

Index Mutual Funds

Index investing can be an economical way to diversify your portfolio.

Most index mutual funds are designed to provide the same return that you would have if you owned all the securities in a particular index, minus fees. While you could, for example, buy and hold all of the stocks included in the MSCI Broad Market Index in the same proportion as they're weighted in the index, it's infinitely easier—and significantly cheaper—to invest in a

fund that tracks that index.

There are index funds linked to almost every known stock index for large, mid-cap, and small companies—as well as bond market indexes and international indexes. And there are a number of index funds based on indexes that track narrower market segments. In fact, you can create a broadly diversified portfolio that's made up entirely of index funds.

How a Fund Shakes Out

Each index fund's prospectus explains its approach to selecting investments, as well as providing its expense ratio, historical returns, risk profile, and other fund information.

Most index funds are **full replication** funds. That means they buy all of the securities in the funds they track. Others are **sample-based**. Providers of these funds may use complex mathematical models to identify securities from among those in the index or look for price inconsistencies on which they can capitalize.

An **enhanced index fund** chooses selectively from a particular index portfolio in order to produce a slightly higher return. The goal is to narrowly beat the index by anywhere from a fraction of a percent to two percentage points but not more, since a wider spread would classify the enhanced fund as an actively managed mutual fund rather than an index fund.

Enhanced index fund managers may achieve higher returns by identifying the undervalued stocks in the index, adjusting the holdings to include a larger proportion of securities in higher-performing sectors, or using other investment strategies, such as buying derivatives or using leverage. While enhanced index funds may expose you to the risk of greater losses than their plain-vanilla counterparts, they may also offer an opportunity for higher returns.

Quant funds are named for their quantitative investment style. They aim to beat the index funds they imitate by relying solely on statistical analysis to decide which securities will top the benchmarks. For example, instead of buying all the stocks in the S&P 500, a quant fund provider would buy selected stocks that its analyses indicate will turn a higher profit.

But no indexing approach guarantees a strong return or protects against losses in a falling market.

or 89 basis points, for equity funds and 0.65%, or 65 basis points, for bond funds, according to the Investment Company Institute (ICI). The comparable figures for index funds are 0.12%, or 12 basis points, for equity funds and 0.11%, or 11 basis points, for bond funds.

This means the average actively managed equity fund must outperform the average equity index fund by 0.77% to deliver the same return. That's not impossible, but it isn't always easy either. And if an actively managed fund has a bad year, perhaps because the manager's style was out of favor, investors still pay the higher expense ratio.

THE APPEAL OF INDEX FUNDS

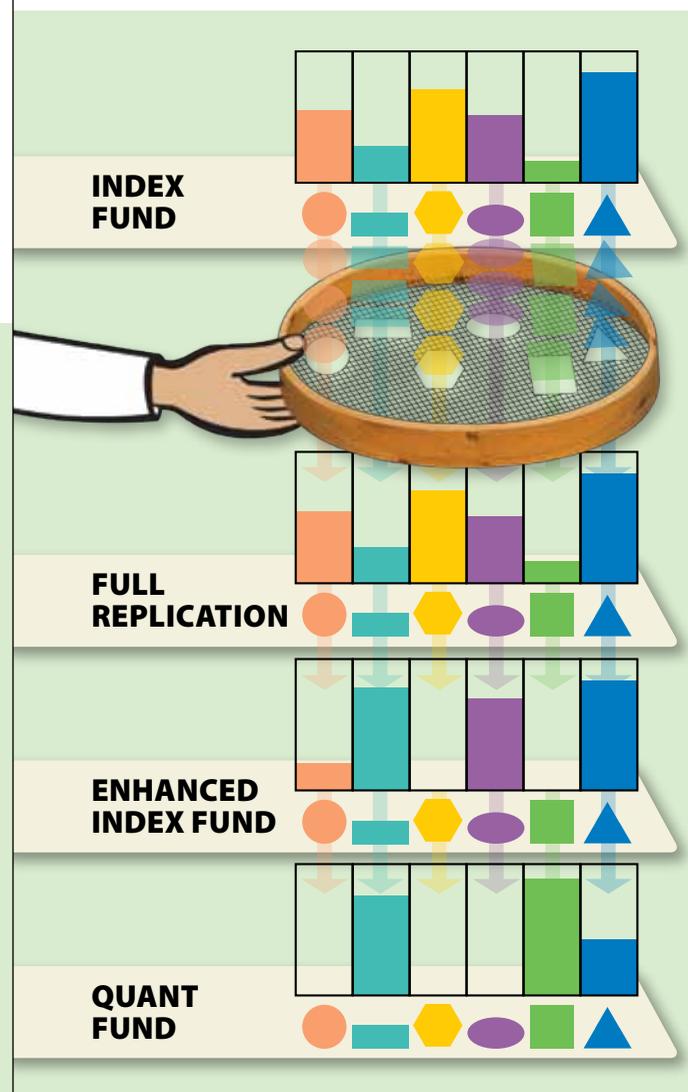
One reason for the popularity of index-based funds is that they tend to cost investors less than actively managed funds. That's because index-based fund portfolios are determined by the

relevant indexes, and not by professional managers. In addition, the fund holdings are traded only when the index changes—sometimes only once a year. This reduces transaction costs.

Investors like the **transparency** that index funds provide. Transparency, in this context, means that the fund holdings, and the percentage of the fund's portfolio that each of the holdings comprises, is clear at all times.

Each index fund prospectus clarifies its risk/return potential, as all mutual funds must. This can help investors select funds suited to their goals and risk tolerance more confidently.

Many index funds also offer the advantage of risk reduction that comes with a widely diversified portfolio. Indexes do vary, so some are more diversified than others. Indexes that track a narrow segment of the market will obviously be less diversified than broad-based indexes.



FEES TO AN END

The average **expense ratio** for an actively managed fund—which includes the management fees and operating expenses expressed as a percentage of the fund's net asset value (NAV)—is around 0.89%,

SHARES FOR RENT

To keep their expense ratios low, index fund managers may also use a variety of methods to offset the costs of running the fund—for example, by lending the fund's securities to investment firms for short sales. Those tactics are described in the fund prospectus.

It's important to keep in mind that index funds that replicate the same index may vary in performance if their expense ratios differ. The higher the ratio, the lower your return will be, even when funds are making the same investments. In addition, some fund companies levy a **load**, or sales charge, on their index funds, though most companies don't.

WHY THE INDEX MATTERS

When you're adding an index fund to your portfolio, you may not think about investigating the underlying index. That may be a mistake. Not all large-cap indexes are alike. Neither are all indexes tracking small-caps, corporate bonds, or any other asset class or subclass. Among other things:

- You'll want to know how the index provider defines the market it tracks or what it means when it describes a fund in thematic or strategic terms.
- You'll want to look at each index's roster of securities, since one index's mid-cap stock may be another index's large-cap.
- You'll want to look at the index's turnover rate, since frequent updating will mean that any fund linked to the index will also have to buy and sell frequently to remain aligned. That can increase your expenses and reduce your return.

Exchange Traded Funds

ETFs are increasingly popular investments for individuals and institutions.

An **exchange traded fund (ETF)** is an equity investment that has some characteristics of an individual stock and some of a mutual fund. ETFs are listed on a stock exchange, and you buy and sell shares through a brokerage account as you do a stock. But what you own is access to the collective performance of a portfolio of securities—sometimes described as a basket—as you do when you buy shares in a mutual fund.

The vast majority of ETFs are index-based, which means that the ETF portfolio is determined by the components of the particular index to which the fund is linked. For example, the first commercial ETF, the SPDR—short for Standard & Poor’s Depository Receipts and pronounced “spider”—holds all the stocks in the S&P 500.

ETFs are fully transparent, which means you can find the current list of securities an ETF holds on the fund provider’s website at any time. In contrast, actively managed mutual funds update their list of holdings quarterly but aren’t required to report any portfolio changes that occur within a quarter.

EVALUATING ETF APPEAL

In addition to making it easy to invest in a basket of securities with a single transaction, ETFs make it possible to allocate your portfolio across a variety of asset classes and diversify within those classes more economically than you would otherwise be able to do.

You can find ETFs for nearly every conceivable segment of the equity and fixed-income markets, plus funds that track real estate, commodities, currencies, and natural resources, among others.

That doesn’t mean, however, that all ETFs are equally suitable for your portfolio, equally liquid, or equally diversified. Generally the most liquid and diversified funds are those that invest in the most sought after, broadest-based indexes.

The cost of buying ETFs varies as well. In many cases you pay a commission when you

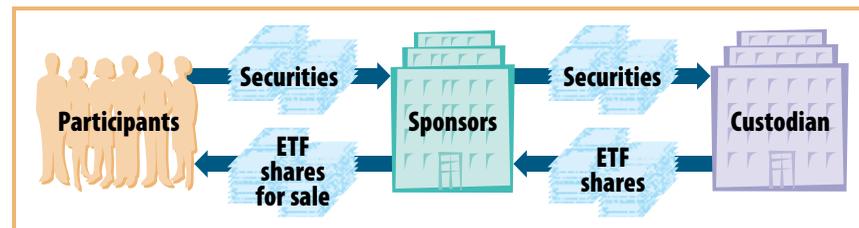
buy or sell, but a number of brokerage firms and the brokerage arms of ETF sponsors don’t charge commissions on at least some of the ETFs they sell.

PERFORMANCE FACTORS

An ETF’s performance is based primarily on what is happening with its underlying investments, or components of its index. But the underlying investments don’t tell the whole story. The fund expenses and management practices, such as how quickly the ETF reinvests cash from dividends and capital gains, can mean an ETF’s return varies from the return of the index it seeks to replicate.

This gap is called the **tracking error**.

The smaller the negative tracking error—the amount by which an ETF’s return trails that of its index—the happier investors and fund sponsors are. It’s smart to compare the fees and expenses of ETFs tracking similar segments of the market to help ensure you



make the most cost-efficient choice. You can get a snapshot of comparative costs by looking at each ETF’s **expense ratio**.

You’ll also want to investigate any other factors that may impact return. For example, an ETF that tracks an index whose components change frequently may have a higher tracking error because its trading costs—which aren’t included in the expense ratio—are higher.

CREATING AN ETF

Before you can buy shares in an ETF, the fund must be created. The fund

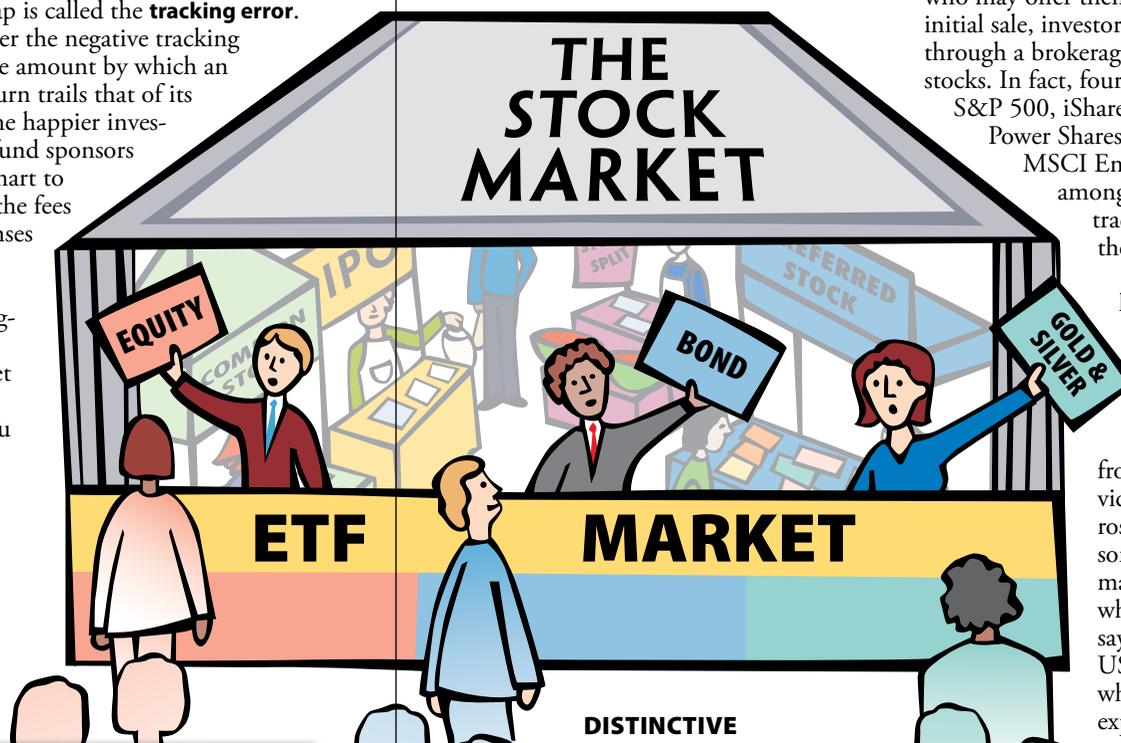
provider, usually a major money management firm, registers the offering with the SEC and invites authorized participants to accumulate and deposit baskets of securities that are included in a particular ETF, or sometimes a combination of cash and securities. The basket is called a **creation unit** and is equal in value to a fixed number of ETF shares, typically between 25,000 and 200,000.

The sponsor forwards the securities to a custodian, usually a bank, for safe-keeping. The custodian, in turn, sends the ETF shares to the participants, who may offer them for sale. After the initial sale, investors buy and sell shares through a brokerage firm, just as they do stocks. In fact, four ETFs—the SPDR

S&P 500, iShares Russell 2000, Power Shares QQQ, and iShares MSCI Emerging Markets—are among the most actively traded securities in the United States.

An ETF sponsor licenses the right to use a particular index to underlie each fund it offers, and typically selects indexes

from a variety of providers to create a diverse roster of offerings. In some cases, the sponsor may change indexes when a license expires, say from one small-cap US index to another, while keeping the exposure of the ETF essentially the same.



DISTINCTIVE DIFFERENCES

Despite certain similarities to mutual funds, ETFs are different in a number of ways. Of course, in either case, you risk potential loss of value if securities prices decline or if you sell in a falling market.

- ETFs trade throughout the day at current market price, while mutual funds shares trade only once, at the end-of-day NAV
- ETFs don’t have to buy and sell shares to accommodate shareholder purchases and redemptions, minimizing portfolio turnover and the potential tax consequences of capital gains or losses
- ETFs can be bought on margin or sold short, even on a downtick, which is useful in hedging or other risk management strategies

	Exchange traded funds	Index funds
Real-time quotes	Yes	No
Intraday trading	Yes	No
Commissions or sales charges	Sometimes	Sometimes
Shareholder services	No	Yes
End of day NAV = Trading price	No	Yes
Sold on an exchange	Yes	No
Buy on margin or sell short	Yes	No

The Ins and Outs of ETFs

The more you know about ETFs, the more you may want to know.

Like mutual funds, each ETF has a **net asset value (NAV)** that reports what a single share is worth at a particular point in time.

The NAV is determined by the total market capitalization of the securities the ETF holds plus dividends or interest, minus fund expenses, divided by the number of fund shares. In other words, the NAV is not a fixed value, and moves up or down as the price of the underlying investments change and the number of outstanding shares increases or decreases.

PREMIUMS AND DISCOUNTS

You don't pay the NAV when you buy shares, and you don't receive that value when you sell as you do with index mutual funds and other no-load funds. Instead, an ETF trades at the market price, which is determined by supply and demand and other market forces, as the market prices of individual stocks are. If other investors are buying when you buy, creating greater demand, you may pay more than the NAV. And if you buy when the majority is selling, you may pay less than the NAV.

If the price of an ETF is higher than the NAV, you're buying or selling at a **premium**. And if the price is lower than the NAV, you're buying or selling at a **discount**. The amount of the premium or discount is usually very small, and the more popular the ETF is, the lower the spread between the market price and the NAV tends to be.

A unique feature of ETFs is that **authorized participants**, usually institutional investors or market makers, may buy large blocks of shares at the NAV with in-kind baskets of the fund's securities or redeem shares for a basket of securities. This helps ensure that

VALUE OF AN ETF SHARE

Market capitalization
of fund shares

- + Dividends or interest
- − Fund expenses
- ÷ Number of fund shares

= **NAV**

NAV CHANGES AS:

- Securities prices change
- Number of shares changes

IDENTITY SHIFT

In the past, closed-end mutual funds, which issue a fixed number of shares and are listed on a stock market, were often described as exchange traded funds. Unlike an index-based ETF, though, a closed-end fund typically includes a portfolio of assets that are not intended to resemble those in a particular index.

ETF prices don't deviate significantly from their NAVs and provides a buffer against potentially large premiums and discounts often associated with closed-end mutual funds.

However, as the number of ETFs grows, the roster includes some that are very narrowly focused. Others are linked to nontraditional indexes, while still others actively managed.

You can't be assured that these newer funds will have the same **liquidity** as the most widely traded ETFs or that their NAVs and market prices will always be closely aligned.

ASSET ALLOCATION MADE EASY

Since the holdings in an ETF's portfolio must be made public every day, and since those securities also appear in the index that the fund tracks, the asset class to which the ETF belongs is clear. The advantage to an investor is that ETFs

may simplify the process of building a portfolio that corresponds to a specific asset allocation model.

For example, the SPDR trust owns shares of the 500 large-capitalization stocks in the S&P 500, making it a large-cap equity ETF. You can similarly find mid-cap and small-cap equity ETFs, long-term corporate bond ETFs, and ETFs invested in a specific, sometimes narrow, sector—say companies that manufacture semiconductors.

Actively managed mutual fund portfolios are likely to be less homogeneous. While mutual funds typically focus on a particular asset class, they may actually shift the makeup of the fund in some circumstances. For example, under certain market conditions, some funds may hold a substantial percentage of their assets in cash. Others may seek to improve their returns by buying securities in different asset classes to take advantage of what's happening in the markets.

While those actions are perfectly legal, they might leave you **under-weighted** in the asset class you have selected, and **over-weighted** in another. For example, if you purchase a small-cap mutual fund that holds 50% of its assets in cash, you have only half the exposure to small-cap stocks that you had anticipated. Of course, you can also buy individual securities in different asset classes as you allocate your portfolio. But that requires more research and many more transactions than researching and purchasing an ETF.

NAV vs. TRADING PRICE

Trading
at a
PREMIUM

Trading Price

DETERMINED BY:

- Supply and demand
- Market forces

Trading at a
DISCOUNT

GETTING DIVERSIFIED

ETFs, like other funds, simplify portfolio diversification since you don't have to evaluate and buy individual securities in sufficient numbers to protect yourself against portfolio risk.

For example, if you own shares of the PowerShares QQQ, which is made up of the 100 largest nonfinancial companies listed on the Nasdaq Stock Market, you might reasonably anticipate—though nothing is guaranteed—that even if some of the stocks falter as part of the normal market fluctuation, other stocks will gain.

And since ETFs trade throughout the day, an added advantage is the speed with which you can gain exposure to an

underlying index and diversify your holdings. If, for example, your research indicates that there might be a surge in a certain sector's performance—particularly a sector in which you might be under-weighted—you can make a tactical bet and buy an ETF based on that sector's index. But there are trading costs and possible tax consequences to consider.

AN ALTERNATIVE BETA

You can add some spice to your portfolio with one or more strategy ETFs. The index to which a strategy ETF is linked probably won't be market-cap weighted, and the objective won't be to replicate market performance. Instead, the goal will be to deliver what's known as an alternative beta. That means a return that's either better than or more consistent than overall market returns. You should be prepared, however, for the risk of greater loss.

ETFs: Strategies, Taxes, and Risk Management

ETFs can play many parts in your investment strategy.

Although buying and holding is a viable strategy for ETFs, as it is for individual securities and open-end mutual funds, the recent boom in ETF popularity can partly be explained by their flexibility as an investment vehicle. They can be shorted, bundled, hedged, and optioned.

PAIRS TRADING

Pairs trading is a strategy that exploits both the similarities and differences between ETFs and stocks. Here's how it works:

to remember, however, that this strategy comes with obvious risks. If both the stock and the sector ETF produce results different from what you anticipated, your losses could be compounded.

DRYING OUT THE WASH

As part of a tax-planning strategy, you may sell investments that have lost value during the year and use that loss to offset taxable capital gains on other investments. But it's crucial to the strategy's success to avoid what's known as a **wash sale**. That happens when you

Suppose your research indicates that XYZ company has strong growth prospects but is in a sector that appears to be sluggish. One potential way to capitalize on the difference between the performance of XYZ stock and its entire sector is to buy the stock and short the sector ETF.

Shorting means borrowing shares of the ETF through your broker and selling them in the marketplace, expecting them to drop in price. If they do, you buy back the shares at the lower price, return them to your broker, and pocket the difference between what you sold them for and what you had to pay to rebuy them, minus interest and commissions.

Or, if the circumstances are reversed—the sector looks strong but XYZ company is struggling—you could do the exact opposite—namely, buy the ETF and short the stock. It's important

sell an investment that has lost value, realize that loss to offset other gains, and buy what securities law describes as a substantially identical investment within 30 days before or 30 days after the sale.

To avoid a wash sale, you might sell an investment that has lost value to offset other gains, and then

buy an ETF that is similar to the investment you sold, but not substantially identical to it—and thereby avoid hanging yourself out to dry. After 30 days, you may buy back your original investment and then decide whether to hold or sell the ETF.

OPTIONS FOR RISK MANAGEMENT

As ETFs have grown more popular, individual investors have grown more creative in using them to manage portfolio risk and hedge against potential losses in their portfolios. The most frequent tool is an options contract.

A VOLATILITY OPTION

You can invest in an ETF linked to the CBOE Volatility Index, or VIX, as a way to diversify your portfolio, hedge the risk of losses in an unsettled market, or profit by correctly anticipating the way the market will behave in the near-term. But unlike most ETFs, those linked to the VIX are never appropriate as long-term investments. It's best to think of them as short-term tools.

Another way to protect your ETF holdings against a steep drop in price is to

purchase a protective put. That way, you have the right to sell your shares if the price falls below the strike price.

Buying a protective put means you'll be able to limit your loss if the price falls during the term of the contract, either by exercising your right to sell your ETF shares or by selling the contract itself. As a general rule, the more the ETF decreases in price, the more valuable the put may become. And if prices don't fall and your option expires unused, the typically small premium you pay may have provided some valuable peace of mind.

Two conservative hedging strategies for using ETF options are **covered calls** and **protective puts**. Say, for example, you own shares in an ETF and would like to protect your unrealized gains against a potential downswing in the market. By **writing**, or selling, a covered call, you can do just that. You collect a premium for the call and if the option holder exercises the contract, you sell your ETF shares at the strike price. Keep in mind, however, that in doing so you also limit your potential earnings if the ETF eventually increases in value to a price higher than the strike price of the call you wrote.



TAX EFFICIENCY OF ETFs

ETFs are relatively tax-efficient investments, especially when compared to actively managed mutual funds. One reason is that ETFs do not have to redeem shares for cash when you want to sell, as open-end mutual funds must do. That reduces turnover, limiting more costly short-term gains and eliminating what are known as **phantom gains**, which are fund earnings on which you may owe tax but which were accrued before you purchased your shares.

Of course, if you own an ETF in a taxable account, you may owe tax on any

capital gains you realize if you sell your shares. You'll also owe tax on any investment income, though dividend income paid by qualifying stocks may be taxed at your lower long-term capital gains rate. You may also realize capital gains when the fund updates its portfolio to reflect changes in the index it tracks.

With both ETFs and mutual funds, you can decide when to sell your shares. For example, you may want to sell shares late in the year and use a potential capital loss to offset gains. Or you might decide to postpone a sale on which you'll realize gains until the next tax year.

Indexes Plus

Indexes take aim at a long list of moving targets.

Although many of the best-known indexes track the US stock, bond, and commodities markets, they're only part of the index landscape.

There are multiple indexes reporting the activity of the world's major markets, including the London FTSE, which tracks the London Stock Exchange, the Paris CAC 40, and Tokyo's Nikkei Stock Average, as well as markets in South and East Asia, South America, Africa, and Australia.

Smaller economies, some described as emerging and others as frontier markets, are often tracked regionally rather than individually.

Indexes also track the performance of various categories of mutual funds and a variety of other asset classes. Most of these indexes are designed as benchmarks, though some, such as certain hedge fund indexes, are the basis of financial products.

INDEXES AROUND THE GLOBE

Morgan Stanley Capital International, known as MSCI, has developed one of the world's most comprehensive indexing systems, tracking both developed and emerging securities markets in various geographic regions.

The MSCI-EAFE is probably the best known, and the one against which US activity, as tracked by the S&P 500 and the MSCI Large Cap index, is most frequently compared. EAFE covers stock markets in Europe (E), Australasia (A), and the Far East (FE). As with other major indexes, there are both index funds and ETFs linked to the EAFE.

The comprehensive S&P Global Equity Index Series tracks global stock

market performance with the S&P Global 1200 and its subsets, an ADR Index, and a range of thematic indexes. There are S&P indexes for Europe, Asia, and the Americas as well as a range of Shariah indexes.

Standard & Poor's also provides emerging market indexes, some developed with the International Finance Corporation, a division of the World Bank. These indexes provide benchmarks that investors can use to evaluate the performance of newer markets that are eager to attract international capital.

Dow Jones Indexes track both country and world markets, including the Dow Jones China 88, Russian Titans 10, and the Euro STOXX 50.

GLOBAL STANDARDS

In 1999, MSCI and Standard & Poor's jointly developed the Global Industry Classification Standard (GICS) to establish a global standard for categorizing companies into sectors and industries based on their primary business activity.

The goal is to ensure that investors, asset managers, and investment researchers can make meaningful comparisons among the results that local, regional, and global indexes report. The two companies update the standard every year to keep the categories timely.

MARKET RIPPLES

Among the lessons that indexes teach is how interconnected the world's markets actually are. What happens in London and Tokyo while US stock markets are closed—as reported by the FTSE and the Nikkei—often has a significant impact on the prices of futures contracts traded before the opening bell on the New York Stock Exchange (NYSE).

While the markets don't march in lockstep, when the FTSE is down, prices for futures contracts on the S&P 500 and the DJIA are usually down as well. And if the FTSE is up, those futures prices are generally up. As the trading day develops, the expectation of gains or losses doesn't always materialize. But it happens often enough to influence investor behavior.

COMMODITIES INDEXES

What happens in the commodities marketplace has both an immediate and a long-range impact on the economy. For example, when indexes tracking those markets are significantly up or down in comparison to the previous year, it may indicate that a period of volatility is likely.

The best-known commodities indexes, including the Thomson

Reuters/Core Commodity CRB Index, the S&P Goldman Sachs Commodity Index (S&P GSCI), and the Dow Jones Commodity Index, each track somewhat different elements. For example, the CRB tracks 19 commodities—aluminum, cattle, cocoa, coffee, copper, corn, cotton, crude oil, gold, heating oil, hogs, natural gas, nickel, orange juice, silver, soybeans, sugar, unleaded gasoline, and wheat.

Taking the Economic Pulse

There are also a number of indexes that economists and lawmakers use to help them understand and anticipate changes in the economy.



- The **Index of Leading Economic Indicators**

is the primary tool for forecasting changing patterns in the economy. Its ten components, which currently include the S&P 500, the average work week, and average initial claims for unemployment, are adjusted from time to time to help improve the accuracy of the index.



- The **Producer Price Index (PPI)** is also compiled monthly by the BLS and measures price changes from the perspective of the seller, not the buyer. Since manufacturers often pass on the higher prices of wholesale items to consumers, analysts use the PPI to anticipate changes in the CPI.



- The **Consumer Price Index (CPI)**

is compiled monthly by the US Bureau of Labor Statistics (BLS) and is used to gauge inflation by measuring changes in the prices of basic goods and services. The CPI, though widely acknowledged to be less than a perfect measure, is used as a benchmark for making adjustments in Social Security payments, wages, pensions, and tax brackets to keep them in tune with the buying power of the dollar.



- The **Employment Cost Index (ECI)** is published quarterly by the BLS and measures the growth of employees' compensation, or the cost of labor, in private industry, as well as in state and local government. Many economists look to the ECI for inflationary warning signs. A greater than expected increase in the index is often seen as an indicator of rising inflation, since employees' wages tend to increase before consumer prices.



GICS

Mutual Funds: Putting It Together

A mutual fund buys investments with money it collects from selling shares in the fund.

The idea of diversification is that it's smarter to own a variety of stocks and bonds than trying to meet your financial goals based on the successful performance of just a few. But diversifying can be a challenge because buying a portfolio of individual stocks and bonds can be expensive. And knowing what to buy—and when—takes time and concentration.

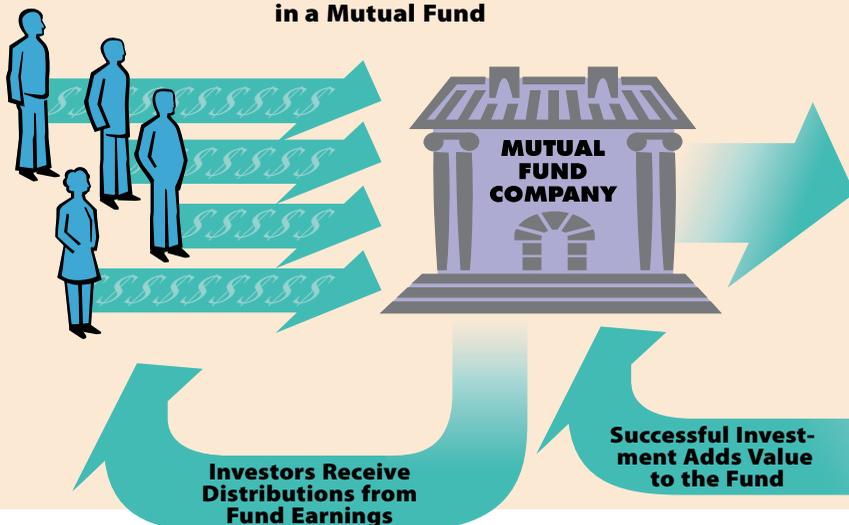
Mutual funds offer one solution: When you put money into a fund, it's pooled with money from other investors

to create much greater buying power than you would have investing on your own. In an **actively managed** fund, professional managers decide what to buy and when to sell. An index, or passively managed, fund holds all or some of the securities in an index.

As a fund shareholder, you own the fund's **underlying investments** indirectly rather than outright, as you do when you buy stock. Since a fund may own dozens of different securities, its **return** isn't dependent on just a few holdings.

How Mutual Funds Work

A Large Number of People with Money to Invest Buy Shares in a Mutual Fund



PAYING OUT THE PROFITS

A mutual fund may make money in two ways: by earning dividends or interest on its investments and by selling investments that have increased in price. The fund distributes, or pays out, these profits (minus fees and expenses) to its investors.

Income distributions are paid from the income the fund earns on its investments. **Capital gains distributions** are paid from the profits from selling investments. Different funds pay their distributions on different schedules—

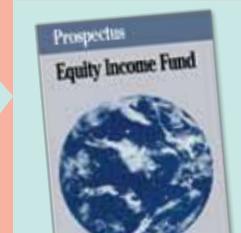
typically monthly or quarterly. Many funds offer investors the option of reinvesting their distributions to buy more shares.

If you hold the fund in a taxable account, you owe taxes on the distributions you receive, whether the money is reinvested or paid out in cash. But if a fund loses more than it makes in any year, it can use the loss to offset future gains. Until profits equal the accumulated losses, distributions aren't taxable, although the share price of the fund may increase to reflect the profits.

HOW A MUTUAL FUND IS CREATED



A mutual fund company decides on an investment concept



Then it issues a prospectus



Finally, it sells shares

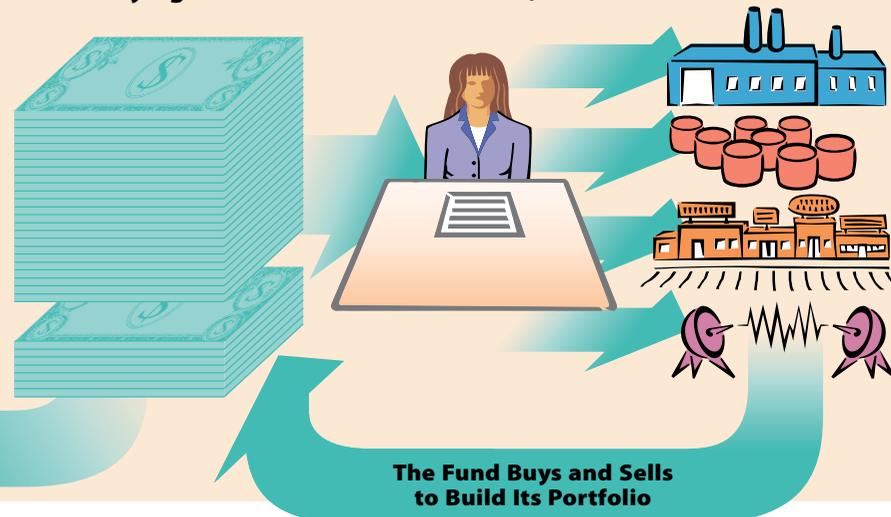
A FUND SNAPSHOT

Investment companies (also called mutual fund companies), brokerage firms, banks, and insurance companies offer mutual funds for sale to individuals and institutional investors, such as money managers or pension funds. Most fund sponsors offer a range of funds, but some specialize in bond funds or stock funds.

Each actively managed fund has an investment objective and a strategy for building its portfolio. The manager invests to produce a return, or gain, that's stronger than the return of the market from which the fund's investments are chosen and to outperform competing funds. Most index funds seek to replicate market returns.

Their Pooled Money Has More Buying Power

The Fund Manager Invests the Money in a Collection of Stocks, Bonds, or other Securities



OPEN- AND CLOSED-END FUNDS

Most mutual funds are **open-end funds**. This means the fund sells as many shares as investors want. As money comes in, the fund grows. If investors want to sell, the fund buys their shares back. Sometimes open-end funds are closed to new investors when they grow too large to be managed effectively—though current shareholders can continue to buy shares. When a fund is closed in this way, the investment company may create a similar fund to capitalize on investor interest.

Closed-end funds more closely resemble stocks in the way they are traded. While these funds do invest in a variety of securities, they raise money only once and offer only a fixed number of shares that are traded on an exchange or over-the-counter. The market price of a closed-end fund fluctuates in response to investor demand as well as to changes in the value of its holdings.

The Mutual Fund Market

Mutual funds never invest at random. Each shops for products that fit its investment strategy.

There are three main categories of mutual funds:

- **Stock funds**, also called equity funds, invest primarily in stocks.
- **Bond funds** invest primarily in corporate or government bonds.
- **Money market funds** make short-term investments in an effort to keep their share value fixed at \$1.

THE PART DIVERSITY PLAYS

Most funds diversify their holdings by buying a wide variety of investments that correspond to their category. A typical stock fund, for example, might own stock in 100 or more companies providing a range of different products and services. The appeal of diversification is that losses on some stocks may be offset—or even outweighed—by gains on others.

Some funds are extremely focused:

- **Precious metal funds** trade chiefly in mining stocks.
- **Sector funds** buy shares in a particular segment of the market, such as healthcare, technology, or utilities.
- **High-yield bond funds** seek high income from low-rated bonds.

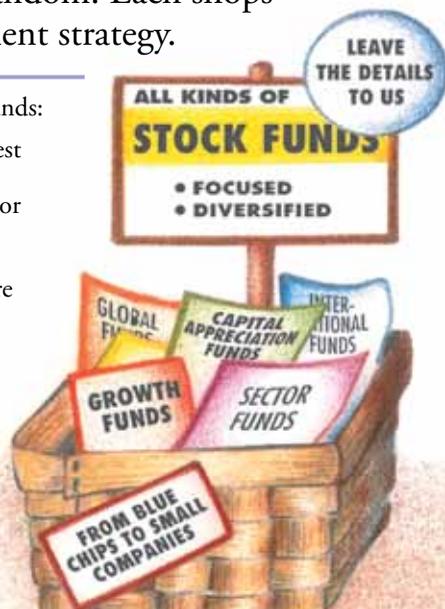
The attraction of focused funds is that when they're doing well, the returns can be outstanding. The risk is that a change in investor demand, regulation, or the economy can intensify losses because the fund holdings aren't more diversified.

A TEAM APPROACH

A fund manager works with teams of **analysts** who evaluate fund holdings, assess the financial markets, and identify companies that may be appropriate additions to the fund portfolio.

A fund also employs **traders**, who stay tuned to the market and buy or sell specific securities when the price is within the range the manager has set, based on the analysts' research. The fund's back office manages these transactions, which may involve buying and selling millions of dollars of securities each day.

At the close of the trading day—4 p.m. in New York—the fund determines its price per share, and all the buy and sell orders submitted during the day are transacted at that price.



STOCK FUNDS

In one way, the name says it all. Stock funds invest in stocks. But stock funds vary, depending on the fund's investment objective, the universe of stocks from which it draws its portfolio, and its investment strategy or style.

Most stock funds concentrate on a particular area within the overall stock market. A fund might invest in large, dividend-paying companies or promising small-cap companies. It might focus on new **growth** companies or those described as **value** investments, where a company's stock price is lower than seems justified.

SPECIALIZED FUNDS

You may want to consider funds tailored to help you meet specific investment goals or simplify building a diversified portfolio.

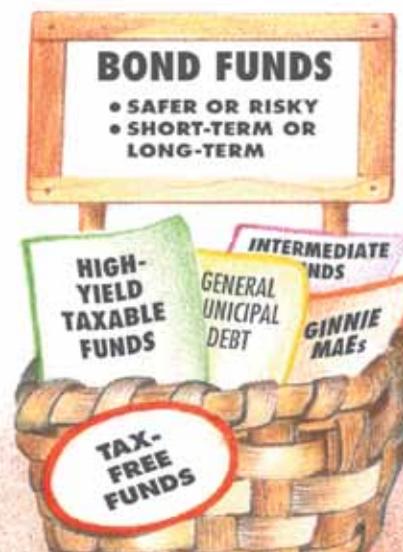
Rather than choosing stock funds and bond funds to populate your portfolio, you may prefer a **balanced fund**. A balanced fund invests in both stocks and bonds, allocating a percentage to each—such as 60% to stocks and preferred stocks and 40% to bonds. You can find the specific proportions in the fund's prospectus. A balanced fund may provide a less volatile return than a fund investing in a single asset class.

Environment, social, and governance funds attract investors whose strong convictions make them unwilling to

IT'S ALL IN THE FAMILY

Mutual fund companies usually offer a variety of funds—referred to as a family of funds—to their investors. Keeping your money in the

family can make it easier to transfer money between funds, but like most families, some members do better than others.



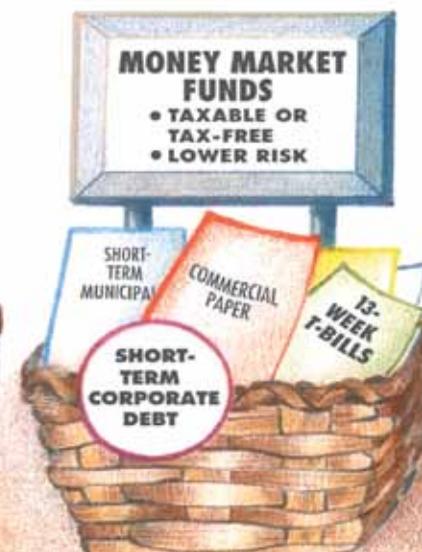
BOND FUNDS

Like bonds, bond funds provide income. Unlike bonds, however, these funds have no maturity date, no fixed rate, and no guaranteed repayment of the amount you invest, in part because the fund's holdings have different terms.

On the plus side, you can reinvest your distributions to buy more shares. And you can buy shares in a bond fund for much less than you would need to buy a bond portfolio on your own—and get a diversified portfolio to boot. For example, you can often invest \$2,500 or less to open a fund, and make additional purchases for smaller amounts.

Bond funds come in many varieties, with different investment goals and strategies. There are investment-grade **corporate bond funds** and riskier junk-bond funds often sold under the promising label of high yield. You can choose long- or short-term **US Treasury funds**, funds that combine issues with different maturities, and a variety of tax-free **municipal bond funds**, including some limited to a particular state.

put money into companies whose business practices are at odds with their beliefs. A fund might avoid companies with poor environmental records, with specific employment practices, or those selling certain products. In its prospectus, each fund explains the criteria, called **screens**, it uses to find acceptable investments.



MONEY MARKET FUNDS

Money market funds try to maintain their value at \$1 a share, so they're often described as cash equivalent investments.

These funds may pay higher interest than bank accounts and can serve as useful holding accounts for money you're about to invest. However, unlike bank or credit union deposits, money market funds are not federally insured, and it's possible you could lose money.

Regulations instituted in 2014 require institutional prime money funds to report a floating net asset value (NAV) and added other protections to prevent runs on funds that are losing value.

If you're investing in mutual funds in a retirement savings plan, you may want to consider a **target date fund**, sometimes called a lifecycle fund. For example, if you plan to retire in 2035, you might choose XYZ Fund Retirement 2035. The XYZ fund company will invest primarily in stocks for a number of years, and then move more money into bonds and perhaps cash as 2035 gets closer, with the goal of achieving growth now to provide income later.

The Language of Mutual Funds

Mutual funds don't keep performance secrets from their shareholders.

You can find a mutual fund's current price—and much more information about the fund—on financial news websites, the investment company's website, and in the financial pages of a newspaper. These daily reports are usually limited to the most recent NAV and percentage change from the previous trading day. The monthly and quarterly reviews provide substantially more detail about fund cost and performance.

Unlike a stock or an exchange traded fund (ETF), whose price changes constantly throughout the day as investors buy and sell shares, a mutual fund's

net asset value (NAV) is fixed at the end of each trading day. That price remains in effect until the close of trading on the next day.

Year-to-date return (YTD) is the total return since the beginning of the current year, and assumes that all distributions were reinvested.

Ratings compares a fund with other funds of the same general type or having the same objective, or both. The rating may use stars, with 5 stars being the highest, or letters—with A being the highest and E the lowest—or numbers, typically from 1 to 5. Be sure to check the explanation or footnotes to find out how the ratings are determined.

FIGURING THE PRICE

After the markets close, each mutual fund:

- Multiplies the final price of each of its underlying investments by the number of shares of that investment the fund owns
- Adds those amounts to figure total value and subtracts fees and expenses
- Divides the net value by the number of fund shares that investors own to calculate the fund's new NAV



This information is forwarded to FINRA, the Financial Industry Regulatory Authority, which passes it to financial reporting firms.

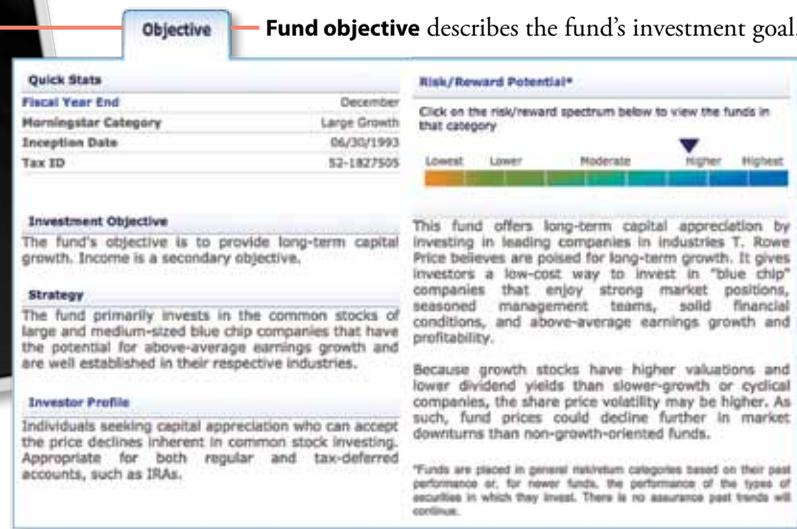
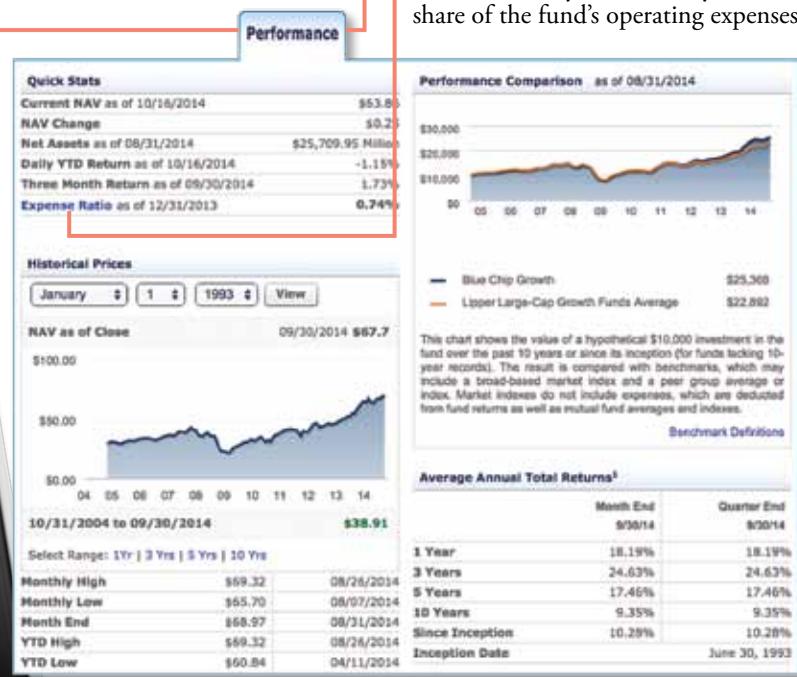
These companies calculate each fund's performance based on the most recent data. Some of them, including Standard & Poor's, Lipper, and Morningstar, evaluate the funds using many different criteria, such as returns over specific time periods, performance compared to other funds with the same objective, and the suitability of funds for specific investor goals. This information is available on fund company's and other websites and in the financial press.

Fund performance, calculated as **total return**, is reported for several different time periods. The results are figured assuming that all distributions have been reinvested and that annual operating expenses, but not sales or redemption charges, have been subtracted.

The longer the fund's history, the more clearly you can see how it has performed in different market conditions.

The figure for 1 year reports on the previous 12 months. The reports for 3, 5, and 10 years, when they're available, are annualized to give you the average figure per year.

Exp(ense) ratio is the percentage of the fund's current income that's deducted each year to cover your share of the fund's operating expenses.



Evaluating Mutual Funds

All mutual funds may be created equal, but some are more equal than others.

You may be looking for a mutual fund to help diversify your portfolio or meet a specific objective, such as long-term growth or current income. With several thousand funds to choose from, how do you narrow the choice?

Past performance shows the fund's returns in previous years. While this measure doesn't guarantee future returns, it does reveal where the fund has stood in relation to comparable funds and appropriate benchmarks and whether its returns have been consistent or erratic. Performance is affected by what's in the fund's portfolio, which reflects the thinking and the skill of the fund management. Before you invest in a strong-performing fund, it pays to check if the managers responsible for that performance are still at the helm.

One measure of a fund's risk is its **volatility**, or the variation in its return—above and below—its average return. The amount of risk you're comfortable with will depend in large part on your time frame for holding the fund.

The longer you plan to stay invested, the more volatility you may be comfortable with. That's because you're more likely to have time to benefit from potential gains and recover from potential losses that result from fluctuating prices.

A DETAILED OVERVIEW

You can find much of the information you need to evaluate a fund all in one place: the **prospectus**. The SEC requires all mutual fund companies to publish this document for each fund and provide a copy to potential investors or along with the confirmation of an initial investment in a fund.

In addition to stating the fund's objective and explaining the way it invests, the prospectus explains the fund's fees, past performance, after-tax returns, and risk profile. It lists the portfolio holdings, identifies the fund manager, and, if there is a sales charge, explains the cost of choosing different classes of shares.

Funds also provide supplementary materials, such as the annual Statement of Additional Information (SAI), which details the fund's policies on leverage, brokerage commissions, and other data.

EVALUATING A FUND

The important elements in any mutual fund evaluation include:

- **The cost of investing, based on the fund's expense ratio and turnover rate**
- **Its performance history**
- **Its risk profile**
- **Its management team**

The cost of investing in a fund has a predictable effect on the fund's performance. The higher the fund's **expense ratio**, which is the percentage of your account's value that you pay in annual fees, the lower your long-term return. That's because every dollar you pay in fees reduces both the present value of your account and the amount available for reinvestment.

Turnover rate is a measure of how frequently the fund buys and sells investments. Funds with a high turnover rate tend to have high transaction costs, which are paid out of the fund's income, and therefore reduce return. Frequent selling can also produce short-term capital gains, which may mean you'll have taxable investment income that you hadn't anticipated.

RATINGS & RANKINGS



The work of independent professional analysts is another important resource in evaluating funds. In addition to detailed, objective reviews of the funds they cover, independent research firms, such as Standard & Poor's, Morningstar, and Lipper, also rate or rank mutual funds. A **rating** is based on how well a fund meets a specific set of criteria. A **ranking** is the relative standing of a fund when compared to funds in the same category.

For example, Standard & Poor's ranks equity funds on their three-year **Sharpe Ratio**, which is the fund's return minus the return on 3-month Treasury bills, divided by the fund's standard deviation. **Standard deviation** is a measure of volatility, or the extent to which the fund's return varies above and below its average return.

In contrast, Morningstar, which like S&P uses a star system, rates funds based on risk-adjusted total return, combining performance and risk in one evaluation.

Lipper evaluates funds on the strength and consistency of their success in meeting their investment objectives and identifies the strongest as Lipper Leaders.

Of course, rankings and ratings don't tell the whole story. But if you understand the basis for the evaluations, they can provide a useful starting point.

These and other research firms provide some rating and ranking data on their websites and send more detailed reports to their subscribers. If you work with a broker or investment adviser, he or she may provide this research. You can also check to see if your public library carries any of these research reports.

PROCEED WITH CAUTION

You don't have to look very hard to find advice about which funds to buy, but you do have to take a hard look at the quality of the advice and the person providing it. Ask yourself what's being sold and who will profit.

TRANSPARENCY ISSUES

Most actively managed mutual funds trade frequently but publish a list of holdings quarterly. This means you really don't know, at any given time, what the fund owns—since changes could be made as soon as the new quarter begins. In contrast, the holdings of an index mutual fund or an index-based ETF are fully transparent at all times. Some investors consider this clarity a major advantage in constructing their portfolios.

Fund Objective and Style

If you know what you want to achieve, you can probably find a fund that shares that goal.

Every mutual fund has an investment objective, which it describes in its prospectus. The fund's name often reflects the objective—for example, a fund that seeks a balance of growth and income might call itself the ABC Growth and Income Fund.

Most fund objectives are designed to provide a particular type of return, sometimes within a specific time frame. As a result, the fund objective has a major impact on the types of securities that dominate the fund's portfolio.

Explicit fund names are also good indicators of how the fund invests. That's largely because SEC rules require that any fund whose name suggests a certain type of investment must commit at least 80% of its assets to those securities.

SIZE MATTERS

Some equity funds concentrate on stocks issued by companies of a specific size, based on their **market capitalization**, or **market cap**. Market cap is figured by multiplying the company's current price per share by the number of floating shares. Those are company shares available for trading.

Companies are generally divided into three sizes—large cap, mid cap, and small cap—and so are the funds that invest primarily in one of these groups.

Large caps are companies with capitalizations greater than \$5 billion.*

Mid caps are companies valued between \$1.5 billion and \$5 billion.*

Small caps are companies valued at less than \$1.5 billion.*

A fourth category, called **micro caps**, are even smaller companies.*

Some funds are multi caps, which means they invest in companies of different sizes.

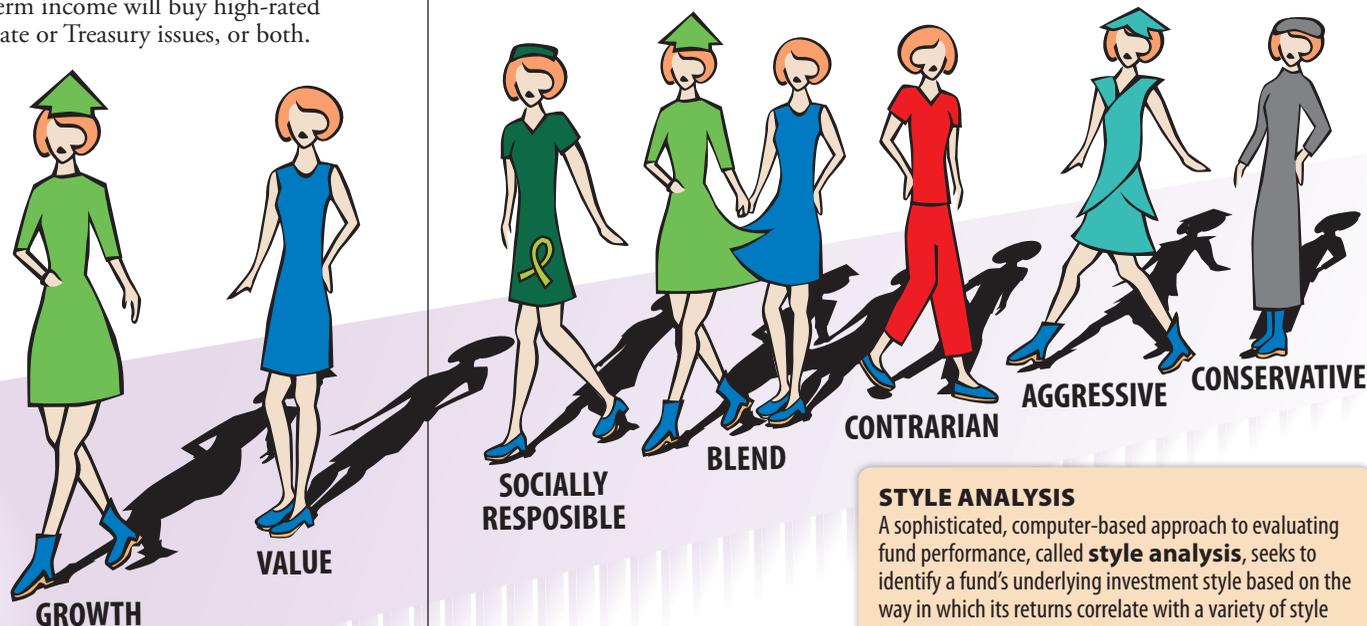
Size typically affects the way an investment behaves as market conditions change. In general, though not in every case, the smaller the market cap, the

greater the risk to your **principal**, or amount invested, and the greater the potential for a substantial return.

ALL IN THE TIMING

Bond funds, in contrast, tend to differentiate their investments based on issuer, rating, or term. Here, too, the name of the fund is generally a good indicator of the way it invests.

For example, a high-yield bond fund seeking the highest possible current income will concentrate on the lowest-rated bonds that meet its criteria. Similarly, a tax-free income fund will concentrate on municipal bonds, perhaps from a single state. And a fund whose objective is long-term income will buy high-rated corporate or Treasury issues, or both.



STYLE IN A BOX

A stylebox is visual shorthand for categorizing individual mutual funds by market cap and investment style. It's designed to help investors pinpoint a fund's basic characteristics, such as the large-cap value fund highlighted here, and pinpoint its risk/return profile. The nine-category stylebox was originally developed by Morningstar as an asset allocation tool.

EQUITY

		Value	Blend	Growth	
Market Cap	Large	Value			
	Medium				
	Small				
		Style			

INVESTING WITH STYLE

Each fund's manager follows an **investing style** to help the fund meet its objective.

One approach is to buy securities that are selling for less than the manager believes they're worth. That's called **value investing**, and the assumption is that because the securities are undervalued, the price will rebound.

A contrasting style, which applies more directly to equities than to debt, is **growth investing**. Growth managers focus on stocks they think will increase substantially in price and have the potential to provide greater returns than the market as a whole. But these stocks also carry greater risk because their prices tend to be volatile.

Blend investing, sometimes called **core investing**, is a combination of these approaches, where the fund manager tries to find the right balance of undervalued investments and those with strong growth potential.

ELEMENTS OF STYLE

A **conservative style** focuses on preserving principal by avoiding risk to principal. A **moderate style** tries to balance capital preservation with taking risks that may result in a greater return. An **aggressive style** takes bigger risks in pursuit of potentially even bigger returns.

Contrarian investing, on the other hand, means buying securities that other managers are shunning.

Differences in style help explain why funds with the same investment objective may produce different results, both in the short term and over longer periods. Under some market conditions, for example, value stocks may provide much stronger returns than growth stocks do, while the reverse may be true under different conditions. As a result, managers following a particular style may have some strong years and some lean ones.

STYLE ANALYSIS

A sophisticated, computer-based approach to evaluating fund performance, called **style analysis**, seeks to identify a fund's underlying investment style based on the way in which its returns correlate with a variety of style indexes such as those tracking growth, value, or income.

CATCH THE DRIFT?

You expect a fund to invest in a certain way based on its objective and style. But sometimes, to compensate for weak performance in its primary investment category, a fund's managers may decide to alter the investment mix to improve return. That **style drift** could create an imbalance in your portfolio, exposing you unwittingly to greater or less risk than you prefer.

* These amounts fluctuate from time to time based on changing stock prices.

Targeted Investments

Mutual funds aim at particular targets and try to hit them by making certain types of investments.

INVESTMENT OBJECTIVE

Every mutual fund—stock, bond, or money market—is established with a specific investment objective that fits into one of three basic goals:

- **Current income**
- **Future growth**
- **Some income and some growth**

But within those categories, there's enormous variety that results from the way an individual fund invests. For example, funds that fit into the growth category can be subdivided by geographic area, by their timetable for the growth they seek, and by the level of risk they take to achieve their objective. Any fund that describes itself as seeking aggressive growth generally is taking more than average risk.

A HIDDEN RISK

One risk you face as a mutual fund investor is the probability that a number of funds with different objectives may invest in the same companies, creating what's known as **portfolio overlap**. This risk isn't included in the risk assessment that funds must provide about themselves, such as risk to principal, interest rate risk, and currency risk. But it's an important one.

Overlap may occur because all actively managed mutual funds try to provide the best possible results and may deliberately buy investments outside their normal focus to improve their bottom line. If several of the funds you own all bulk up on the same star performer, you may have a much less diversified mutual fund portfolio than you intend—or even realize.

FUNDS TAKE AIM

These charts group funds into three categories by investment objective. They also illustrate the correlation between a fund's objective and the risks it may face.

INCOME FUNDS

Kind of fund	Investment objective	Potential risks	What the fund buys
Agency bond	Regular income plus return of principal	Value and return dependent on interest-rate changes	Securities issued by US government agencies
Corporate bond	Steady income, capital gains	Interest-rate changes and inflation, default	Highly rated corporate bonds, with various maturities
High-yield bond	Highest current income	High-risk bonds in danger of default	Low-rated and unrated corporate or municipal bonds
International money market	Income and currency gains	Changes in currency values and interest rates	CDs and short-term securities
Municipal bond	Tax-free income	Interest-rate changes and inflation, default	Municipal bonds with various maturities
Short-/intermediate-term debt	Income	Reinvestment risk if rates or demand changes	Different types of debt issues with varying maturities, depending on type of fund
US Treasury bond	Steady income, capital gains	Interest-rate changes and inflation	Long-term government bonds

GROWTH AND INCOME

Kind of fund	Investment objective	Potential risks	What the fund buys
Balanced	Income and growth	Less growth than stock funds in strong equity markets and reduced dividend payments	Part stocks and preferred stocks (often 60%) and part bonds (40%)
Equity income	Income and growth	Less growth than stock funds in strong equity markets and reduced dividend payments	Blue-chip stocks and utilities that pay high dividends
Growth and income	Growth plus some current income	Less growth than stock funds in strong equity markets and reduced dividend payments	Stocks that pay high dividends and provide some growth
Income	Primarily income	Interest-rate changes and reduced dividend payments	Primarily bonds, but some dividend-paying stocks

GROWTH FUNDS

Kind of fund	Investment objective	Potential risks	What the fund buys
Aggressive growth, also called capital appreciation	Long-term growth	Very volatile and speculative. Risk of above-average losses to get above-average gains	Stocks of new or undervalued companies expected to increase in value
Emerging markets	Growth	Can be volatile, putting principal at risk. Currency fluctuation, management, and political risks	Stocks in companies in developing countries
Global equity	Global growth	Gains and losses depend on currency fluctuation. Can be volatile, putting principal at risk	Stocks in various markets including the United States
Growth	Above-average growth	Can be volatile. Some risk to principal to get higher gains	Stocks in mid-sized or large companies whose earnings are expected to rise quickly
International equity	International growth	Potentially volatile, based on currency fluctuation and political instability	Stocks in non-US companies
Sector	Growth	Dependent on right market timing to produce results	Stocks in one particular sector, such as energy or transportation
Small-company growth	Long-term growth	Volatile and speculative. Risk of above-average losses to get higher gains	Stocks in small companies traded on the exchanges or over-the-counter (OTC)
Value funds	Growth, some income	Often out of step with overall market. May fail to rebound	Stocks in companies whose prices are lower than the firms seem to be worth

HEDGING AGAINST RISK

International fund managers may hedge their portfolios to protect the return on their funds. Hedging, in this context, means anticipating and offsetting possible future changes in the relative values of different currencies, specifically the dollar in relation to the currencies of countries where the fund invests. The

most common tactic is to buy futures contracts that guarantee fixed exchange rates at specific points in the future.

Funds that hedge may put up to 50% of their total assets in currency contracts rather than stocks or bonds. But other funds don't hedge at all, figuring that exposure to other currencies is part of the reason for investing overseas.

Fund Sales Charges

Mutual fund sales charges aren't necessarily a burden, but they are a load.

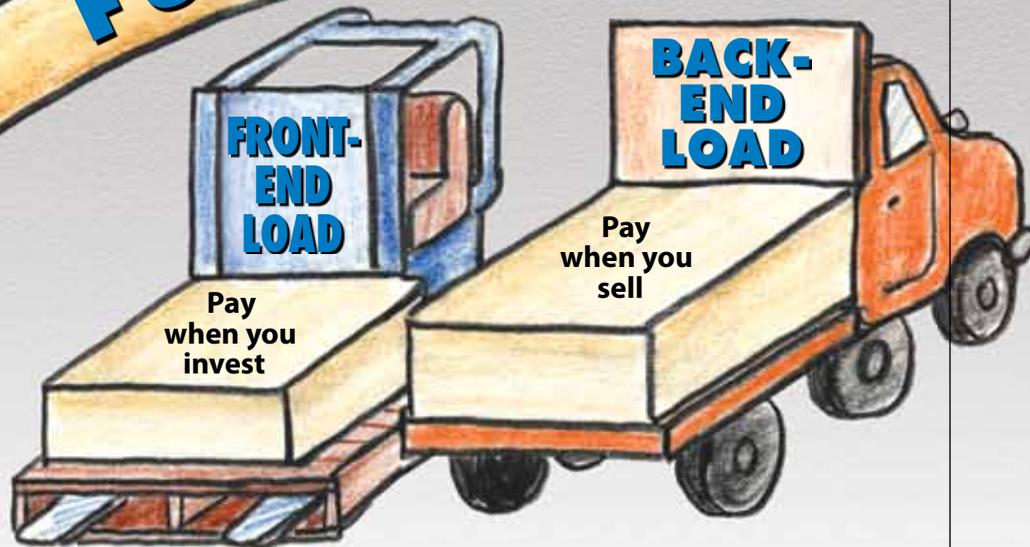
Mutual fund providers may sell their shares directly to investors on their websites or through intermediaries including brokers, investment advisers, and financial advisers. Some providers make their shares available in both ways.

Direct sales are made without sales charges, known in the world of mutual funds as **loads**. So they're called no-load funds. Funds sold through intermediaries are typically load funds, with sales charges in the 4% to 5% range.

In addition, many mutual funds, both load and no-load, including some index funds, charge 12b-1 fees to cover marketing, sales, and shareholder services costs.



FUND LOADS



FRONT AND CENTER

Sales charges can be assessed at different times. When you buy a mutual fund with a **front-end load**, the fee is figured as a percentage of the amount you're investing, often in the 4% to 5% range. Since the fee is subtracted up front, you actually purchase fewer shares than if no sales charge were levied. For example, if you're investing \$5,000 in a fund that has a 4% front-end load, you'll actually be purchasing \$4,800 worth of shares and paying a \$200 sales charge.

Some brokers and investment advisers reduce the sales charge or don't charge it at all, especially if they receive **asset-based fees** determined by the values of the client portfolios they manage.

BACK IT UP

You pay a **back-end load** on the other end of the transaction—when you sell shares. Unlike front-end loads, which are figured as a percentage of your purchase amount, back-end fees may be calculated in different ways, including as a percentage of the fund's NAV. Also called a **contingent deferred sales charge (CDSC)**, the back-end load diminishes over time, usually by about one percentage point each year you own the shares.

Back-end loads are less common than they once were because, in many cases, their fee structure makes them more costly to buy and own than front-end loads.

KNOW WHEN TO HOLD THEM

Mutual fund companies try to encourage you to invest for the long term, using a variety of fees and charges as carrots—or sticks. One reason is to keep as much money as possible in the fund. Another is to limit transaction costs and the possibility of having to sell underlying investments at a loss if lots of investors want to redeem their shares at the same time. Major sell-offs affect the fund's NAV and reduce returns for long-term investors.

One fee designed to make short-term trading and market timing less profit-

able is the **early redemption**, or exit, fee, which you're charged if you sell your shares within a certain time frame set by the fund company. That period may range from five days to a year or more, depending on the fund. The fee you pay is subtracted from the proceeds of your sale.

Some funds also levy **exchange fees**, which they charge investors to move money from one fund to another. This fee is also designed to encourage investors to invest for the long term and discourage them from redeeming shares, thereby limiting the fund's potential need to sell off underlying investments.

While these costs may not be enough, by themselves, to rule out selecting a fund, they are worth considering.

EXIT FEE
FOR EARLY
REDEMPTION

EXCHANGE
FEE

BREAKPOINTS

A **breakpoint** is the amount of money you need to invest in a mutual fund in order to qualify for a reduced front-end sales charge or no sales charge at all.

Though that amount varies from fund to fund, a typical example is a half a percent (0.5%) reduction once you reach \$25,000, another half percent at \$50,000, and so on.

You may reach a breakpoint and qualify for a reduced fee with a one-time purchase. Or, if you, and in some cases you and members of your household, hold investments in the same fund or the same fund family, those cumulative assets may count toward the required breakpoint total.

Rights of accumulation allow you to qualify for a breakpoint discount by combining past and new investments in a fund. And a **letter of intent** allows you to reach a breakpoint by stating that you plan to reach the threshold with investments that you'll make in the future.

Funds aren't required to offer breakpoints, but if they do, they're obligated to make sure you get the reduction you qualify for. The reduced rates and the investment amounts at which they're available are provided in the prospectus.

FUNDS WITH CLASS

Fund companies that offer several share classes identify them with letters, such as A, B, C, and I, or sometimes with titles unique to the sponsoring company. Each fund class has the same holdings, manager, and investment objective. But because of the differing fees and expenses, the returns for each class differ.

Class A shares have a front-end load and asset-based fees.

Class B shares have a back-end load but usually higher asset-based fees than class A shares.

Class C usually have neither a front- or back-end load but higher fees than other share classes and sometimes a redemption fee.

Class I shares—where I is for institutional—are the least expensive but require a large investment, often \$1 million or more. They may be available to individual investors through their investment advisers or brokers.

You can log on to www.finra.org/fundalyzer to compare the costs of different share classes of the same fund.

INVESTIGATING A FUND

Investors who are researching mutual funds may want to find answers to these questions:

1. What's the fund sponsor's reputation for leadership, clarity of communication, transparency, and business continuity?
2. What is the tenure and experience of the fund managers?
3. What's the fund's style?
4. What's the fund's expense ratio?
5. Has the fund provided consistently strong returns relative to its peers?

Mutual Fund Fees

When you're investing in mutual funds, fees are a fact of life.

Mutual fund fees fall into two categories: **shareholder fees** and **operating expenses**. You pay shareholder fees if you buy load funds, redeem shares within a restricted period, or allow your account balance to fall below the required minimum. But you pay operating expenses whenever you own fund shares. These are asset-based

fees that are typically calculated daily and subtracted from the fund's net assets before investment gains or losses are credited to your account. Anything you pay in fees isn't reinvested. So the higher the fees, the more potential earnings you lose out on.

FEES DO MATTER

The fees that mutual funds charge reduce your return. For example, suppose you invested \$55,000 in a fund and left it untouched for 10 years. The scenarios to the right show how different loads and expense ratios affect the cost of investing and your bottom line.

You can use the SEC Mutual Fund Cost Calculator at www.sec.gov to estimate the fees on different funds.

Load	Return	Expense ratio	Worth after 10 years	COST OF INVESTING		
				(Fees	+ Lost potential earnings)	= Total cost
SCENARIO 1						
4.5% front load	10%	0.85%	\$125,089	\$9,960	\$7,067	\$17,567
SCENARIO 2						
4.5% front load	10%	1.25%	\$120,033	\$13,253	\$9,269	\$22,522
SCENARIO 3						
No load	10%	0.85%	\$130,984	\$7,837	\$3,834	\$11,672
SCENARIO 4						
No load	10%	1.25%	\$125,794	\$11,268	\$5,576	\$16,862

OPERATING EXPENSES

Operating expenses cover the cost of running the fund and generally include:

- Investment management fees, which often account for the lion's share of the total
- Administrative fees
- 12b-1, or marketing and distribution, fees

These fees are usually quoted as an **expense ratio**, or a percentage of the fund's net assets, and range from less than 0.1% to 2.75% or higher in some cases. The fees vary from one fund company to the next, and from one fund to another within the same fund family.

Not surprisingly, actively managed funds tend to have higher management fees than passively managed index funds. And the more time and resources that are required to make investment decisions and execute transactions, the higher the fees are likely to be. This helps to explain why actively managed

international or global funds tend to be the most costly.

Competitive pressure has brought some fund fees down, especially at several of the largest no-load companies. And other funds have been required to reduce or clarify their fees as part of legal settlements or SEC disclosure rules.

WHAT YOU PAY FOR

A fund uses management fees to compensate its manager, who's responsible for choosing securities for the fund's portfolio—and whose expertise often attracts investors to the fund.

When the fee is calculated as a percentage of the fund's assets under management, the manager is rewarded for increasing the value of the fund. In some funds, there may be a bonus for beating the fund's benchmark index. Additional performance payments may be made as well, depending on how the fund fares.

PUTTING FEES IN PROSPECTUS

The best place to start when you're investigating fund fees is with the fund prospectus. Each fund must disclose and describe both its shareholder fees and operating expenses.

The fee table that's usually in the first few pages of the prospectus must list all the charges that you'll pay, either directly or indirectly. The one cost that's not reported is brokerage fees for **transaction expenses**, or the

amount the fund pays to buy and sell shares, though those costs also affect the fund's—and your—total return.

Comparing the expense ratios of funds with similar investment objectives is an essential step in selecting a fund. But remember, while fees have a definite impact on your return over time, choosing funds solely on the basis of fees is no smarter than choosing investments exclusively on the basis of their tax consequences.

In other cases, fees paid to investment managers may be reduced, on a percentage basis, as the assets under management increase. That wouldn't necessarily reduce the dollar amount of the manager's compensation, because the base would be larger. But it could save individual investors money.

12B-1 FEES

Named for a provision of the Investment Company Act of 1940 that authorizes them, 12b-1 fees pay for a fund's marketing and distribution expenses and certain shareholder services.

According to FINRA rules, 12b-1 fees may be up to 1% of a load fund's total assets, with no more than 0.75% going toward marketing and distribution. Some funds use these fees to pay broker fees rather than charging a front-end load. Both load and no-load funds can use 12b-1 fees for shareholder services, capped at 0.25% of assets.

These fees tend to be controversial and may be revised. Advocates argue that marketing adds value to the fund by attracting new investors. Opponents believe that these fees, which may have been relevant when the mutual fund industry was new, are no longer justified.

LEGAL LIMITS

FINRA dictates maximum fees for mutual funds:

- Sales loads: 8.5%
- Load fund 12b-1 fees: 1% (0.75% for marketing and 0.25% for shareholder services)
- No-load fund 12b-1 fees: Must be less than 0.25% for shareholder services

The only limit the SEC sets is a 2% maximum redemption fee charge.

Fund Performance

The bottom line on mutual fund performance is measured by return and yield over several time periods.

Whether a mutual fund aims for current income, long-term growth, or a combination of the two, you'll want to track its performance to judge whether or not it is profitable. You can evaluate a fund by:

- Following changes in share price, or **net asset value (NAV)**
- Figuring **yield**
- Calculating **percent return**

You can compare a fund's performance to similar funds offered by different companies, or you can evaluate the fund in relation to other ways the money could have been invested—individual stocks or bonds, for example.

Because return and yield are figured differently for each type of investment, there isn't a simple formula for comparing funds to individual securities.

NAV CHANGE

$$\frac{\text{Value of fund}}{\text{Number of shares}} = \text{NAV}$$

for example

$$\frac{\$2,500,000}{3,500,000} = \$15$$

A fund's **NAV** is the dollar value of one share of the fund's stock. It's figured by dividing the current value of the fund, minus fees and expenses, by the number of its outstanding shares. A fund's NAV increases when the value of its holdings increases. For example, if a share of a stock fund costs \$15 today and was \$9 a year ago, it means the value of its holdings increased, its expenses decreased, the number of fund shares decreased, or a combination of these factors caused the change.

YIELD

$$\frac{\text{Distribution per share}}{\text{Price per share}} = \text{Yield (\%)}$$

for example

$$\frac{\$.58}{\$10.00} = 5.8\%$$

Yield measures the amount of income a fund provides as a percentage of its NAV. A long-term bond fund with a NAV of \$10 paying a 58 cent income distribution per share provides a 5.8% yield.

You can compare the yield on a mutual fund with the current yield on comparable investments to decide which is providing a stronger return. Bond fund performance, for example, is often tracked in relation to individual bonds or bond indexes.

PERCENT RETURN

$$\frac{\text{Total return}}{\text{Cost of initial investment}} = \text{Percent return (\%)}$$

for example

$$\frac{\$832}{\$8,000} = 10.4\%$$

A fund's **total return** is its increase or decrease in value including reinvested distributions. Total return is typically reported as a percentage, or **percent return**, which is calculated by dividing the dollar value of the total return by the initial investment.

For example, an \$8,000 investment with a one-year total return of \$832 (\$700 increase in value plus \$132 in reinvested distributions) has an annual percentage return of 10.4%.

TRACKING YOUR RETURN

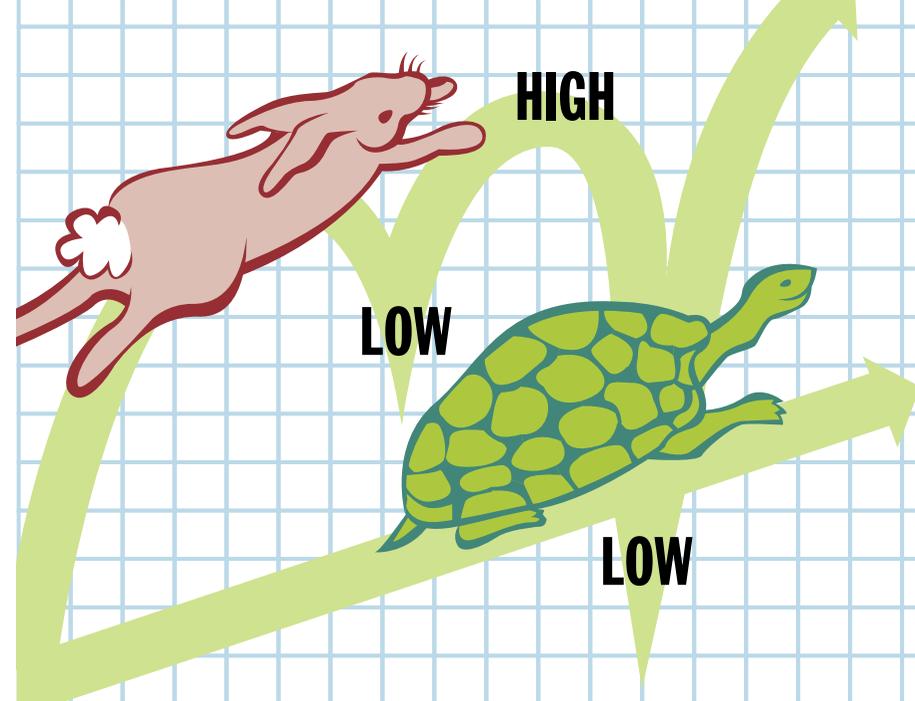
The most accurate measure of a mutual fund's performance is its **total return**, or change in value plus reinvested distributions. Total return is reported for several time periods, typically for as long as the fund has operated.

When the figure is for periods longer than a year, the number is **annualized**, or converted to an annual figure. It's calculated as a geometric mean, which is more accurate for numbers multiplied in a sequence than a simple average

return is. Annualized figures reflect the impact of gains and losses over the period that's being tracked. But they don't report whether the return represents a fairly consistent performance from year to year or a seesaw of ups and downs.

Among the key factors that influence total return are the direction of the overall market in which the fund invests, the performance of the fund's portfolio, and the fund's fees and expenses.

Performance Patterns



THE IMPACT OF TIME

Most financial experts stress that mutual funds are best suited for long-term investing. They believe you should ignore the short-term peaks and valleys and be unconcerned about finding the top-performing funds of the year. For one thing, the individual fund or fund category that provides the strongest return in one year is unlikely to be in that position the following year.

The experts also point out that you can identify a number of funds in various categories that have provided returns consistent with the appropriate benchmark year after year, though these funds may never make it to the top—or the bottom—of the performance charts.

Holding a fund for an extended period also allows you to amortize the cost of the front-end load if you've

purchased Class A shares. In the short term, paying this load reduces your return since the amount of the sales charge is subtracted before your principal is invested. But if you stay in the fund, the effect of the sales charge may disappear over time. If you trade funds frequently, paying repeated sales charges can consume a big share of your potential earnings.

Another argument for maintaining a long-term perspective with a diversified portfolio of funds is that you decrease the risk of missing the periods of growth that often follow depressed or falling markets. It's also true that selling a fund when its NAV has dropped means locking in any losses to that point, though you might decide that is a better choice than taking the chance of having an even greater loss.

International Funds

You can add international flavors to your mutual fund investment menu.

By investing in more than one market, you're in a better position to benefit from economies that are growing while others may be stalled or losing value. One way to diversify your portfolio

INTERNATIONAL FUNDS

Also known as **overseas funds**, international funds invest exclusively in securities markets outside the United States. By investing throughout the world, the broadest of these funds balance risk and return by owning securities not only in mature, slower-growing economies but also in the more volatile economies of developing nations.

Other international funds have a narrower focus, concentrating their portfolios in either mature or developing economies, in specific sectors, or on various themes, such as sustainability or infrastructure.

GLOBAL FUNDS

Global funds, also called **world funds**, include US stocks or bonds in their portfolios as well as those issued in other countries. The percentage invested in US securities can vary widely.

Despite what the name suggests, global funds often invest up to 75% of their assets in US companies.

more broadly is to buy shares in mutual funds that either focus on multinational companies that do business worldwide or invest in companies based in other countries. While they're often referred to generically as international funds, there are actually four specific categories of funds: **international**, **global**, **regional**, and **country**.

REGIONAL FUNDS

Regional funds focus on a particular geographic area, such as the Pacific Rim, Latin America, Africa, or the Middle East. These funds seek to capitalize on the growing interest in international investing and provide access to markets that may be expanding at a faster pace than developed markets. They temper some of the risk by investing in diverse though related economies.

Some funds have extended the traditional meaning of *regional* by grouping countries that share characteristics other than geography, such as the emerging BRIC economies: Brazil, Russia, India, and China.

Regional funds tend to focus on groups of smaller countries or emerging markets, where one country may not issue enough securities to make a single country fund viable.

EUROPE

THE RISK OVERSEAS

When you invest in international markets, your return is affected not only by how well the investments perform but also by the changing value of the US dollar in relation to the currency in which the investment is denominated, or sold.

If you buy a mutual fund that invests in European stocks issued in euros, the underlying investments will gain or lose value but the dollar will also gain or lose value in relation to the euro. There's always a risk that the investment returns will be disappointing. But there's at least an equal risk that changes in exchange rates will reduce or erase positive investment returns.

For example, if a mutual fund denominated in euros provides a 10%

return for the year, but the euro loses 10% of its worth against the dollar, your gain is 0%. That's because the gain in investment value is offset by the loss in currency value. But there's also an upside. If the investment has a 10% return and the euro appreciates 10% against the dollar, your return would be slightly more than 10% when the gain in euros is converted to dollars.

In other words, international investments are the most profitable when the dollar is weak or losing value.

Many of the other risks of investing abroad are similar to the systemic and nonsystemic risks of investing at home. One difference, especially in emerging markets, is the risk of political instability.

COUNTRY FUNDS

Country funds allow you to concentrate your investments in a single overseas country—even countries whose markets are closed to individual investors who aren't citizens. When

a fund does well, other funds tend to be set up for the same country. However, many single-country funds are **closed-end funds** that are traded on a stock market once they have been established.

By buying stocks and bonds in a single country, you can reap the benefits of a healthy, well-established economy, or profit from the rapid economic growth as emerging markets start to industrialize or expand their export markets. The risk of investing in a single country, however, is that a downturn in the economy can create a drag on fund performance.

GERMANY

Closed-end funds that buy big blocks of shares in a country's industries can influence share prices and sometimes corporate policy—just as institutional investors may when they buy US stocks.

OLD OR NEW?

While markets around the world are increasingly linked electronically, the performance of an individual market is still determined primarily by the economic and political situation at home. Among the factors that influence an investor's experience in a particular market is whether it's mature or emerging.

A **mature market** is an industrialized country with established securities markets, substantial market volume, an efficient clearing and settlement system, and an official and effective oversight agency. An **emerging market** has a relatively new securities market, an evolving emphasis on stability and oversight, and a limited but growing list of traded securities.

Variable Annuities

A variable annuity is hard to classify. It's an investment, a retirement plan, and an insurance contract rolled into one.

Annuities are tax-deferred retirement savings plans offered by insurance companies. You purchase an annuity from an insurer and sign a contract agreeing to pay a **premium**, or certain amount of money, either as a lump sum or over time.

The insurer credits the premium and earnings to your account. When you're ready to begin withdrawing the money, the insurer will, if you choose, **annuitize** your account value, which means converting it to a stream of lifetime income. You'll typically have other withdrawal options, too, including taking the money as a lump sum or receiving systematic payments over a period of time.

VARIABLE ANNUITY BASICS

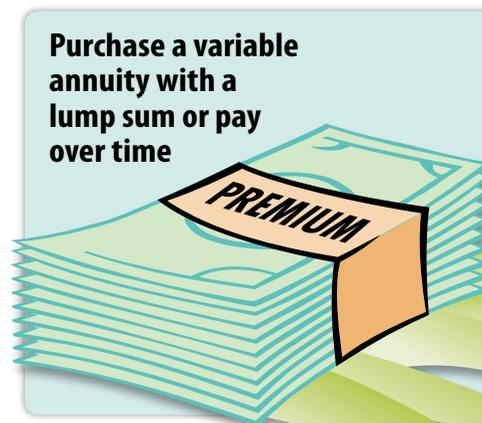
With a **variable annuity**—which does not have a predetermined rate of return the way a **fixed annuity** does—you decide how your premium is invested by choosing from among a number of **subaccounts**, or investment options, which the annuity contract offers.

Subaccounts resemble mutual funds in some ways. Each subaccount holds a portfolio of underlying investments—stocks, bonds, cash equivalents, or a combination of stocks and bonds—purchased with money pooled from different investors. Your return depends on how well the subaccounts you've selected perform, which in turn is based on the performance of the specific investments in the subaccounts you've chosen, what's happening in the market as a whole, and fees and expenses.

INSURANCE PROTECTION DEBATE

Most variable annuity contracts include a **death benefit** for which you pay a mortality and expense (M&E) fee. The death benefit guarantees that your beneficiaries will receive at least as much as you paid in premiums if you should die before you begin to receive annuity income. Some contracts may also lock in gains on a regular schedule. This means your beneficiaries would receive more than the premiums you paid into the annuity, even if the account balance drops below the principal amount.

However, these guarantees, like guar-



Purchase a variable annuity with a lump sum or pay over time

COMPARING FEES

Variable annuities have annual, asset-based fees, just as mutual funds do, but, on average, annuity fees are higher. This means you must earn more on a subaccount than on a comparable mutual fund to have the same total return. The details of these fees—how they're calculated and when they're debited from your account—are described in the annuity's prospectus.

In addition, many annuities have **surrender fees**—up to 7% or more of the amount you invest—if you end the contract during the surrender-charge period, typically seven to ten years from the time you purchase the annuity. While some mutual funds similarly impose trading restrictions or redemption fees, fund fees usually remain in effect for a matter of days or months, not years.

antees for lifetime income, depend on the claims-paying ability of the company issuing the insurance.

Annuity advocates argue that having this protection encourages people who might otherwise avoid investing to benefit from its potential rewards while being insured against total loss.

Critics of annuities, and of the death benefit provision in particular, point out that M&E fees typically cost more than they're worth—unless the market takes a dramatic turn for the worse right after you purchase the annuity and you die immediately.

FREE-LOOK PERIOD

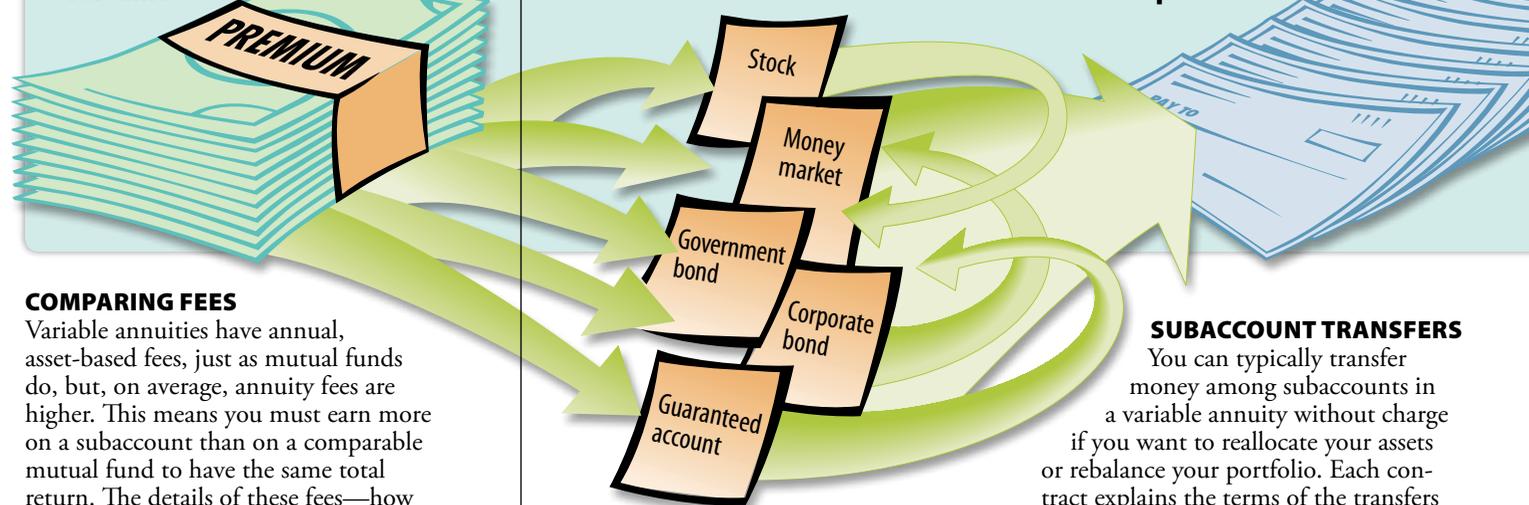
Every state has a law requiring a **free-look** period on annuities and life insurance. The period varies from state

to state, but you generally get at least ten days from the day you buy an annuity to cancel it and get your money back without paying surrender charges.

Allocate money to subaccount for performance and diversification

Adjust allocation if necessary

Annuitize account value to provide an income stream or take lump sum



SUBACCOUNT TRANSFERS

You can typically transfer money among subaccounts in a variable annuity without charge if you want to reallocate your assets or rebalance your portfolio. Each contract explains the terms of the transfers it allows.

There may be a **market value adjustment (MVA)** on transfers out of a fixed-income subaccount offered in the annuity. For example, if you wanted to move \$10,000 from a fixed account to an equity account after interest rates have gone up, you might be able to move only a portion of the total. The balance would go to the annuity provider.

RATING ANNUITY PROVIDERS

One of the primary concerns in choosing an annuity is knowing whether or not the provider is going to be able to meet its long-term commitments. One way to make this assessment is to check out the company's financial situation by using evaluations provided by professional rating services. For example, both Standard & Poor's and Moody's Investors Service measure financial strength and ability to pay.

With a variable annuity, the principal you allocate to subaccounts—other than those that provide a fixed return—cannot be seized by the insurance company's creditors. But you're still dependent on the insurer to pay you lifetime income once you annuitize. Since that's money you'll be counting on, finding an insurer that is likely to meet its obligations to pay is of paramount importance.

TAX ISSUES

Earnings in a variable annuity grow tax deferred, and are taxed at your regular income tax rate when you begin withdrawals, usually after you're at least 59½. However, early withdrawals before you reach 59½ may be subject to a 10% federal tax penalty.

Unlike money invested in a deductible IRA or employer sponsored plan, such as a 401(k), you invest post-tax income in a variable annuity that you purchase on your own. When you receive income from the annuity, a portion of the payment is a tax-free return of your premiums.

Also unlike traditional IRAs and employer plans, nonqualified annuities don't require you to begin withdrawals when you turn 70½. In fact, you can usually postpone taking income until you're 80, or even 90 in some states. You may also find that an annuity is one of the options available in your employer sponsored plan—especially if it's a 403(b). Then, your contributions as well as your earnings are tax deferred and, in most cases, you're required to begin taking withdrawals when you retire or reach 70½, whichever comes first.

A World of Options

Options are opportunities to make buy and sell decisions—if the market takes the right turns.

An option is a contract on a specific financial product called the **underlying instrument**, or sometimes the underlying. You buy or sell options on an options exchange. If you buy, you're the **holder**, or owner. If you sell, you're the **writer**.

As a holder, you have the right to **exercise** your option, which means you can buy or sell the underlying, such as a stock or an index, at the exercise price any time before the contract expires.

You may choose to exercise if doing so will provide a profit or limit a loss. You may decide to sell the option before **expiration** if that makes financial sense. Or, you may let the contract expire.

As a writer, you have an obligation to buy or sell the underlying instrument if the contract holder exercises and you're designated to respond through a process known as **assignment**. You have no control over whether or not an option will be exercised. But you do have the right, at any time before the contract expires, to get out of your obligation by buying an offsetting contract.

PUTS AND CALLS

Options contracts are either **calls** or **puts**, and you can buy or sell either type. You choose your approach based on what you think will happen to the underlying instrument within the contract's term.

- When you **buy a call**, you have the right to buy the underlying instrument at the exercise price.
- When you **buy a put**, you have the right to sell the underlying instrument at that price.
- If you **sell a call**, you must be prepared to sell the underlying instrument at the exercise price.

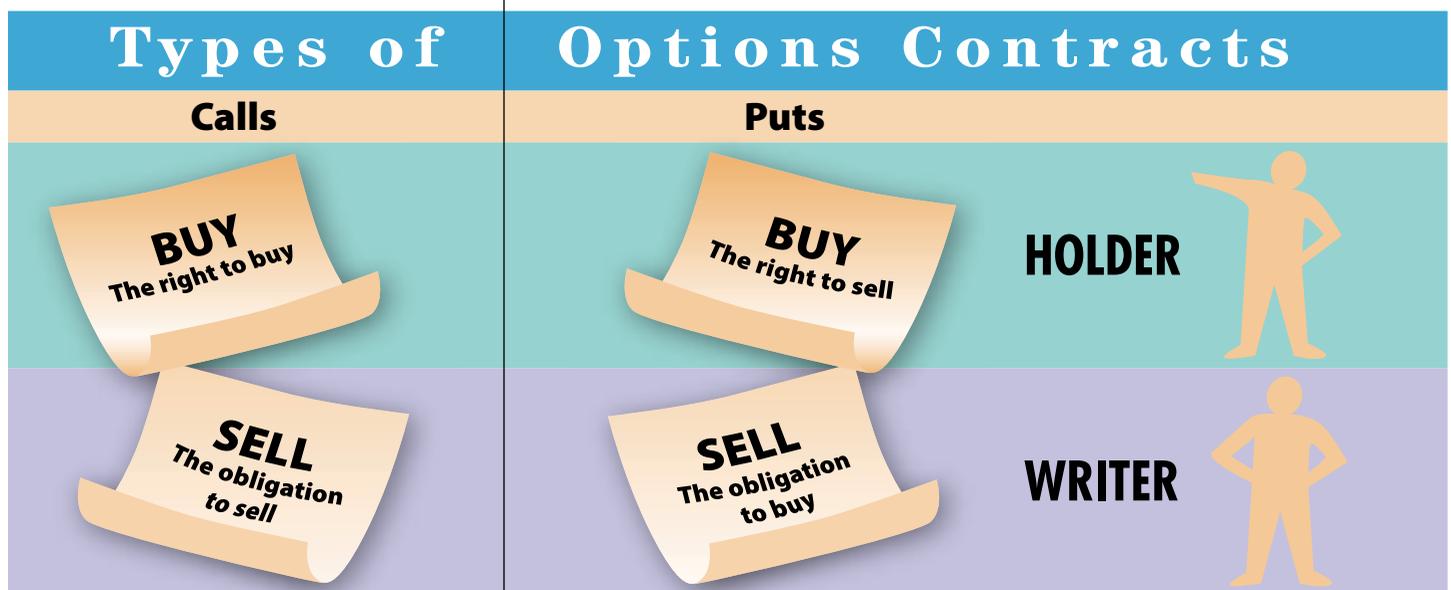
GETTING STARTED

Before you begin trading options, you should read *Characteristics and Risks of Standardized Options*, which you can download at www.optionsclearing.com, the website of the Options Clearing Corporation. The site also provides extensive trading information, market data, and educational resources.

IT TAKES TWO

Options contracts are securities, as stocks or bonds are, but also **derivative products** because their market value derives from, or is determined in large part by, the value of the underlying

instrument, such as a stock or stock index. There are two parties, called **counterparties**, involved in a derivatives transaction and they take opposite positions on the contract.



- If you **sell a put**, you must be prepared to buy the underlying instrument at the exercise price.

OPTIONS PRICES

Options have two types of prices: the **premium** and the **strike price**.

The premium is the market price of the options contract. It's what you pay to buy and what you receive if you sell. The premium isn't fixed and moves constantly over the contract term in response to investor demand and the changing market price of the underlying instrument.

If you hold an option, you have a limited and predetermined risk since the most you can lose is the premium you paid. But if you sell an option, the premium is your maximum potential return, and you could have a loss if the contract is exercised.

The strike price, also called the **exercise price**, is what you pay if you exercise a call and what you receive if you exercise a put. The strike price is set by the options exchange listing the contract and remains the same until the option expires or the contract is adjusted because of a change in the status of the underlying, such as a stock split or merger.

The strike price, sometimes shortened to the strike, is related to,

Options Contracts

Puts



HOLDER



WRITER



though not identical to, the market price of the underlying. It is set at one, two-and-a-half, five, or ten points above or below the underlying's market price on the date the option is listed.

USING OPTIONS

You can buy and sell options contracts on individual stocks—known as **equity options**—on stock indexes, on interest rates, and on a number of other products.

When you buy a stock option, you're paying for the opportunity to benefit from changes in the stock's price without having to buy the stock. To use a hypothetical example, if you think that Alpha stock, which is currently trading at \$50 a share, is going to increase in value in the next few months, you might buy 100 shares. That would cost you \$5,000 plus sales charges.

An alternative would be to buy one call option on Alpha stock with a strike price of \$60. If the premium were \$2 a share, the contract would cost you \$200 since each contract is typically for 100 shares.

If the stock price goes up to \$62, you could exercise your option and buy 100 shares for \$6,000. If you wanted, you could keep the shares since you bought at below market price. Or, if you weren't interested in keeping the

stock, you could sell your option as the stock's price rose, perhaps for \$500 or more, depending on the increase in the premium, realizing a profit.

Of course, if you'd bought the stock outright when it was \$50 a share, you could sell when the stock price reached \$62, realizing a \$1,200 profit before sales charges. But the percentage gain from buying and then selling the option would have been 150% of your cost while the percentage gain from buying and selling the stock would have been 24%.

When you buy options, you're not only positioning yourself to take advantage of gains. You're also protecting yourself against potential losses.

If the stock price dropped to \$45 a share, all you would have lost had you purchased the call is the \$200 premium. If you had purchased and then sold the stock to guard against further price decline, you would have lost \$500.

THE OCC

The Options Clearing Corporation (OCC) becomes the actual buyer and seller of all listed options contracts, which means that every matched trade is guaranteed by the OCC, eliminating any **counterparty risk**. The OCC ensures that all matched transactions are settled on the day following the trade, that all premiums are collected and paid, and that exercise notices are assigned according to established procedures.

The Value of Options

What an option is worth depends on tangible and intangible factors.

There is typically an active secondary market in options before their expiration date. Options holders seek to sell to make a profit or limit a loss, and options writers want to buy to offset their positions. For example, someone who had sold a call on a particular stock option at a particular exercise price

might want to buy a call on the same stock option with the same expiration date and at the same exercise price if an exercise seems likely. That offsetting purchase takes the investor out of the marketplace, eliminating the obligation to make good on an exercise.

OFFSETTING ACTIONS

$$\text{Sell call ABC at price x} + \text{Buy call ABC at price x} = \text{No obligation}$$

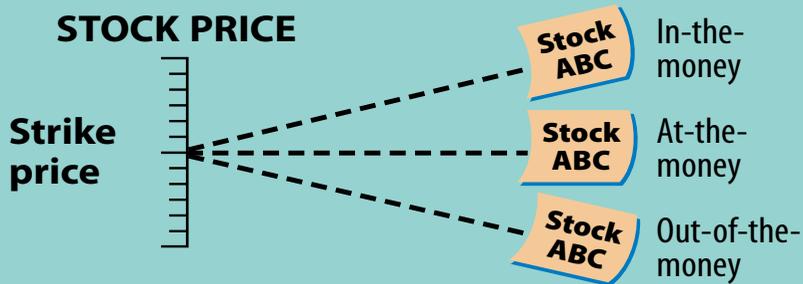
How Options Trade

The strike price of an option and the likelihood it will be exercised are closely tied to the current market price of the underlying instrument. In fact, the relationship between them is so central to the way options trade that it's described in a special vocabulary.

An **at-the-money** option means that the market price and the strike price are the same.

An **in-the-money** option means the market price is higher than the strike price of a call option and lower than the strike price of a put option.

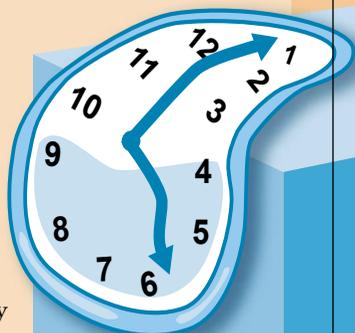
With an **out-of-the-money** option, the opposite is true: The market price is lower than the strike price of a call and higher than the strike price of a put. That makes it unlikely that the option will be exercised, especially if it's due to expire shortly.



WASTING ASSETS

Options are **wasting assets**, which means that after a certain point in time they have no value. Stocks, which you can hold indefinitely, always offer the potential for growth in value. Options, in contrast, have no value after their expiration date. This means a conservative buy and hold strategy that might be advantageous for stock investing doesn't work the same way with options investing.

As expiration nears, you have to monitor your positions closely to determine whether an option has moved in-the-money or out-of-the-money and what action you should take. Otherwise you risk missing an opportunity to realize a profit or limit a loss.



Intrinsic Value

An option's **intrinsic value** is what it would be worth at any given moment if you exercised it. For example, if you hold a call on stock XYZ with a strike of \$25, and XYZ is currently trading at \$30, your call is in-the-money by \$5, and therefore its intrinsic value is \$5 per share, or \$500 for the 100-share contract. If the stock were trading at \$20, on the other hand, the option has an intrinsic value of \$0, since it is out-of-the-money.

Even if a call has a \$5 intrinsic value because it's in-the-money by \$5, the premium isn't necessarily \$500, since the cost of an option also takes into account its **time value**, or the potential that the option will continue to make gains before expiration. If the premium for your XYZ call is \$700, or \$7 per share,

that means the time value that traders give your option is \$2 per share. By the same token, an option with an intrinsic value of \$0 might also be trading for \$2 a share, its time value. There's no fixed value for a given amount of time before expiration—it depends on how investors value the particular option.

As expiration nears, the time value of most options decreases, since the potential for price changes decreases. Near expiration, most options trade at or around their intrinsic value.

Finding values	For example
Share market price	\$ 30
– Exercise price	– \$ 25
Intrinsic value	\$ 5
Premium	\$ 7
– Intrinsic value	– \$ 5
Time value	\$ 2

TERM LIMITS

Every options contract is defined by its terms, which are standardized and set by the options exchange where the option is listed.

An **options class** is the entire group of calls or puts available on a given underlying instrument. An **options series** includes only those options in a class that have the same expiration month and strike price, which are the only terms within a class that vary.

So all calls for stock XYZ would be in the same class, but the XYZ calls that expire in April—April XYZ calls—with a strike price of 50 would be considered a series.

Contract size: The size of the contract is how much of the underlying product will change hands if the option is exercised. For most equity options, the contract size is 100 shares.

Expiration month: Every option expires in a given month, set in the contract terms. You can buy an option expiring in a range from one month to three years.

Options that expire in a given month typically expire on the third Friday of the month. Brokerage firms may allow transactions on the Friday of expiration or set an earlier cut-off.

Strike price: The strike price is the amount per share that the seller will

receive and the buyer will pay for the shares that change hands, regardless of the market price for those shares at exercise.

Delivery: There are two kinds of delivery. **Physical-delivery** options mean the actual underlying instrument changes hands. **Cash-settled** options require cash be paid in fulfillment of the contract. The amount of cash depends on the difference between the strike price and the value of the underlying instrument, and is determined using a formula that's defined in the contract.

Expiration style: American-style options may be exercised at any point before expiration. European-style options can be exercised only at expiration, not before.

While standard options all expire within a year, it's possible to trade equity options that expire up to three years in the future. Those options are called Long-Term Equity Anticipation Securities, or LEAPS. They trade just as regular options do.

The listing exchange chooses the securities on which to offer LEAPS, based in large part on investor interest. They make up about 17% of all options.



Options Trading

You need to know exactly what you want to achieve before you begin a trade.

Trading options can be more complicated than trading stock. That's because, while you initiate a stock trade with an order either to buy or to sell, an options order might be **buy to open**, **buy to close**, **sell to open**, or **sell to close**.

Basically, when you make an initial investment in an options contract, you are opening a position by either buying or selling the contract. At any point before the option expires, you can close your position. If you're holding a call option, and you can sell it for more than you paid to buy, you might close to realize a profit. You might also close to limit a potential loss if the option seems destined to remain out-of-the-money.

If you open a position by selling a contract, you might decide to close that position if you think that the option will be exercised, since you could then be required to make good on your obligation to buy or sell. In this case, since you sold to open, you'd buy to close.

EXECUTING A TRADE

When you make an options trade, you go through a brokerage firm, just as you do when you trade stocks. Whether you give the order over the phone or online, you'll have to provide detailed information about the option you're trading, including:

- The name or symbol of the option
- Whether you're opening or closing a position
- Whether you're buying or selling
- Whether you want a put or call
- The strike price
- The expiration month
- Whether you're paying cash or using a margin account
- Whether you want a limit order or market price

You'll have a chance to review your order and it's crucial that you double-check all the details. Once you've agreed to the trade, you'll receive confirmation that your order has been placed, which means it has been added to the line of orders waiting to be filled.

Every time you make a trade, you'll also pay a commission. The amount varies depending on the brokerage firm, but it's important to consider the

costs of trading when planning your options strategies.

MAKING THE LIST

Each exchange decides on the options it's going to list, or make available for trading. The most widely traded options may be listed on all the exchanges, while others might be listed on only a few, or just one.

There are some basic standards that all the exchanges adhere to in selecting the companies on which they'll list equity options. Usually, eligibility for listing requires a minimum number of outstanding shares and a minimum market price for the stock. If a company

THREE WAYS TO BUY OPTIONS*

Investor buys ten call options (1,000 shares) on stock X

Price: \$55/share

Strike price: 60

Premium: \$750

1 HOLD TO MATURITY

IF STOCK PRICE RISES TO 65

Exercise options at strike price of 60 and then sell the stock in marketplace

\$5,000 from sale
– \$750 premium

\$4,250 PROFIT

IF STOCK PRICE RISES TO 58

Let options expire

lose your premium

\$750 LOSS

2 TRADE BEFORE OPTION EXPIRES

IF STOCK PRICE RISES TO 62

Sell the contract for profit before expiration

\$2,000 from sale
– \$750 premium

\$1,250 PROFIT

IF STOCK PRICE RISES TO 60

Sell the contract before expiration

\$500 from sale
– \$750 premium

\$250 LOSS

3 LET THE OPTION EXPIRE

IF STOCK PRICE DROPS TO 45

There are no takers for an option with a 60 strike price

lose your premium

\$750 LOSS

TWO WAYS TO SELL OPTIONS*

Investor owns 1,000 shares of stock X

Price: \$55/share

1 WRITE TEN COVERED CALLS

Strike price: 60
Collect premium: \$750

IF STOCK PRICE RISES TO 57

No takers—options expire

keep the premium

\$750 PROFIT

IF STOCK PRICE RISES TO 59

Buy 10 calls to cancel obligation and prevent losing the stock

\$750 premium collected
– \$1,750 premium on offsetting calls

\$1,000 LOSS

Investor owns no shares of stock X

2 WRITE TEN UNCOVERED CALLS

Strike price: 60
Collect premium: \$750

IF STOCK PRICE RISES TO 57

No takers—options expire

keep the premium

\$750 PROFIT

IF STOCK PRICE RISES TO 65

Options are exercised. You must buy 1,000 shares of the stock at \$65 to sell at \$60

\$750 premium
– \$5,000 loss on transaction

\$4,250 LOSS

*These hypothetical examples are for illustration only. They do not represent results of actual transactions and do not factor in trading expenses.

on which options are listed fails to maintain the minimum requirements, an exchange may decide to drop the listing.

All listed options are **fungible**, which means the contract terms are identical from exchange to exchange. That allows you to buy an option on one exchange and sell it on another to take advantage of the best available price. In most cases, though, your brokerage firm determines where the transaction will take place.

FOLLOWING THE RULES

Listed options are traded on self-regulating exchanges (SROs) that are in turn regulated by the Securities and Exchange Commission (SEC)—the federal agency that governs the securities industry. For example, the SEC approves the standards that exchanges must use to list options, though each exchange can make its own selections for listing.

NOT ALWAYS YOUR OPTION

Even if you have an account with a brokerage firm and you're actively trading stocks, you'll need to be approved before you can trade options. The rules are meant to prevent you from making options trades that might be beyond your ability to cover or that might expose you to an inappropriate level of risk.

The brokerage firm will ask you for information about your investing experience and assets, and will require you to read a document about the risks of options trading. You may also be asked about your knowledge of options strategies. Based on your answers, the firm will approve you for a specific level of trading, which determines the strategies you may use. Different transactions also have different margin requirements. Those that expose you to greater risk require a higher margin.

Options Strategies

Putting options to work for you is all about finding the right strategy for your needs.

Some of the most straightforward options strategies rely on buying, or **going long**. In contrast, writing, or selling, options is known as **going short**. If you hold an option, you're also known as the long. If you sell an option, you're the short.

GOING LONG:

Buy a call or put, pay a premium

BUY

LONG CALLS

If you buy a call on a stock option, you pay the premium for the right to buy shares of the underlying stock at a certain price before the expiration date. Generally, a long call means that you anticipate the underlying stock price will rise above the strike price of the call. If it does, you can either sell your option for more than you paid to buy it, or you can exercise the option to buy those shares for less than their current market value.

LONG PUTS

If you buy a put, you pay the premium for the right to sell shares of the underlying stock at a certain price before the expiration date. A long put usually means that you anticipate the underlying stock price will fall below the strike price of the option. If it does, you can either sell your option for more than you paid for it, or, if you hold shares of the underlying stock, sell them at the strike price for more than they're currently worth.

SPREADING THE RISK

Spread strategies allow you to hedge against the kinds of losses you might face by simply going long or going short. The flip side is that using a spread limits your potential return.

Spread strategies require opening two options positions at the same time on the same underlying stock,

THE LONG AND SHORT OF IT

Buying a put is often compared to shorting stock, since both are strategies that take advantage of falling market prices. One benefit of buying a put rather than selling short is that you face a much smaller risk with a long put, since the most you can lose on the transaction is the premium you pay. When selling short, your potential losses are unlimited if the price of the stock goes up instead of down.

SHORT CALLS

Short options strategies are sometimes more risky than long calls and puts. If you write a call, it means you're selling someone else the right to buy—and you're agreeing to sell—shares of the underlying stock at the strike price before the expiration date. Choosing this strategy usually means that you anticipate the price of the stock will remain neutral or fall. As long as the stock price stays below the strike price of your short call, the option is out-of-the-money and you keep the premium.

If the stock price rises, however, you might choose to buy an offsetting call at a loss to prevent greater losses when the holder exercises the option. Alternatively, if you wrote a **covered call**, which means you already own the shares of underlying stock, you could surrender those shares to fulfill your obligation to sell. But you'd be receiving less for them than their market value.

GOING SHORT:

Sell a call or put, receive a premium



GOING SHORT
LONG

If you wrote an **uncovered call**, which means you didn't own the shares, you'd have to buy them at market price first and then sell them for less—at the exercise price—to meet your obligation.

SHORT PUTS

If you write a put, you're granting someone the right to sell—and you're agreeing to buy—shares of the underlying stock at the strike price at any time before expiration. A short put generally means you expect the market price of the stock to rise so that the put will expire worthless and you'll get to keep the premium.

If the reverse happens, and the market price falls below the strike price of the put, you might close out your position by buying an offsetting put. Otherwise, the option will almost certainly be exercised and you'll have to buy the option holder's shares for more than their market value.

You might also write a **cash-secured put**. That means when you write the option, you either make a deposit in a money market account or buy US Treasury bills so you know you'll have the cash available should you need to complete the purchase. Otherwise, you might be taking on more risk than you can afford.

NAME YOUR SPREAD

There are a variety of spread strategies that may be appropriate at different times. In addition to calendar spreads, which involve different expiration dates, you might try horizontal spreads, butterflies, collars, straddles, and strangles.

If the price of XYZ stays below both strike prices, your profit is the premium you received for the short call, minus the premium you had to pay for the long call.

But if the price of XYZ rises above both strike prices, you can close out both positions, and use the profit from selling your in-the-money long position to offset the cost of your in-the-money short position.

usually by purchasing one and writing the other. Each option in the spread is referred to as a **leg**. In the most common version, known as a **vertical spread**, the two **legs** have different strike prices.

For example, you might use a spread to earn income on stock you own in XYZ company. Rather than writing only a covered call, which would mean running the risk that you'd lose your shares of XYZ if the option were exercised, you could also buy a call at a slightly higher strike price than the one you wrote.

Underlying Choices

Choosing an equity option also means choosing the underlying stock.

Once you've decided on an options strategy, the next step is to select the underlying instrument on which you'll buy or write an option. With equity options, that means choosing a stock or ETF.

EXTRA COMPLEXITY

There are some major differences between picking a stock to add to your portfolio and picking one on which to open an options position. When you're buying stock, you look for a company that seems poised for success, either because you expect its stock price to rise, it pays regular dividends, or both.

But when you're considering an options investment, you need to consider not only whether the stock's price will rise or fall, but also the extent of that increase or decrease. The amount

of change, up or down, will help you determine the strike price at which you think you can make a profit.

You'll also need to choose a time frame for the price change to occur. When you buy a stock, for example, you can usually afford to wait to see if the price goes up. But when you choose an option, you must choose an expiration month. That's all the time you have for the underlying stock to perform as you anticipate.

WHEN YOU WRITE

If your strategy is to produce income by writing covered calls, you might choose a stock whose growth seems stalled—and one you wouldn't mind parting with if the price goes up enough to put the option in-the-money. In that case, the options holder would no doubt



CONSIDERING WHAT'S PROBABLE

Even when you thoroughly research an equity, there's no guarantee that it will perform as you expect before the option expires. That's where **probability** comes in. Probability is a statistical measure of how likely a particular result will be, based on the historical volatility of the equity in question.



For example, an out-of-the-money option on a stock whose price is particularly **volatile**, which means it regularly moves significantly higher and lower than its average price and has a greater probability of moving in-the-money before expiration than an out-of-the-money option on a stock with lower volatility. Of course, it may also move even more out-of-the-money.

exercise, and you would need to deliver the stock to fulfill your obligation.

If you're selling a put, you might select a stock that you'd like to add to your portfolio if the price were right. In that case, the premium you collect by selling will reduce the price you pay if the option holder exercises and you must fulfill your obligation to buy.

RESEARCH METHODS

You can use the same types of research methodology to investigate the stocks on which you're considering options that you use when you're buying stocks.

You might look at **fundamental analysis**, which evaluates the management of the company, its sales and earnings record, its product mix, its debt ratio, its competitors, and a raft of other data. Your broker may provide the firm's in-house assessment of the company and, in some cases, reports from independent analysts. Or, you can access independent analyst reports yourself.

You might also investigate a **technical analysis** of recent price and volume movements in the general market and the sector to which the stock

belongs, as well as price and volume data for the stock itself.

Many investors rely on both fundamental and technical data for options research as they do for stock research. You'll be exposed to a new vocabulary of Greek letters, known collectively as the Greeks, that options analysts use to discuss the movement of an option's theoretical price or volatility as the underlying stock's price or volatility changes or as expiration nears. **Delta**, for example, is a measure of how much an option price changes when the underlying stock's price changes.

Theta is the rate at which an option's premium decays as expiration nears. Prices may decrease rapidly if the option is out-of-the-money or mirror the price of the underlying stock if the option is in-the-money. **Rho** is an estimate of how much a premium changes when the interest rate changes.



WHEN YOU WANT TO BUY

If you identify a stock you want to buy but either don't have the cash on hand or want to hedge your bet, one alternative is to buy on margin. But you could also buy a call option. Calls let you use **leverage**, as margin purchases do, but they may pose less potential risk.

When you buy a stock on margin you must invest 50% of the market price of the stock and maintain a cash reserve in your margin account in case the stock price drops far enough to require a margin call. If that happens, you may have to sell other assets you hold to cover the margin call.

In contrast, if you buy calls on the same stock, the premium you pay will typically cost significantly less than the 50% minimum you must put up to buy on margin. And if you've guessed wrong, and the value of the stock drops instead of rises, the option will expire out-of-the-money, so all you stand to lose is the premium you paid.

But some options trades must be made through a margin account requiring cash reserves and exposing you to margin calls.

GIVING ORDERS

When you give an order to open or close an options position, you use the same language you do when you buy or sell stocks. A **market order** means you want to buy and sell at the current price.

If you're willing to trade only at a specific prices, you use a **limit order**. That caps what you're willing to pay, and sets a floor for the lowest price you will accept. Limit orders may not be filled in a fast moving market.

You may also be able to give a **stop-loss order**, which means you want your broker to sell if the price goes below a certain level to limit further losses.

With a **contingent order**, you tell your broker to act only if some other action occurs. One example: if the price of A goes up, sell B.



Hedging and Speculating

Options are flexible enough to fit a variety of investment strategies.

The more you know about options, the more you may want them in your investment portfolio. For example, you can use options to profit from either rising or falling stock prices. You can use options aggressively, by adopting some potentially riskier strategies, or conservatively, to hedge against risk.

BUILDING A HEDGE

Conservative investors use options to **hedge**, or limit risk. For instance, suppose you bought 100 shares of XYZ stock, expecting it to increase in value. But since nothing in the stock market is guaranteed, perhaps you're concerned that if XYZ's price drops sharply, you'll have a big loss.

To limit your risk, you might decide to buy a put, allowing you to sell your shares at a strike price lower than your purchase price. That way, if the market

price of the stock dropped, your loss could be limited to the difference between what you paid for the shares and the strike price of the option, plus what you paid for the put.

Alternatively, if the market price increased, you might buy a put with a strike price that's higher than what you paid for each share. Using this strategy, you could lock in a profit if the stock price dropped during the contract term, since you could exercise your option and sell at the strike price.

Hedging has costs, however. You'll have to pay the premium to buy the put, which means reducing your potential profit from the trade. And if XYZ stock continues to rise, you won't exercise your option but will still have paid the premium. For many investors, though, the hedge is worth the cost.

ACTING BULLISH

You can profit from using options in both rising and falling markets. In contrast, a straightforward stock purchase is generally only profitable if the stock price rises—though you may choose to sell a stock short if you expect its price to fall.

When markets are rising, you might buy a call to lock in a purchase price for a particular stock. If the stock rises above the strike price of the call, you can buy shares at the strike price and either sell them at the higher market price or hold them in your portfolio. If the shares continue to rise in value, the transaction will continue to be profitable.

And if you're bullish about the stock market as a whole, you might buy calls on

a stock index such as the S&P 500. If you're right, you may realize a profit at expiration.

As an options writer, you may also profit from a rising stock price. For example, if you think the price of XYZ stock will go up, you could write a put on XYZ and collect income from the premium. If your assumption is right and the stock price rises above the strike price of the put, the option will be out-of-the-money, and you'll keep the premium as profit.

If, however, the stock price doesn't rise above the strike price, you'll either have to close out the position by buying the offsetting put at a loss or purchase the shares from the contract holder for more than their market value.

MANAGING RISK

For many investors, options are primarily risk management tools, or a way to protect their portfolios against falling stock prices. But options are investments, not insurance policies. They always carry some risk, and returns are never guaranteed.



TAKING A FLIER

Options can offer potentially large returns for aggressive investors who correctly assess the future direction of a stock, ETF, or stock index. Because they can participate in the price movements for a fraction of the cost of purchasing the underlying instrument directly, a small change in the right direction may provide a large percentage gain. Of course, the problem with **leverage** is that anticipating future change incorrectly, or within the wrong time frame, can result in an equally large percentage loss. That's the risk they must be willing to take.

Aggressive investors may also invest in **volatility** by buying or selling options

contracts on the CBOE Volatility Index, or VIX. Unlike other indexes, which are correlated with market performance, VIX is negatively correlated. So as the value of S&P 500 falls, the value of VIX generally increases. In fact, the rise in VIX is characteristically much larger than the concurrent drop in the market index.

A speculative investor might, when VIX is low because the market is high, buy VIX call options, anticipating a correction that would drive the value of VIX up. If the reverse were true, he or she might buy put options. With VIX options, as with other options, sellers face greater risks than buyers.

FEELING BEARISH

Unlike most stock-trading strategies, some options strategies can also be used to profit in a falling stock market. For example, if you think XYZ stock is going to drop in price, you could buy puts on XYZ. If the price of the stock drops below the strike price of your put, your option will move in-the-money and you can sell it for more than you paid for it.

You could also decide to write a covered call on XYZ and receive income from the premium. If the price of the stock drops below the strike price of your call, as you expect, your option is out-of-the-money and won't be exercised. That means you keep the premium as profit.

Of course, if you're wrong and XYZ rises in value above the strike price of your call, you'll either have to close out the option by buying an offsetting call and take a loss or deliver your shares of XYZ.

When bullish and bearish describe the stock market, bullish means that prices are going up and bearish means that prices are going down. But it's a little more complicated in options markets because call and put prices move in opposition. A call option usually rises in value when the underlying stock price goes up. But put prices usually rise in value as market prices go down.

Finding an Exit

Leaving an options position requires as much planning as entering one.

Exiting an equity options contract isn't always as straightforward as selling a stock or bond. It all depends on the position you've taken. Sometimes, you may not have to do a thing. Other times, you may have to buy or sell another option to close the position. Or you may have to buy or sell shares of stock to meet your obligation if the option you sold has been exercised.

EXERCISING YOUR OPTIONS

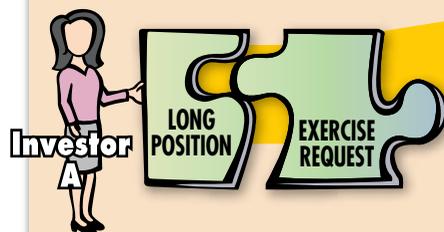
If you've bought an option, which is also called **holding a long position**, and you don't exercise your options contract before it expires out-of-the-money, nothing will happen. You won't get any return on your investment, and the contract will no longer exist.

If you sold an option, which is also called **holding a short position**, and you don't close it out before expiration, you may have to buy or sell shares of stock to meet your obligation. If the option is out-of-the-money at expiration, though, the holder won't exercise, and you won't have to do anything.

An equity option doesn't have to be exercised or closed out exactly at expiration. That's because option holders can act on an American-style option at any point before expiration, as, in fact, most do. As the underlying stock price changes, an option may move in-the-money and then back out-of-the-money. That means timing is an important part of planning—for exercising an option that you hold, or

GIVING AN ASSIGNMENT

If you're ready to exercise an options position that you hold:



- 1 You notify your brokerage firm, which sends the exercise request on to the OCC, the clearinghouse.

AUTOMATIC EXERCISE

In some cases, expiring options may be automatically exercised on behalf of the holder. Automatic exercise usually occurs if the option is in-the-money by a pre-determined amount. Some brokerage firms also practice automatic exercise for their clients when an option is in-the-money. If you hold an in-the-money option, you should check with your firm to see if and when your option might automatically be exercised and what the financial consequences might be. Transaction costs could eliminate a potential profit.

anticipating the exercise of an option that you wrote.

In other words, there are times when doing nothing isn't an option. It's a costly mistake.

ROLLING ALONG

In some cases, you may have an open position that's about to expire, but you're reluctant to end the position altogether. One alternative, as

expiration approaches, is to roll your option. Essentially, you close out your existing position and open a new one that's the same except for the expiration date or strike price.



If you **roll out**, you choose the same option but with a later expiration date. You might roll out if you think your transaction still has the potential to become profitable at a later date.



If you **roll up**, you choose the same option but with a higher strike price. You might roll up if you purchased a call and you think the underlying stock price will continue to rise.

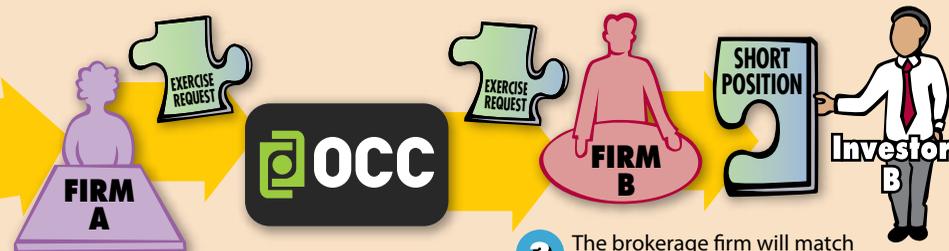


If you **roll down**, you choose the same option but with a lower strike price. You might roll down if you think the underlying stock price won't change much, or it will go down.

GETTING WIRED

Options, like stocks and futures contracts, were historically bought and sold on exchange trading floors, using a sometimes rough and tumble auction system known

as **open outcry**. Today, electronic trading takes precedence. And options that once traded on just one exchange may now trade on several simultaneously.



- 2 The OCC randomly assigns exercise responsibility to a brokerage firm with a client who sold the same series of the option and so is holding the corresponding short position.

- 3 The brokerage firm will match the assignment to an investor who holds the short position, either making a random selection or following a particular system, such as the order in which positions were opened.

While you can decide when to exercise a long position in an options contract, if you hold a short position that's in-the-money you might be **assigned** at any time. That means, for example, if you wrote a call, you'll have to sell the underlying shares at the strike price. And if you wrote a put, you'll have to buy those shares at the strike price.

CLOSING OUT

If you hold an options position—whether long or short—you can always end the transaction by **closing out**, or offsetting your original trade.

Original position	To close out
Buy call	➤ Sell call
Buy put	➤ Sell put
Write call	➤ Buy call
Write put	➤ Buy put

Depending on whether your option has gone up or down in value since you opened the position, you may realize a profit by closing out, or you may take a loss. That loss may be less, however, than the size of the loss you might face if the option expired or were exercised.

If you hold a short position that's

moved in-the-money, you'll have to close out if you don't want to be assigned if the option is exercised. Underlying stock prices often change quickly, which means options may move in-the-money and out-of-the-money rapidly as well.

That's one reason it's important to have a strategy for when you'll close out a position or exercise—perhaps when your option moves in-the-money by a certain amount. That means deciding ahead of time the amount of profit you'd like to take, or the maximum loss you're willing to accept.

TAX IMPLICATIONS

Any short-term gain you realize on securities you've held for less than a year is taxed at the same rate as your earned income. Since most options are traded or exercised within a matter of weeks, you need to plan for these gains. That way, you may be able to offset at least some of those gains with short-term losses.

The tax rules that apply to one type of option, based on the underlying instrument and the specifics of the transaction, may not apply to another type. It's important to consult with your tax adviser before you trade options to clarify the possible taxes you may owe.

Index Options

You can get broad exposure to the stock market with index options.

Just as the underlying instrument of an equity option is a particular stock, or ETF, the underlying instrument of an **index option** is a specific index, such as the S&P 500 or the Nasdaq 100. Fluctuations in the value of the index and time until expiration affect the premium for an index option just as those factors affect the premium of an equity option.

TRACKING MARKET MOVES

Index options are attractive to investors because they offer the same ability to hedge or speculate as equity options. Rather than anticipating the movement of an individual stock, index options let you adopt strategies based on the movement of the market as a whole, a particular sector, or a factor, such as volatility.

For example, if you anticipate that the stock market will rise, you can buy calls on the S&P 500 rather than calls on the individual stocks in the index, which would require a far greater number of transactions, a lot more money, and more time monitoring your positions.

Index options also reduce the risk that one particular company's stock won't perform as you expected. Instead, the value of your option will be determined by the collective performance of a large number of companies. For example, if you anticipate that the natural gas sector is poised for a move, buying a natural gas index option would allow you to profit—assuming your assumption is correct—without having to select one particular natural gas company.

And because indexes are so diversified, index options can be a simple way to hedge a diversified portfolio. If you buy a put on a broad stock index, your put will rise in value as the stocks in your portfolio lose value. If the stock market makes gains, your put will be out-of-the-money, but what you paid in premiums may be offset by increases in the value of your portfolio. You might decide to roll out, and repurchase the put with a later expiration date, to continue the hedge.

NO PERFECT HEDGE

One risk of hedging with index options is that the movement of the index may not exactly match the movement of your portfolio. The more carefully you choose an index—by comparing its make-up and volatility to your own portfolio—the greater the potential for it to work as a hedge. But there's no way to guarantee a perfect match.



COLLECTIVE PERFORMANCE

CASH-SETTLED OPTIONS

Most equity options are **physical delivery** contracts, which require shares of the underlying instrument to change hands. Index options, in contrast, are **cash settled**, which means a holder who exercises a contract receives a certain amount of money. The cash settlement value is the difference between the value of the index at closing, called the **exercise settlement value**, and the strike price of the option, times the multiplier chosen by the market listing the option.

With a call option, the cash settlement value is the amount by which the exercise settlement value exceeds the exercise price, times the multiplier. The opposite is true with a put option, where the cash settlement value is the amount by which the exercise price exceeds the exercise settlement value, times the multiplier.

For example, if Index XYZ closes at 1,050, you hold a call with a strike price of 1,000, and the multiplier is 100, your cash settlement is \$5,000.

Exercise settlement value	1,050
Strike price	− \$1,000
	<hr/> 50
Multiplier	x 100
Your cash settlement	\$5,000

Most index options are European style, which means they can be exercised only at expiration, not before. But you can sell options you hold any time before expiration if that would be profitable and offset options you've written to avoid assignment.



PERFORMANCE

MARKET MOVEMENT

EDGE
SPECULATE
DIVERSIFY
REDUCE RISK

- The initial margin and margin maintenance requirements for writers of index options are higher than they are for equity options writers.
- Holders of index options must often make exercise decisions before they know the exercise settlement value. If the index moves after the decision, as it could, the holder could have a loss rather than the expected gain.

OTHER OPTIONS

Just as stockholders can hedge with index options, bondholders can hedge using **debt options**, which are essentially options on US Treasury issues, in most cases. You might use these options to offset a drop in rates between the date you purchase the option and the date the bond matures. If the money from the maturing bond has to be reinvested at a lower rate, the profit from trading the option may make up for some of the loss.

Institutional investors with large overseas holdings sometimes hedge their portfolios by purchasing **currency options** on the currencies in which their money is invested. Since the investment's value depends on the relationship between the currencies, using options can help to equalize sudden shifts in value.

In addition, you can buy **options on futures contracts**, where the underlying instruments are agricultural commodities—such as grain, livestock, other raw materials—or index options.

There are also a number of exotic options. One example is **binary options**, in which one of two possible outcomes will occur: You'll be correct in the position you take and receive a cash settlement when the option is automatically settled at expiration, or you won't be and get nothing.

In most contracts, the exercise settlement value is determined by the prices of the index's components at the end of trading on exercise day or the previous day if there's no trading on exercise day. But in some contracts, it is based on opening prices on exercise day or the prior day.

MAKING INFORMED DECISIONS

While investing in index options resembles investing in equity options in some major ways—as an option holder all you can lose is the premium you pay—there are differences you need to be aware of before adding index options to your portfolio.

For example, you'll want to understand the **methodology**, or rules, of the underlying index, including the way the index value is calculated. Some indexes, such as those tracking implied volatility or dividend payments, may be valuable tools, but they work very differently than a plain vanilla index tracking a broad market. In addition:

- Hedging potential settlement obligations is more difficult for writers of index options than it is for writers of equity options.

Researching Options

Investigating before investing is essential when you're trading options.

Before you initiate any options trade, you'll want to evaluate the underlying stock or stock index, be clear about what you want to achieve, and understand the decisions you'll have to make and when you might have to make them.

IDENTIFYING RESOURCES

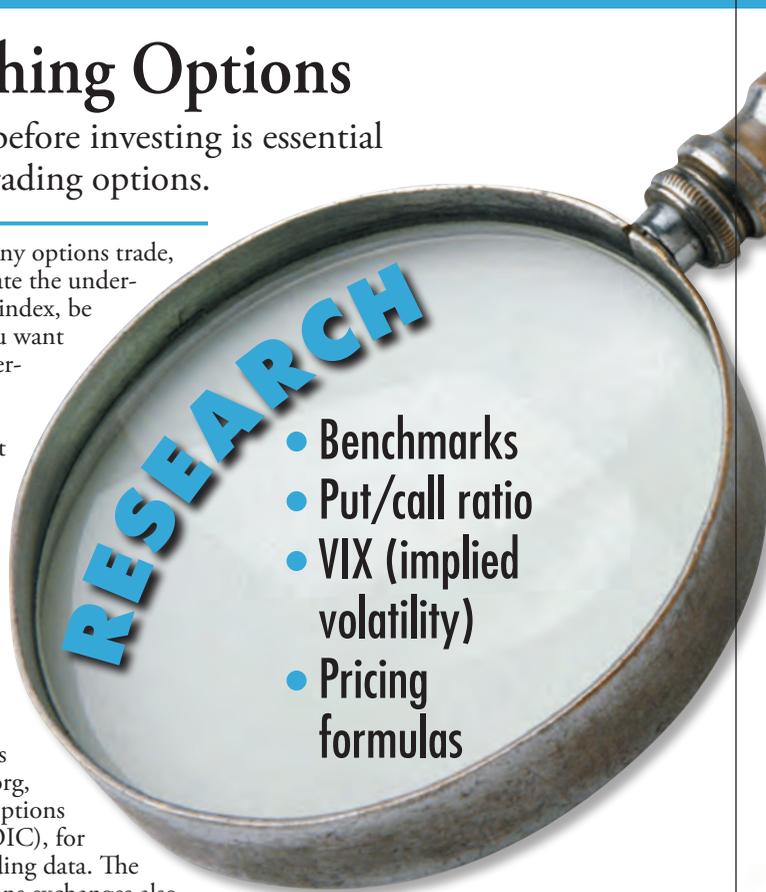
You can do much of your options research online. In addition to options trading websites, you can check industry sites such as OptionsEducation.org, the website of the Options Industry Council (OIC), for educational and trading data. The websites of the options exchanges also offer premium quotes and other information for the options they list. And you can check the SEC's EDGAR database for information on underlying stocks.

You might also use subscription-based options newsletters. They offer options information, often provide specific trade ideas, and are usually the work of experienced options traders. But there's no guarantee that their insights will prove correct. If you're considering a newsletter, you should carefully review the long-term track record of the author as well as how appropriate the information and analysis are for your investing style.

USING BENCHMARKS

Another way to analyze the options marketplace is by using the appropriate **benchmarks**. A benchmark is a yardstick against which you compare a security or an option. In stock trading, for example, the S&P 500 is often used as a benchmark for large-company stocks. You compare the return on a particular stock to the return of the index to see how the stock has performed in relation to the market in general.

One benchmark that's popular with options investors is the Chicago Board Options Exchange (CBOE) Volatility Index, or VIX. Rather than tracking



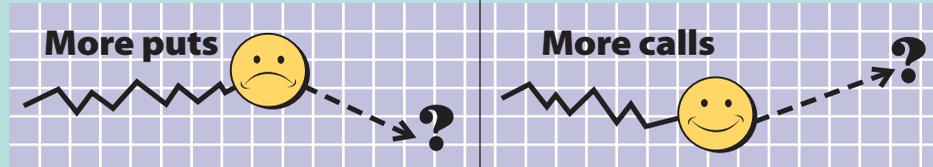
- Benchmarks
- Put/call ratio
- VIX (implied volatility)
- Pricing formulas

average return, VIX tracks the 30-day implied volatility of S&P 500 index options. **Implied volatility** is a measure of how actively investors think that the S&P 500 and, by extension, the stock market, will fluctuate in the short term.

The higher the VIX, the greater the expectation that prices will change quickly—though there are no guarantees that investor sentiment is an accurate predictor of what will happen. That's why you may also want to track the market price of the stocks underlying your options contracts closely. This is particularly important as their expiration dates get closer since you may need to close a position to realize a gain or protect against a greater potential loss.

RELEVANT RATIOS

You can get a sense of current market trends and what they seem to suggest for the near term by looking at certain indicators. One example is the **put/call ratio**, which compares the number of put and call contracts



Implied volatility is a measure of the market's prediction of how volatile a security will be. **Historic volatility**, on the other hand, is an actual measure of how much a security's price has fluctuated in the past.

IS THE PRICE RIGHT?

Options analysts use complex formulas, or models, to calculate the **theoretical price** of an option—meaning what the price logically ought to be—based on a number of factors. By comparing the actual trading price of an option to its theoretical value, you can determine whether the option is trading for more or less than it's worth.

The Black-Scholes formula is one of the best-known pricing models. For example, you might use the Black-Scholes formula to estimate how the premium of a particular option might change if interest rates move up or down 100 **basis points**, which is one percentage point.

Because the formula itself is very complicated, you'll probably use a web-based calculator. But it can be helpful

to know the variables in the formula, since changes in these factors will influence the premium of an option you hold or one you're considering.

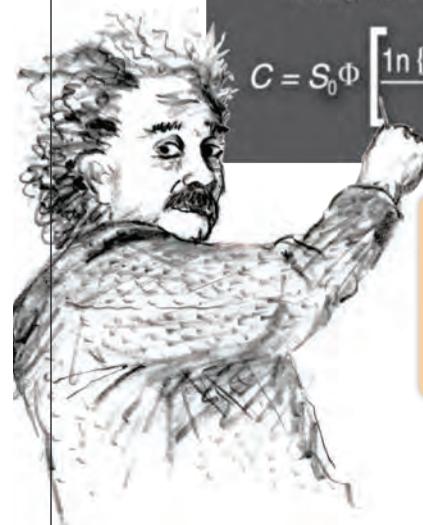
These variables include:

- Price of the underlying stock
- Strike price
- Time until expiration
- Volatility
- Whether the underlying stock distributes dividends
- Interest rates, since changes in national rates affect the premiums on options

It's important to remember, though, in doing your research, that an options formula calculates only theoretical price. Market demand determines the actual price, no matter what its theoretical value.

The Black-Scholes Formula

$$C = S_0 \Phi \left[\frac{\ln \left(\frac{S_0}{K} \right) + \left(r + \frac{1}{2} \sigma^2 \right) n}{\sigma \sqrt{n}} \right] - K e^{-rn} \Phi \left[\frac{\ln \left(\frac{S_0}{K} \right) + \left(r - \frac{1}{2} \sigma^2 \right) n}{\sigma \sqrt{n}} \right]$$



NOBEL EFFORTS

The Black-Scholes formula was devised by three mathematicians: Fischer Black, Myron Scholes, and Robert Merton. They published their formula in 1973, and Scholes and Merton won the Nobel Prize in 1997. (Black had died.) Other options-pricing formulas include the Cox-Ross-Rubenstein model and the Whaley model.

STICK WITH IT

Once you open an options position, it's important to stick with the strategy you adopted when you made the decision to invest. That might mean closing out your option if the premium or the market price of the underlying stock exceeds the level you set as your exit point when you opened the position.

For the same reason, it's important to continue to use the same benchmarks that helped frame your decision when you opened your position. If you chose an option because of its theoretical value, for example, you should determine your exit strategy using the same criteria, rather than making a decision based on its relative volatility.

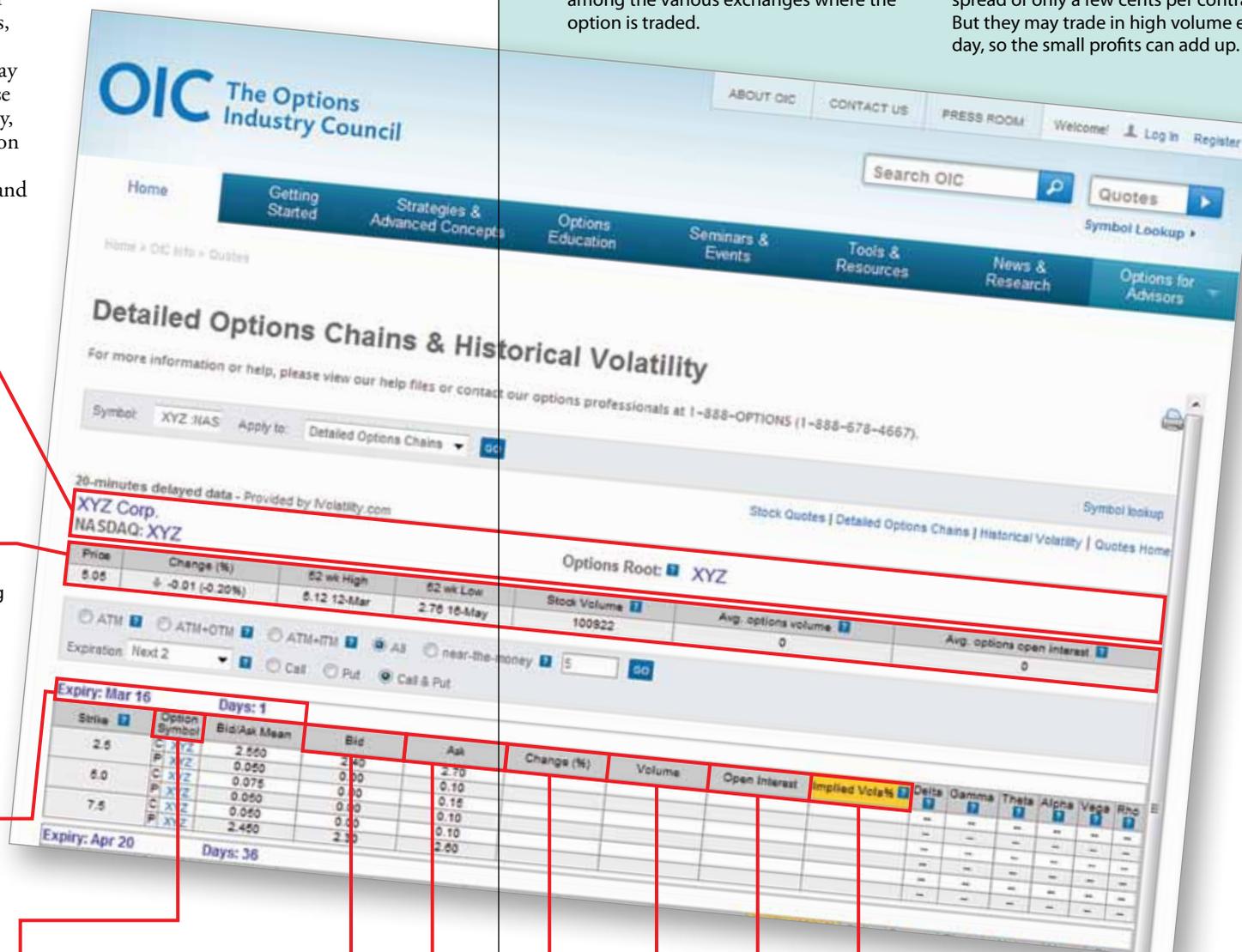
Options Chains

Learn how to translate the specialized options tools you can find online.

Instead of options tables, many websites offer **options chains** or **options strings**. You select a particular underlying instrument, and can see a chain of all the options currently available. That way, you can compare the prices for calls and puts, different strike prices, and different expiration months.

You can choose whether to display all option strike prices, or only those that are in-the-money, at-the-money, or out-of-the-money, or any combination of the three. You can also select the expiration months to be displayed and whether to include LEAPS or not.

In addition to price information for each contract that appears in the option chain, you'll find its theoretical value, implied volatility, and a calculation for each of the Greeks.



The uppermost area of the option chain indicates the name of the underlying stock, its ticker symbol, and the primary exchange on which the underlying stock is listed.

Just below you'll find information about the underlying stock, including its current market price, its net change up or down, the 52-week high and low, and the stock volume. Options statistics include the average daily option volume for the option class as well as the average open interest.

You can find the month, day, and year of the option's expiration as well as the number of days until expiration.

The **option symbol** column indicates the option symbol for calls and puts on the underlying stock. For each strike price, the chain will display information for calls (C) and puts (P).

Bid indicates what buyers are willing to pay for the option, and **ask** indicates which sellers are willing to take for the option.

Change is a measurement of the percentage change in the option's price for the day. A positive number indicates a price increase, while a negative number indicates a decrease.

BID AND ASK

The bid is the price that a buyer is willing to pay for an option, and the ask is the price that a seller is willing to accept. In general, the two prices are slightly different, and the gap between them is known as the spread.

As a rule of thumb, the more actively traded an option is, the smaller the spread will be. But the bid and ask spread for any particular option contract may vary on the different exchanges where the contract is listed. So option brokers focus on getting their customers the best execution price among the various exchanges where the option is traded.

When you buy or sell an option—or a stock—you're possibly buying from and selling to a market maker. One role of market makers is to provide liquidity in the marketplace, making it easier to buy or sell one or more options without changing the market price. One way market makers can profit is by buying options contracts at the current bid price and selling them at the higher ask price. Without a change in the underlying stock price, they may make a profit from the spread of only a few cents per contract. But they may trade in high volume every day, so the small profits can add up.

Options Root: XYZ

Strike	Option Symbol	Bid/Ask Mean	Bid	Ask	Change (%)	Volume	Open Interest	Implied Volatility	Delta	Gamma	Theta	Alpha	Vega	Rho
Expiry: Mar 16 Days: 1														
2.5	C XYZ	2.550	2.40	2.70										
	P XYZ	0.050	0.00	0.10										
5.0	C XYZ	0.075	0.00	0.15										
	P XYZ	0.050	0.00	0.10										
7.5	C XYZ	0.050	0.00	0.10										
	P XYZ	2.450	2.30	2.60										
Expiry: Apr 20 Days: 36														

Volume is the current number of contracts traded for each option series during the trading day. Some options chains allow you to view only options with a certain daily volume.

Open interest indicates the total number of open contracts outstanding.

Implied volatility is the volatility percentage that produces the best fit for each options series.

Futures: Setting Expectations

Futures are complex and volatile, but also useful investments.

FUTURES ARE OBLIGATIONS TO BUY OR SELL a specific commodity—such as corn, gold, or Treasury bonds—on a specific day for a preset price.



DERIVATIVE INVESTMENTS

Futures belong to the group of financial products known as **derivatives** because their prices reflect, or are derived from, the value of the commodity underlying the futures contract. Commodities can be consumable, such as soybeans and wheat, or financial, such as an index or a particular stock.

Futures developed from **forward contracts**, which were originally used by commodity producers—corn farmers, for example—to lock in the price they were to be paid for corn when it was harvested some months later. With the contract in hand, the farmer was protected if corn prices dropped.

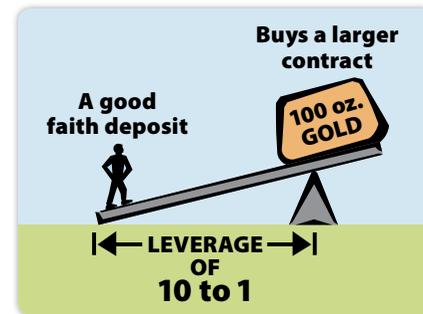
Futures contracts formalized the forward-contract process, imposing standard contract terms for **grade**, or quality, **quantity**, and **delivery month**. With the imposition of standard terms, it became possible to trade futures contracts on an organized exchange, creating a futures marketplace.

Buying or selling a futures contract does not transfer ownership. Rather, the contract spells out the terms of the deal, including the rights and obligations of the buyer and seller, the underlying product—also called the **underlying instrument** or just the underlying—to be purchased or sold, the quantity, and the timing.

LEVERAGE AND RISK

Leverage, in financial terms, means using a small amount of money to control an investment of much greater value.

Futures contracts are highly leveraged instruments. Under most circumstances, you can buy or sell a futures contract with a **good faith deposit** called an **initial margin**, which is a percentage of the underlying item's value, often 10% but 20% for a security future. For example, if you buy a gold contract worth \$125,000 when the futures contract represents 100 ounces

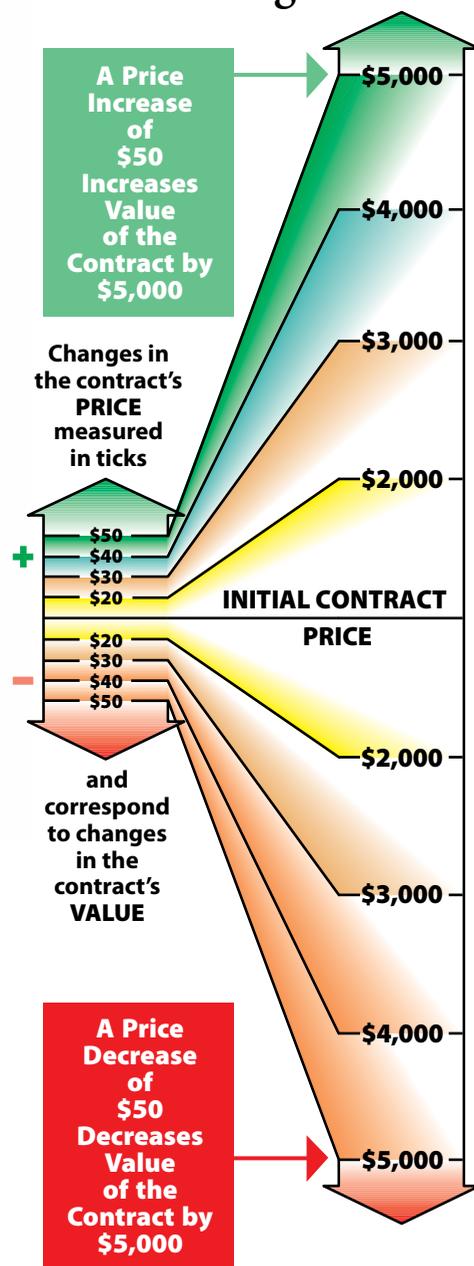


of gold and the gold futures price is \$1,250 an ounce, the required good faith deposit might be \$12,500. That gives you 10-to-1 leverage since you control the \$125,000 investment with your \$12,500 deposit.

As another example of how leverage affects the value of a futures contract, consider a situation in which the price of the commodity underlying a contract increased \$30, \$40, or \$50 per unit within a short period. If the price went up \$50 per unit and the contract covered 100 units, the value of the contract would jump \$5,000. Of course, the opposite could also happen. If the price per contract unit dropped \$50, the value of the contract would drop \$5,000.

So while leverage means that the initial amount required to buy a futures contract, known as **opening a futures position**, is relatively small, changes in the market price of the contract are magnified in relation to your initial deposit.

How Leverage Works



EXCHANGE TRADING

Typically, futures contracts are traded only on the exchange that lists them rather than on multiple exchanges as securities are. The listing exchange develops a contract's terms and conditions, provides speedy clearing and settlement of trades, and ensures that obligations to buy or sell are met.

Similar or even identical contracts may trade on more than one exchange, but normally one contract on a particular commodity dominates the competition in trading volume and liquidity. In other cases, an exchange may have the exclusive right to list contracts on a particular commodity.

Futures contracts expire on a specific day each month and are dropped from trading. US contracts expire on the third Saturday of the expiration month and can be liquidated or offset on or before the third Friday.

Futures Contracts

The dynamic movement of futures prices requires constant attention and steady nerves.

To trade futures, you open an account with a futures brokerage firm known as a **futures commission merchant (FCM)**, who will execute your trades. You may deal directly with the FCM or go through an introducing broker (IB) or commodity trading adviser (CTA).

When you're ready to trade, you give an order to buy or sell one or more contracts, either to **open a position** or to **offset a position** you hold. You pay a commission, called a round-turn, but only when you offset a position or the underlying is delivered at expiration.

The upfront cost of opening a position is the **initial margin**, or good faith deposit. This is a performance bond—a minimum of 10% of the cost of the contract, though sometimes more at the exchange's discretion—that's available to meet your obligation if the value of your contract falls.

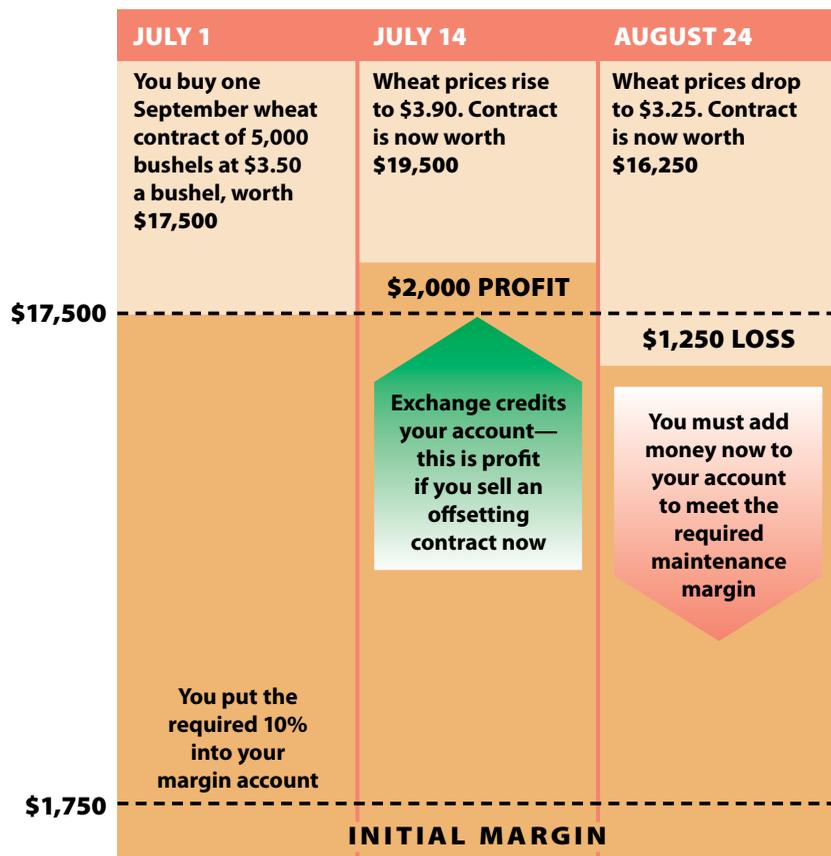
CHANGING PRICES

The market value of a futures contract changes constantly during the trading day and throughout its term. The changes are caused by fluctuations in the price of an offsetting contract, which in turn is caused by changes in the cash price of the underlying commodity, among other factors. If the value of a contract you hold goes up, you have a profit, and if it goes down you have a loss.

At the end of each trading day, the exchange's **clearinghouse**, an agency that's responsible for clearing and settling its trades, moves money either into or out of its members' accounts, based on the shifting value of their contracts. The process is called **marking to market**.

After you've opened a position, you must maintain the required margin level, called the **maintenance margin**, of your

Profit and Loss on an Open Futures Contract



THE LANGUAGE OF FUTURES

Futures trading involves contracts that cancel, or offset, each other: For every buy there's a sell and vice versa. The language of futures trading reflects this phenomenon.

To Enter the Market	Which Means	To Offset Your Position	Which Means
GO LONG	ENTER A FUTURES CONTRACT TO BUY	GO SHORT	ENTER A FUTURES CONTRACT TO SELL
GO SHORT	ENTER A FUTURES CONTRACT TO SELL	GO LONG	ENTER A FUTURES CONTRACT TO BUY

account at all times, adding money, if required, to cover the loss if the value of your contract drops. Maintenance margin requirements are also set by the exchange and may differ from initial margin requirements.

Margin helps control the risk to which traders are exposed. If market prices start to move rapidly and the market **volatility** increases, margin rates can be increased. This helps to ensure that traders don't expose themselves to risks that exceed the capital in their account. Higher margin requirements can also slow trading, as traders are able to take fewer positions with the same amount of money.

A TWO-PARTY SYSTEM

There are two parties to every futures transaction—the **buyer**, who is called the long, and the **seller**, who is called the short. If you want to enter the futures market, you can **go long** or **go short**. When an order is filled, the contract typically goes into a pool at the exchange's clearinghouse with all the other filled orders. And if you want to leave the futures market, cancelling your obligation under the contract, you offset your position with an equal number of the same futures contract on the opposite side of the market.

For example, if you have purchased, or have a long position in, three September US Treasury note futures and want to leave the market, you would sell, or take a short position in, three September US Treasury note futures. This purchase ends your obligation to deliver.

To offset a futures contract, you don't have to find the investor who was on the other side of your original futures contract and hope that person also wants to offset his or her position. That's because once a futures position has been cleared by a futures clearing firm, the firm becomes the buyer for every seller and the seller for every buyer. This means that when you give

the order to offset your existing futures position, the clearing firm will see to it that your old futures position is cancelled by your new, offsetting trade.

DELIVERY ISSUES

If you don't offset your futures position, you must make or take delivery of the item underlying the contract at expiration. The person with the short position is required to make delivery, and the person with the long position is required to take delivery. The contract specifies where, when, and how delivery may take place.

Physical delivery is the exception rather than the rule. The overwhelming majority—market data suggests more than 98%—of futures contracts are terminated before expiration.

Some futures contracts, called **cash-settled contracts**, don't permit physical delivery. Rather, they are settled—if they're not offset—with a cash payment determined by the price change in the last two trading days before expiration.

HOW TRADING WORKS

Futures are traded on regulated exchanges, also called **designated contract markets (DCMs)**. The number of exchanges varies over time, both through consolidation and the launch of new venues.

Historically, futures traders arrived at **price discovery**, or what the buyer would pay and the seller would accept, through an often frenetic auction system on an exchange floor known as **open outcry**.

This live trading system persists on some exchanges but has been replaced on most by fully automated trading programs that match buyers and sellers electronically. On exchanges where both systems still exist, e-trading hours may overlap with floor trading hours but may also operate around the clock, with short daily breaks and a weekend interruption.

Hedgers and Speculators

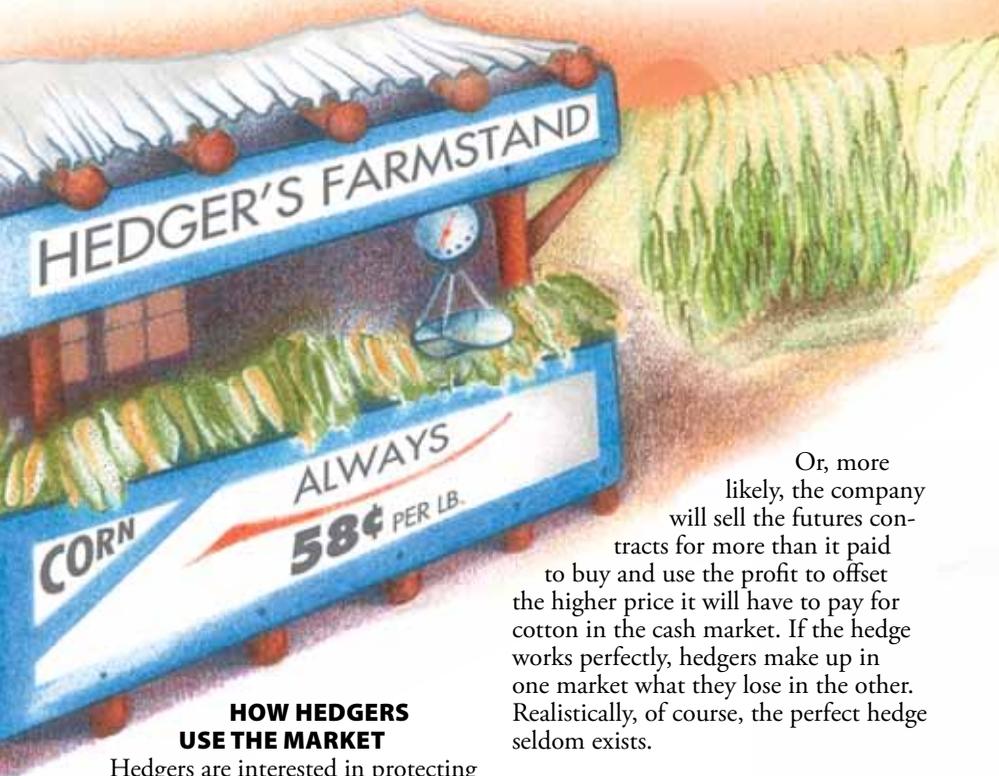
Risk avoiders and risk takers can both benefit from their interaction in the futures markets.

Two different types of investors operate in futures markets.

Hedgers are producers or purchasers of commodities. They use futures contracts as tools to help manage the financial risks of their business operations. In general, producers like wheat farmers sell contracts while users like baking companies buy contracts.

Speculators, on the other hand, trade futures strictly to make money.

They choose contracts based on what they expect to happen. The positions they take have the potential to move prices up or down, sometimes significantly, especially if there is a sudden flurry of buying and selling that may be sparked by rumor, inside information, or other factors.



HOW HEDGERS USE THE MARKET

Hedgers are interested in protecting themselves against price changes that will undercut their profit. For example, a textile company may want to hedge against rising cotton prices as a result of disease or bad weather. In August, the company buys 100 December cotton futures, representing five million pounds of cotton at 58 cents a pound.

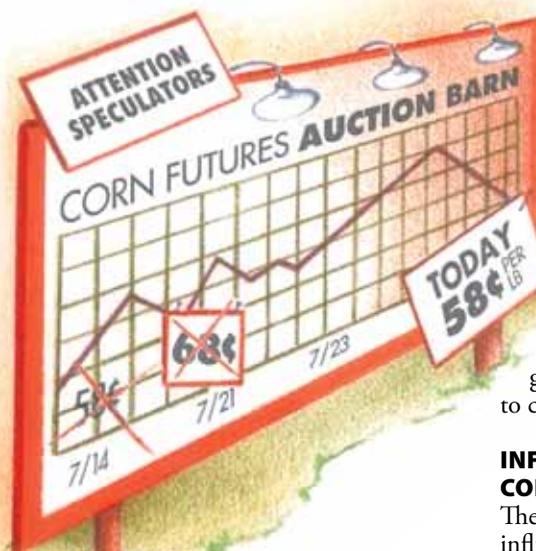
During the fall, the cotton crop is damaged and the prices shoot up. The December contract now trades at 68 cents. But the textile maker has hedged against exactly this situation. In December it can take delivery of cotton at 58 cents a pound, 10 cents less than the market price, and save \$500,000 (10 cents x 5 million pounds).

Or, more likely, the company will sell the futures contracts for more than it paid to buy and use the profit to offset the higher price it will have to pay for cotton in the cash market. If the hedge works perfectly, hedgers make up in one market what they lose in the other. Realistically, of course, the perfect hedge seldom exists.

HOW SPECULATORS USE THE MARKET

Speculators hope to make money in the futures market by betting on price moves. A speculator may load up on orange juice futures in November, betting that if a freeze damages the Florida orange crop, the price of orange juice and the futures contracts based on it will soar.

If the speculators are right, and the winter is tough, the contracts on orange juice will be worth more than they paid. The speculators can then sell their contracts at a profit. If they're wrong, and there's a bumper crop, the bottom will fall out of the market, and the speculators will be squeezed dry by falling prices.



SPECULATORS ARE INDISPENSABLE

Speculators are crucial to the success of the futures market because they complete a symbiotic relationship between those wishing to avoid risk and those willing to take it.

Since hedgers, in planning ahead, want to avoid risk in what are often undeniably risky businesses, others have to be willing to accept it. Unless some speculators are willing to bet that orange juice prices will rise while others bet that prices will fall, an orange juice producer could not protect against dramatically increased costs in the event

of a freeze, and orange farmers couldn't earn enough money in a good year to pay their production costs.

Speculators also provide liquidity. If only those who produced or used the commodities were trading, there would not be enough activity to keep the market going. Buy and sell orders would be paired slowly, erasing the protection that hedgers get when the market responds quickly to changes in the cash market.

INFLUENCES ON FUTURES CONTRACT PRICES

The price of a futures contract is influenced by natural and political events, but it's also affected by the economic news that the government releases, the length of time the contract has to run, and by what speculators are doing and saying.

Virtually every day of every month, the government releases economic data, sells Treasury bills, or creates new policies that influence the price of futures contracts for both natural and financial commodities. News on new home sales, for example, directly influences the price of lumber futures, as hedgers and speculators try to link the probable rise or fall in the demand for lumber to what will happen in the construction industry.

If a producer holds a commodity for future delivery, the contract will reflect storage, insurance, and other carrying costs to cover daily expenses until delivery. Generally, the further away the delivery date, the higher the contract price.

For example, in August, contract prices for December corn futures will be higher than those for September corn futures. This relationship is known as **contango**.

In an inverted market, where there's a limited short-term supply of a particular commodity, hoarding may increase the price of the near-term contracts while reducing the prices for farther-out contracts. This is called **backwardation**.

HEDGER'S WAY THROUGH ROAD

- Avoid risk
- Protect against future price changes

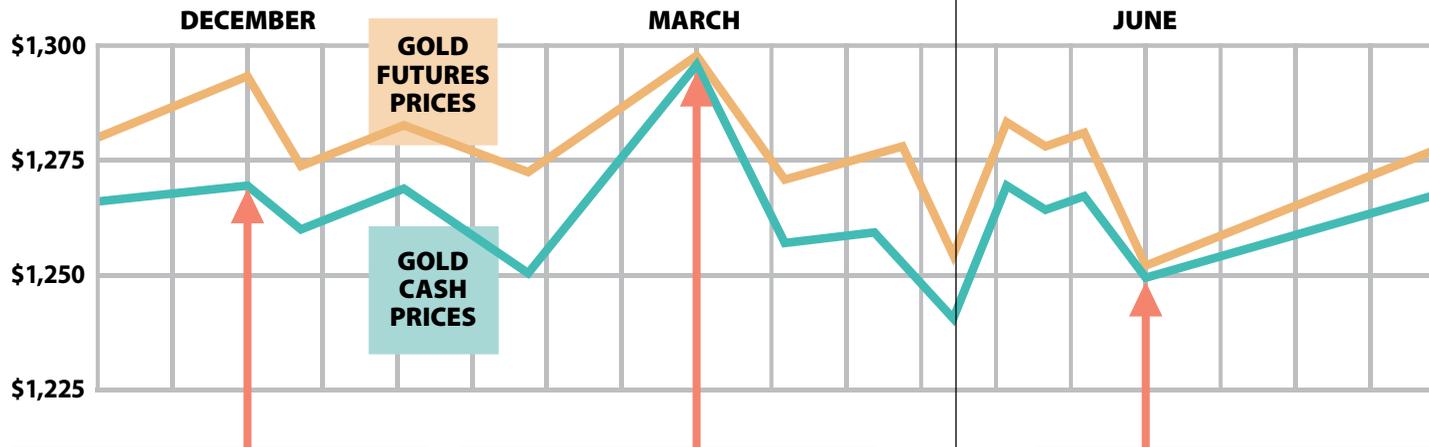
SPECULATOR'S LEAP

- Accept risk
- Bet on large profits from price changes

Investing in futures is different from investing in stocks, bonds, and mutual funds because futures markets are **zero sum markets**. That means for every dollar somebody makes (before commissions), somebody else loses a dollar. Put bluntly, that means that any gain is at somebody else's expense.

How Futures Trading Works

Though they have different goals, hedgers and speculators are in the market together. What happens to the price of a contract affects them all.



DECEMBER*

Gold is \$1,270 an ounce in the cash market and \$1,285 for the June contract

In December, the price of gold in the cash market—what a buyer would pay for immediate delivery—is \$15 less than the price of the June contract.

PRODUCERS (HEDGERS)

Gold producers hedge by selling futures contracts. The gold producers sell June futures contracts because they won't have gold ready for delivery until then.

Earned in December sale \$ 1,285

USERS (HEDGERS)

Gold users hedge by buying futures contracts. The gold users buy June futures contracts because that's when they need the gold.

Cost of December buy - \$ 1,285

SPECULATORS

Speculators buy gold futures contracts if they think the price is going up.

Cost of December buy - \$ 1,285

* This hypothetical illustration does not include commissions or other trading costs that would affect the cost of trading futures contracts. It also assumes that all participants purchased contracts at the same price.

MARCH*

Gold is \$1,295 an ounce in the cash market. The June contract is selling for \$1,298

In March, the price of gold has gone up to \$1,295 in the cash market. The June futures contract is selling for \$1,298.

PRODUCERS (HEDGERS)

The producers can't sell their gold because it isn't ready yet. They do nothing.

USERS (HEDGERS)

This upswing in the cash price is exactly what the users were trying to protect themselves against. They wait for the expiration date.

SPECULATORS

The speculators sell, thinking gold has reached its peak. One clue is that the contract price is so close to the cash price. If speculators thought higher prices in the cash market were likely in the near future, they would be willing to pay higher prices for futures contracts.

This time the speculators made money in the market if they sold in March when the contract price reached its peak.

Priced from March sell \$ 1,298
Cost of December buy - 1,285
Result of trade [profit] \$ 13

OPTIONS ON FUTURES

Buying a **put** or **call option** on a futures contract enables an options buyer to speculate on a price change with limited risk. The most the buyer can lose is the **option premium**, or the cost of the option.

Buying a call option on a futures contract gives the buyer the right to buy

the underlying contract at a specific price during the life of the option. Buying a put option on a futures contract gives the buyer the right to sell. An options buyer isn't obligated to exercise, but may do so before expiration if it's an American style option.

A buyer might buy a call option on gold futures, anticipating a rise in gold prices. If the price does go up, then the buyer will exercise the option, buy the gold futures at the preset price, and close out the position by selling an offsetting contract at the higher current market price. The buyer's profit is the price difference between the offsetting contracts, minus the price of the option premium.

If the price of gold falls, then the buyer lets the option expire unexercised and loses only the price of the option premium. By using the options alternative, the buyer is protected against the unlimited losses that are possible with futures contracts.

JUNE*

Contracts expire when gold is \$1,250 an ounce in the cash market and \$1,252 in the futures market

In June, when the contract expires, both the producers and the users equalize their profit or loss in the futures market through offsetting trades in the cash market.

PRODUCERS (HEDGERS)

Because the price of the gold futures contract had dropped, the producers made money on the offsetting trade.

Earned in December sell \$ 1,282
Cost of June buy - 1,252
Result of trade [profit] \$ 33

Even though producers had to sell their gold in the cash market for less than the anticipated price, the profit from their futures trades gave them the expected level of profit.

Earned in cash market \$ 1,250
Futures profit 33
Gross profit \$ 1,283

USERS (HEDGERS)

The users lost money on the futures contracts because it cost more to sell the offsetting contracts than they had paid to buy.

Earned in June sell \$ 1,252
Cost of December buy - 1,285
Result of trade [loss] - \$ 33

Since it cost the users less to buy gold in the cash market than they had expected, the total cost was what they anticipated.

Cost in cash market \$ 1,250
Cost of futures trade + 33
Actual cost of gold \$ 1,283

In any given futures contract, the profit or loss of the hedgers could be reversed, depending on the rise or fall of the futures price. In the end, however, their profit or loss in the futures trade would be offset by profit or loss in the cash market. The speculators could lose as frequently—maybe more frequently—than they gained, depending on changing prices and the timing with which they entered and left the market.

The oldest futures contracts date back to 17th-century Japan, when **rice tickets** provided landlords who collected rents in rice with a steady secondary income source. They sold warehouse receipts for their stored rice, giving the holder the right to a specific quantity of rice, of a specific quality, on a specific date in the future.

The buyers who paid for the tickets could cash them in at the appointed time or sell them at a profit to someone else. Like futures contracts today, the tickets themselves had no real worth, but they represented a way to make money on the changing value of the underlying commodity—the rice.



Consumable Commodities

Modern life depends on raw materials—the products that keep people and businesses going. Anticipating what they'll cost is what fuels the futures market.

Commodities are the raw materials that are consumed in the process of creating food, fuel, clothes, cars, houses, and the thousands of other products that people buy—the wheat in bread, the silver in earrings, the oil in gasoline. Most producers and users buy and sell commodities in the **cash market**, commonly known as the **spot market** because the full cash price is paid on the spot.

DETERMINING CASH PRICES

Commodity prices are based on **supply and demand**. If a commodity is plentiful, its price will be low. If it's hard to come by, the price will be high.

Supply and demand for many commodities move in fairly predictable seasonal cycles. Tomatoes are cheapest in the summer when they're plentiful, and most expensive in the winter when they're out of season. Soup manufacturers plan their production season to take advantage of the highest-quality tomatoes at the lowest prices.

But it doesn't always work that way. If a drought wipes out the Midwest's wheat crop, cash prices for wheat surge because bakers buy up what's available to avoid a short-term crunch. Or if political and economic turmoil threatens the oil supply, prices at the gas pumps jump in anticipation of supply problems.

MINIMIZING FUTURE RISK

Since people don't know when such disasters will occur, they can't plan for them. That's why **futures contracts** were invented—to help businesses minimize risk. A baker with a futures contract to buy wheat for \$4.20 a bushel is protected if the spot price jumps to \$4.85—at least for the purchase covered by the contract.

Farmers, loggers, and other commodity producers can only estimate the demand for their products and try to plan accordingly. But they can get stung by too much supply and too little demand—or the reverse. Similarly, manufacturers have to take orders for future delivery without knowing the cost of the raw materials they will need

What's in a Contract and What Can Affect Its Prices

PRICES RISE WHEN

Bad weather ruins US wheat crop

ONE WHEAT CONTRACT IS 5,000 BUSHELS



If wheat is \$6.33 a bushel, one contract is worth **\$31,650**

What the contract is for and what it costs*

PRICES FALL WHEN

Russia has bumper crop of wheat

*Prices as of March 2015

to make their products. That's why they buy futures contracts on the products they make or use: to smooth out the unexpected price bumps.

CASH PRICES AS CLUES

The fluctuation in cash prices provides clues to what consumers can expect to pay in the marketplace for products made from the raw materials.

Unlike the stock market, though, where a particular economic situation is likely to have a similar impact—up or down—on the equities being traded, in the cash market the price of each com-

TAXING ISSUES

There may be tax benefits from trading regulated futures contracts, which the IRS classifies as **1256 contracts**. Sixty percent of gains on contracts sold during the tax year or held at year's end are taxed at the long-term capital gains rate regardless of the period they were held. The remaining 40% are taxed as

short-term gains. In contrast, all short-term gains on securities trades are taxed as ordinary income.

But the rules are complex. For example, gains on single stock futures are taxed the way gains on securities are. You'll want expert tax advice before trading futures and when reporting gains and losses.

You find the market value of a commodity contract by multiplying the current price times the quantity of the underlying product covered by the contract. To make

the futures trading more efficient, these quantities are usually large, though they vary significantly by product.

Political turmoil causes oil shortage

ONE GASOLINE CONTRACT IS 42,000 GALLONS



If gasoline is \$1.80 a gallon, one contract is worth **\$75,600**

Insects ravage cane crops

ONE SUGAR CONTRACT IS 112,000 POUNDS



If sugar is 12.74¢ per pound, one contract is worth **\$14,269**

US auto exports increase

ONE PALLADIUM CONTRACT IS 50 TROY OUNCES



If palladium is selling at \$776 an ounce, one contract is worth **\$38,800**

Oil producers increase output

Health concerns cause drop in sugar consumption

US auto industry closes domestic factories and lays off employees

modity operates independently of the price on others.

Futures prices tend to track cash prices closely, but not identically. The difference between the futures contract price and the cash price of the underlying commodity is called the **basis**.

The prices tend to change constantly, though rarely dramatically, from day to day. But during a period of several months or a year, you may find significant increases or decreases in some products and surprisingly little change in others.

ARBITRAGE

Some professional traders use **arbitrage** to capitalize on price discrepancies between futures contracts and underlying commodities. Using sophisticated computer programs to track price shifts, they can make money by simultaneously buying the one that's less expensive and selling the one that's pricier. Because they trade huge numbers of contracts very quickly, tiny price differences can result in major gains—or losses.

Since many arbitrageurs—or, more accurately, their programs—make the same decisions at the same time, their activity can affect prices in the markets where they trade.

Financial Commodities

Stocks, bonds, and currencies are the commodities of the financial world.

You may not think of currencies, stock indexes, and interest rates as commodities, but they are. Money is as much the raw material of domestic and international trade as wheat is the raw material of bread.

Just as farmers, mining companies, and jewelry manufacturers can be dramatically affected by changes in the

price of corn, copper, and gold, so changes in currency values, the direction of the stock market, or interest rates can have enormous impact on investors.

Like other commodities, financial futures contracts trade on specific exchanges, where they are often among the most actively traded products.

Financial Futures in Action

THE HEDGERS

Mutual fund with a portfolio of stocks similar to S&P 500 components when near-term price declines expected

Hedges by taking a short position to protect stock portfolio against falling stock prices

If index rises, gains on portfolio may offset the loss of closing out the contract

If index drops, losses on portfolio may be offset by profit from closing out the contract

Pension fund that plans to buy portfolio of stocks similar to S&P 500 components next month

Hedges by taking a long position to protect against rising prices until money is available to purchase stocks

If index rises, increased cost of buying stocks is offset by gains on long contract

If index drops, buying costs are less but fund has losses on the contract

THE SPECULATORS

Speculators who anticipate where S&P 500 will be in the future

Buy S&P futures when they think the index will rise

Sell S&P futures when they think the index will fall

If the index rises, there's a gain on futures position, and if it falls, there's a loss

If the index falls, there's a gain on futures position, and if it rises, there's a loss

EXPECTING THE UNEXPECTED

There are **hedgers** in the financial futures market as there are in other futures markets. Pension and mutual fund managers, securities firms, and international companies, to name a few, rely on financial commodities to run their businesses or meet their obligations to clients. So they use financial futures to protect themselves against unexpected losses or to reduce the cost of purchases.

For example, a US company that sells its product in England and is paid in British pounds must convert the pounds to dollars before recording the payment on its books. If the price of the product is fixed and the value of the pound falls against the dollar, the US

company is, in effect, paid less for its product, since the pounds will convert into fewer dollars.

To hedge against this possibility, the company may sell pound futures. If the value drops, the company can use the profit from the futures transaction to offset the losses on the invoice payment.

KEEPING MARKETS LIQUID

As in other futures markets, **speculators** keep the markets active by constant trading. Speculators buy or sell futures contracts depending on which way they think the market is going. World politics, trading patterns, and the economy are the unpredictable factors in these markets. Rumor, too, plays a major role.

Financial speculators are no more interested in taking delivery of \$100,000 in Treasury bonds than grain speculators are in 5,000 bushels of wheat. What they're interested in is making money. So, at what seems to be a good time, they liquidate a contract they own and take their profits. Or they may act to cut their losses.

WHAT'S THERE TO DELIVER?

The key difference between financial futures and other futures contracts is that most of the financial products are intangible, with no physical or accountable existence. This means there is nothing to deliver if the contract is not offset. In the rare circumstance when that occurs, the contracts are settled in cash.

Instead of dollars per gallon of heating oil or cents per bushel of corn, the value of an index contract is calculated by multiplying a fixed dollar amount by the current value of the index.

For example, a contract on the E-mini Standard & Poor's MidCap 400 is determined by multiplying \$100 times the index, and on the Dow Jones Industrial Average (DJIA) by multiplying \$10 times the index. So if the S&P MidCap 400 was \$1,360 at expiration, a futures contract on the index would be worth \$136,000. Similarly, if the DJIA was at 17,300, a contract on it would be worth \$173,000.

An interest rate futures contract is also cash settled. Its value is figured as a dollar amount times points of 100% to correspond to the way that bonds are priced. For example, to find the value of a five-year Treasury note, you multiply \$100,000 times the closing price. If the note closed at 1.45, the value would be \$145,000.

SECURITY FUTURES

You can buy or sell contracts on **single stocks futures (SSF)** and narrow security indexes. Like other futures contracts, these highly leveraged products may provide strong profits but expose you to the risk of major losses if your expectation is wrong.

A single stock contract generally represents 100 shares, which you must deliver at expiration if you're short the contract or purchase if you're long unless you neutralize this obligation with an offsetting trade. However, offsetting may be expensive or difficult to execute as expiration nears.

THE PRICE FEEDBACK LOOP

Investor confidence is one of the factors affecting the price of financial instruments. So traders who buy and sell these products track futures prices—widely considered an expression of investor sentiment—for clues about where actual prices will move. In turn, futures traders track actual prices for clues about futures prices.

A good example is the pre-opening price of the DJIA as a predictor of how stocks will move when the markets open.

You don't want to confuse stock futures with stock options, though they may seem similar. A major difference is that while the most you can lose as an options buyer is the premium you paid, with a single stock future your losses are potentially limitless.

OVER-THE-COUNTER

Institutional investors, such as corporations, financial institutions, and public agencies, use over-the-counter (OTC) contracts as tools to manage financial risk by hedging their long-term commitments to buy, sell, or lend—especially when the deal involves multiple currencies. They work directly with dealer banks to handle the transactions, which are typically negotiated by specialized traders.

Because of their complexity and the extent to which they may be leveraged, OTC derivatives can pose potentially large risks. The deals usually don't require collateral, and there's no exchange or clearinghouse to guarantee that the parties will make good on their commitments. And because these derivatives are tailored to specific requirements, they're often highly illiquid.



QUADRUPLE WITCHING

Once every quarter—in the third week of March, June, September, and December—stock options, stock index options, stock index futures, and single stock futures all expire at the same time. The phenomenon, which can trigger intense Friday trading to resolve all open positions before the deadline, is known as quadruple witching day.

Futures Risks

If you see risks for what they are, you may be able to contain them.

The futures market was founded on the principle of **risk transfer**. Investors seeking to minimize their exposure to certain risks transferred those risks to others who were either trying to protect against an opposite risk, or were willing to take the risk in the hope of making a profit.

That's still the case with futures. But because of the way these products work, there's also the risk that a transaction may result in a loss that exceeds the amount of your initial margin and potentially cost an almost unlimited amount.

THE ROLE OF THE EXCHANGES

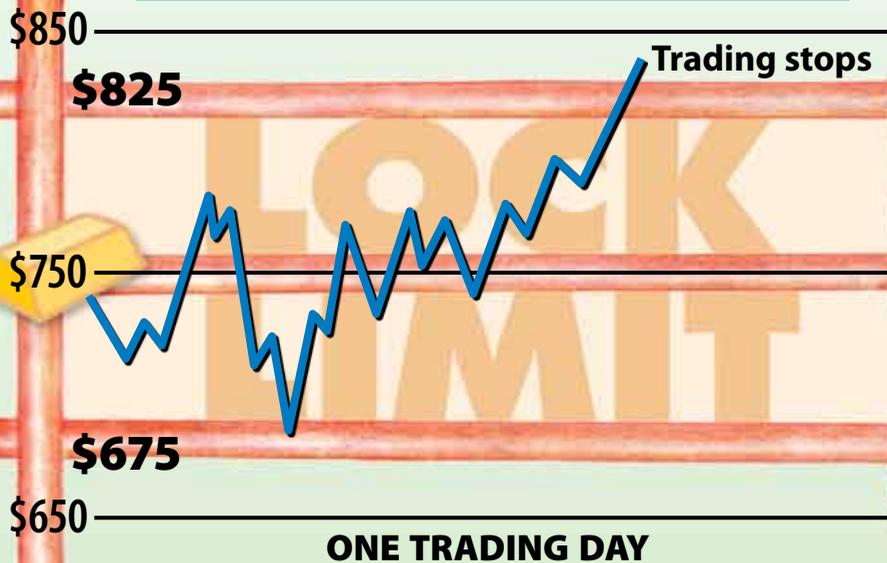
Futures exchanges monitor and act to control price **volatility**. In most cases, the exchange where a futures contract is traded establishes a daily **price limit** that prevents the price of that particular contract from rising or falling beyond a preset limit. In this **lock limit system**, when the high or low price limit is reached, trading is stopped, or locked.

The price limit is set in relation to the **closing price** on the previous trading day and specifies, in dollars or cents, how far the price can move. For example, if palladium traded at \$750 per troy ounce the previous day, the current day's price limit might be \$75. That means no trades could be executed at prices above \$825 or below \$675. (A troy ounce, the traditional unit of weight for precious metals, is 31.1035 grams.)

Daily price limits are not permanent and exchanges may adjust them. During the **delivery month** of a futures contract, when the contract expires, price limits are often lifted, sometimes resulting in extreme volatility.



A LOCK-LIMIT SYSTEM AT WORK



From an investor's perspective, the risk of daily price limits is that you can't always liquidate your position before lock down. When the market re-opens, the stabilized price may be well above or below what you need to make a profit—or avoid a loss—with an off-setting contract.

CONTINGENT ORDERS

Just as the exchanges try to control volatility through the daily price limit, you may use various order types, as you can on a stock market, to exert some control over the prices you pay to buy or receive when you sell. The most basic ones include:

Limit orders, the most common variety, name the price at which you will buy or sell a contract. In a volatile market, the transaction may never be completed, however, because the market price may move through the limit price too quickly to be acted upon.

Stop-loss orders specify a price at which a broker should sell a particular contract. When the stop price is reached, the order converts to a market order and the broker must execute the trade at the best current price. The

downside is that you could end up selling for less than you want.

Your order may be a **day order**, which means it expires if it has not been filled by the end of the trading day. Good-till-canceled (GTC), or **open orders**, on the other hand, do not expire until they are filled or cancelled.

SPREAD TRADING

One risk management technique that futures traders use to try to limit their potential losses is to simultaneously buy and sell futures contracts on the same or related underlying commodities at the same time. That's known as a **spread** and each side of the spread is known as a **leg**.

Since realizing a profit depends on making more money on one leg than you lose on the other, what you want is a spread where the price difference widens after you open the positions. In the example illustrated below, you buy single stock futures contracts on A and sell them on B. When the price difference between them increases from \$15 to \$18, you make money when you offset your opening positions. But when the difference narrows from \$15 to \$10, you lose money.*

PRICE DIFFERENCE WIDENS			PRICE DIFFERENCE NARROWS	
Opening positions (\$15 spread)	Offsetting contract prices (\$18 spread)	Profit or loss	Offsetting contract prices (\$10 spread)	Profit or loss
Buy 100 Stock A futures at \$25	Sell 100 Stock A futures at \$30	100 x \$5 = \$500	Sell 100 Stock A futures at \$30	100 x \$5 = \$500
Sell 100 Stock B futures at \$10	Buy 100 Stock B futures at \$12	1000 x -\$2 = -\$200	Buy 100 Stock B futures at \$20	100 x -\$10 = -\$1000
Net gain or loss		\$300 gain		-\$500 loss

Of course, it's always possible that you'll sustain losses on both legs of a single stock futures spread. When this happens, you could lose more than you would have lost on a single futures position in one of the stocks.

* This hypothetical example doesn't include commissions and other transaction costs, which apply whether you have gains or losses.

Futures Investment Decisions

You can take different paths to futures investing.

To invest successfully in futures contracts, you need to assess where the market is headed as accurately as possible. One resource is professional analysis, which may be either fundamental or technical. In fact, most futures traders rely on both perspectives in making their decisions.

They use fundamental research to examine market conditions and technical research to support or question their price predictions.

FINDING INFORMATION

You can access analysts' research information through your brokerage firm, the exchanges, and investment professionals. You can also find futures trading information, including real-time or slightly delayed contract prices, on the website of the exchange that lists the contract you're considering, on the websites of brokerage firms that execute futures transactions, and in a variety of print and online material. And you can check financial websites for reports on daily trading activity.

FUNDAMENTAL ANALYSIS



FUNDAMENTAL DIFFERENCES

Fundamental analysts try to determine the supply of a particular commodity and the corresponding demand. Changes in contract prices, which drive profit or loss, are largely based on whether there is a surplus, which drives prices down, or a shortage, which drives prices up.

With agricultural commodities, the analyst looks at weather forecasts, projected crop yields, likelihood of crop failures due to disease, financial factors affecting farmers' activities, and the prices of alternative, competing commodities. For example, the lumber market is driven by housing starts. Copper mining futures are affected by labor and political unrest in countries with significant mining output.

The concerns are different with financial commodities. For example, demand for a particular currency is affected in part by US consumers buying products priced in that currency. So analysts may look at the volume of Japanese electronics or automobiles that US consumers are buying. The more these products are in demand, the higher the value of the Japanese yen tends to be against the dollar.

TECHNICAL ANALYSIS



BEING TRENDY

Technical analysts ignore supply and demand, looking instead at the futures market itself—including price behavior, trading volume, and **open interest**, which is the number of outstanding contracts on the commodity that have not been offset.

For example, technical analysts chart prices to detect the pattern in which they've been moving, to determine a trendline, and to assess when the direction is going to change. Using sophisticated computer programs, they digest and analyze reams of data on the complex relationship linking trading volume and price trends.

MARKET REGULATION

US futures markets are regulated at three levels. Each exchange is an SRO, responsible for its own operations and the conduct of its member firms. The National Futures Association (NFA) is the industry SRO, responsible for oversight of the firms and individuals who trade for investors. It has the authority to discipline those who violate its rules of professional conduct.

The Commodity Futures Trading Commission (CFTC) is the federal regulator, responsible for keeping markets competitive, transparent, and financially sound and for ensuring that investors have the information they need to make informed investment decisions.

MANAGED FUTURES

Rather than trading futures through an individual trading account, you may choose to participate in the futures market through a **managed account** or a **commodity pool**.

A managed account is your own individual futures trading account, except that you have given a registered professional account manager, sometimes called a **commodity trading adviser (CTA)**, a written power of attorney to make all the trading decisions. You may need to commit more money to open a managed account than to trade yourself. And you'll pay management fees in addition to the usual transaction fees.

Commodity pools combine your money with money from other pool participants to create an account that is similar in operation to a stock mutual fund, but is not a mutual fund. Because a commodity pool is usually structured as a **limited partnership**, you share in the gains and losses in proportion to your investment, but your risk is limited to the amount of your investment. That means you are also protected from the margin calls which can occur in this highly volatile market.

Another potential advantage of a commodity pool is the **diversification** it adds to your portfolio by:

- Investing in a variety of futures contracts

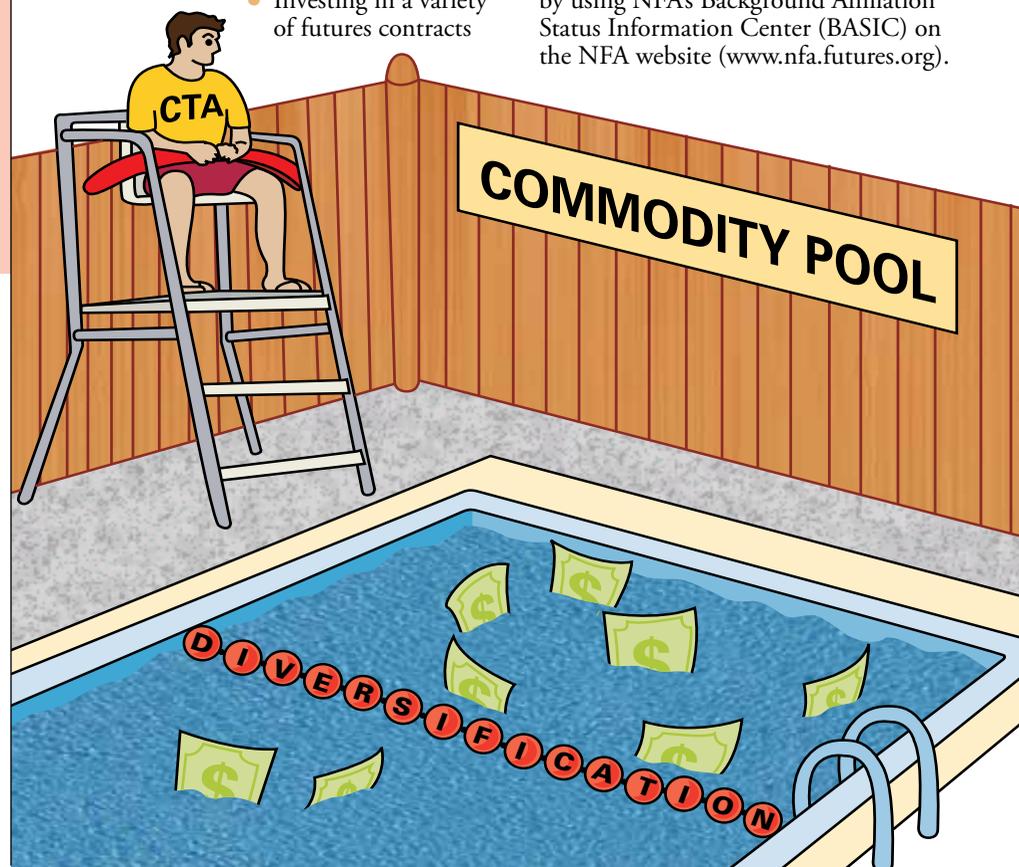
START ON THE RIGHT FOOT

Before you trade futures—individually, through a managed account, or as part of a commodity pool—you can learn more about the risks and potential returns by reviewing a booklet called "Opportunity and Risk: An Educational Guide to Trading Futures." It's published by the National Futures Association (NFA). You can download the text at www.nfa.futures.org or request a copy by calling 800-621-3570.

- Providing a return with a low correlation to the returns on most traditional investments

You should review the disclosure documents that the commodity pool operator gives you to determine the fees involved and the trading philosophy and practice. For newly formed pools, you need to find out whether active trading has begun or is contingent upon raising a minimum amount of pool money. In the latter case, you'll want to know what is being done with your money in the interim until the pool begins trading.

Both CTAs and commodity pool operators must be registered with the CFTC and be members of the NFA. You can check the credentials of firms and individuals in the futures industry by using NFA's Background Affiliation Status Information Center (BASIC) on the NFA website (www.nfa.futures.org).



Alternative Investments

Variety can spice up the investment stew.

The investments described generically as *alternative* differ from stocks, bonds, and other traditional products in a number of ways. Most striking is that, in almost all cases, they're offered directly to investors rather than being publicly traded. In most cases, too, investors must meet income or net worth standards to be eligible to invest. That is not true with listed securities or conventional investment products such as mutual funds that aren't exchange traded.

Alternatives also differ from each other.

- They can be organized as corporations, limited partnerships (LPs), investment companies, or limited liability companies (LLCs).
- Some are registered, as traditional securities are, with the Securities and Exchange Commission (SEC), the Commodities Futures Trading Commission (CFTC), or, in the case of some hedge funds, with both. Others are registered in the states where they're sold. Still others are exempt from registration under SEC rules. All, though, are governed by federal and state anti-fraud regulations.
- While investment objectives and strategies vary, the managers of most alternative investments seek to provide a stronger return, a more stable return, or more regular income than traditional investments. This means, in at least some cases, more potential risk and less liquidity.

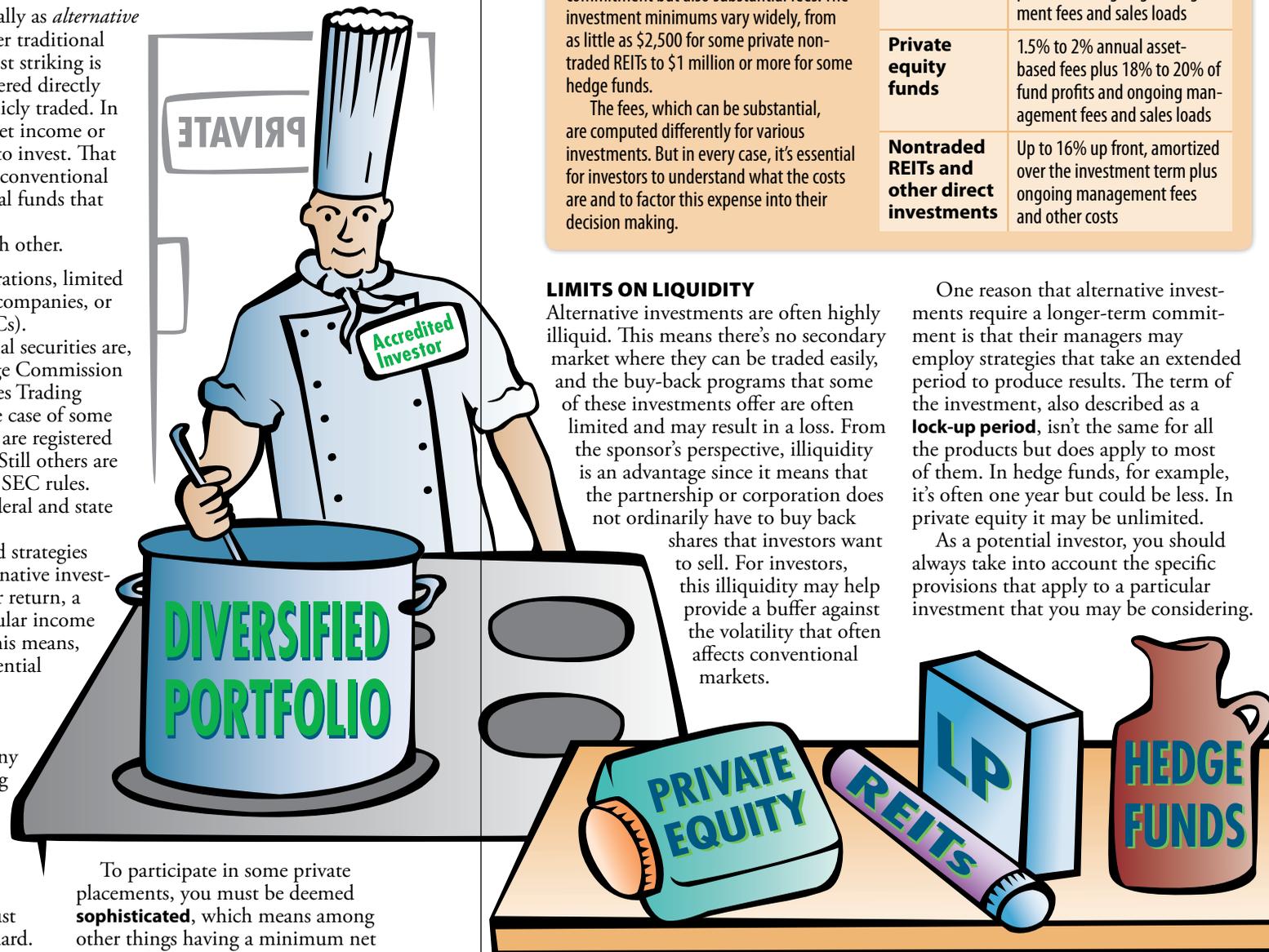
INVESTMENT STANDARDS

The SEC restricts eligibility for many alternative investments by imposing financial standards an investor must satisfy and, in many cases, that a broker-dealer or financial adviser must verify before the sale.

To invest in a hedge fund or private equity partnership, you must be **accredited** using the SEC standard. This means having a net worth of at least \$1 million not counting the value of your primary residence, or an annual income, in the most recent two years, of \$200,000 if you're single or \$300,000 if you're married.

JOIN THE CROWD

To make it easier for small businesses and start-ups to raise investment capital, Congress, in the JOBS Act, created an exemption to allow crowdfunding, or the online sale of securities to retail investors. SEC rules cap the amount that can be raised, the offering term, and the percentage of income an investor can commit.



To participate in some private placements, you must be deemed **sophisticated**, which means among other things having a minimum net worth of \$2.5 million and an annual income of \$250,000. To invest in the larger hedge funds you must be a **qualified purchaser** and have \$5 million in investments not including art, real estate, and other personal property.

To invest in a non-traded real estate investment trust (REIT) under state rules, you may be required to have a minimum income of \$70,000 plus a minimum net worth of \$70,000 or a minimum net worth of \$250,000, or you may be limited to investing a specific percentage of your net worth. NASAA has proposed increases in the dollar amounts, linked to inflation.

COUNTING THE COST

The price tag on alternative investing includes not only the required minimum commitment but also substantial fees. The investment minimums vary widely, from as little as \$2,500 for some private non-traded REITs to \$1 million or more for some hedge funds.

The fees, which can be substantial, are computed differently for various investments. But in every case, it's essential for investors to understand what the costs are and to factor this expense into their decision making.

TYPICAL INVESTMENT FEES

Hedge funds	1% to 2% annual asset-based fees plus 18% to 20% of fund profits and ongoing management fees and sales loads
Private equity funds	1.5% to 2% annual asset-based fees plus 18% to 20% of fund profits and ongoing management fees and sales loads
Nontraded REITs and other direct investments	Up to 16% up front, amortized over the investment term plus ongoing management fees and other costs

LIMITS ON LIQUIDITY

Alternative investments are often highly illiquid. This means there's no secondary market where they can be traded easily, and the buy-back programs that some of these investments offer are often limited and may result in a loss. From the sponsor's perspective, illiquidity is an advantage since it means that the partnership or corporation does not ordinarily have to buy back shares that investors want to sell. For investors, this illiquidity may help provide a buffer against the volatility that often affects conventional markets.

One reason that alternative investments require a longer-term commitment is that their managers may employ strategies that take an extended period to produce results. The term of the investment, also described as a **lock-up period**, isn't the same for all the products but does apply to most of them. In hedge funds, for example, it's often one year but could be less. In private equity it may be unlimited.

As a potential investor, you should always take into account the specific provisions that apply to a particular investment that you may be considering.

PLAYING BY THE RULES

The broker-dealers and advisers who are paid for providing investment advice may suggest alternative products for their clients' portfolios. The products, whose returns are typically not correlated with the returns on traditional investments, may add significant diversification to a portfolio and reduce its overall risk profile. Some may provide more income than traditional interest-paying securities, especially in a low interest rate environment.

Such recommendations, though, must be made judiciously, not because

there's anything inherently wrong with nontraded public or privately offered investments. Rather, these professionals are subject to increasingly stringent regulation at both the federal and state levels that requires them not only to evaluate the merits and risks of any investment they offer to their clients but also determine whether it is suitable for a particular investor (in the case of a broker-dealer) or in the investor's best interest (in the case of a registered investment adviser, who has a fiduciary responsibility).

Hedge Funds

If you're not exactly sure what a hedge fund does, you have lots of company.

Hedge funds raise a pool of money privately from a limited number of investors and use it to make investments that are consistent with the fund manager's strategy. The investors, who must be **accredited** or **qualified purchasers**, include high net-worth individuals and a variety of institutional investors including pension funds and the endowments of nonprofit entities including colleges, universities, and foundations.

Most hedge funds are organized as limited partnerships, with a managing partner and multiple limited partners. Each investor commits at least the required minimum, receives a pro-rata share of a fund's income, and owes income tax on that amount. The fund's operating, administrative, and investment expenses are subtracted, again on a pro-rata basis, before distributions are made. However, the investors, who are limited partners, aren't liable for fund debts. Their losses are limited to the amount they invest.

The fund manager, who is the general partner, is also an investor, and his or her income depends on fund performance, providing an incentive to succeed. Hedge funds also employ administrators, auditors, analysts, traders, legal counsel, and other professionals and generally work with external broker-dealers to execute their trades and other third-party services.

IN THE BEGINNING

The first hedge fund was introduced in 1949, the creation of Alfred W. Jones. Jones took a relatively conservative approach to providing a positive return whether the stock market as a whole went up or down.

His **market neutral strategy** was to create an equity portfolio in which he took opposite positions: purchasing, or going long, some stocks and selling others short. The idea was to capitalize on the fact that whether the market as a whole was moving up or down, some investments would gain value and others would lose. The key was to identify the companies with the potential for increased value as well as those whose value he considered at risk.

The goal of a market-neutral, or long/short strategy, is to realize more on your profitable positions than you lose on the unprofitable ones. If the market as a whole increased in value, the fund would make more money on the stocks it held long than it would lose on the ones it had sold short. If the opposite occurred, and the market faltered, the fund might lose money on the stocks it owned but could profit from the short sales.

While any two-sided trade means sacrificing some of the potential gain that comes with correctly anticipating the way the market as a whole will move, it also protects against steep losses if your assessment is wrong and the market moves in the opposite direction. That's what hedging is all about.

Despite Jones' success, it took 20 years for hedge funds to become popular and nearly 50—well into the 1990s—for them to be a major force in the economy.

BASIC ANATOMY

When a hedge fund is established, it's generally designed to pursue a particular strategy that governs the investments the manager makes and how the fund is structured.

REGULATION RULES

Hedge funds are exempt from registering with the SEC under Regulation D, though they must report their securities transactions, provide a list of their equity holdings every quarter, in what are known as 13F

filings, and meet record-keeping requirements. They are also subject to the same anti-fraud provisions that apply to all investments. But they aren't required to provide a prospectus or the same level of financial disclosures that are required of registered securities.

Hedge fund managers with more than \$150 million under management, however, must register as **investment advisers (RIAs)**, a major regulatory change resulting from provisions in the Dodd-Frank Act. In that capacity, they must complete Form ADV and are subject to SEC oversight. Form PF, introduced in 2011, requires most advisers to report how their fund uses leverage, what its exposure to risk is, and what its trading practices are, among other things. The bigger the fund, the more it must reveal.

In addition, funds that invest in markets that the CFTC regulates, including currencies, commodities, and swaps, are subject to that agency's oversight as well as to SEC oversight. Some fund managers may also have to register as broker-dealers, which means becoming members of FINRA and subject to its rules. It depends on the way the fund operates.

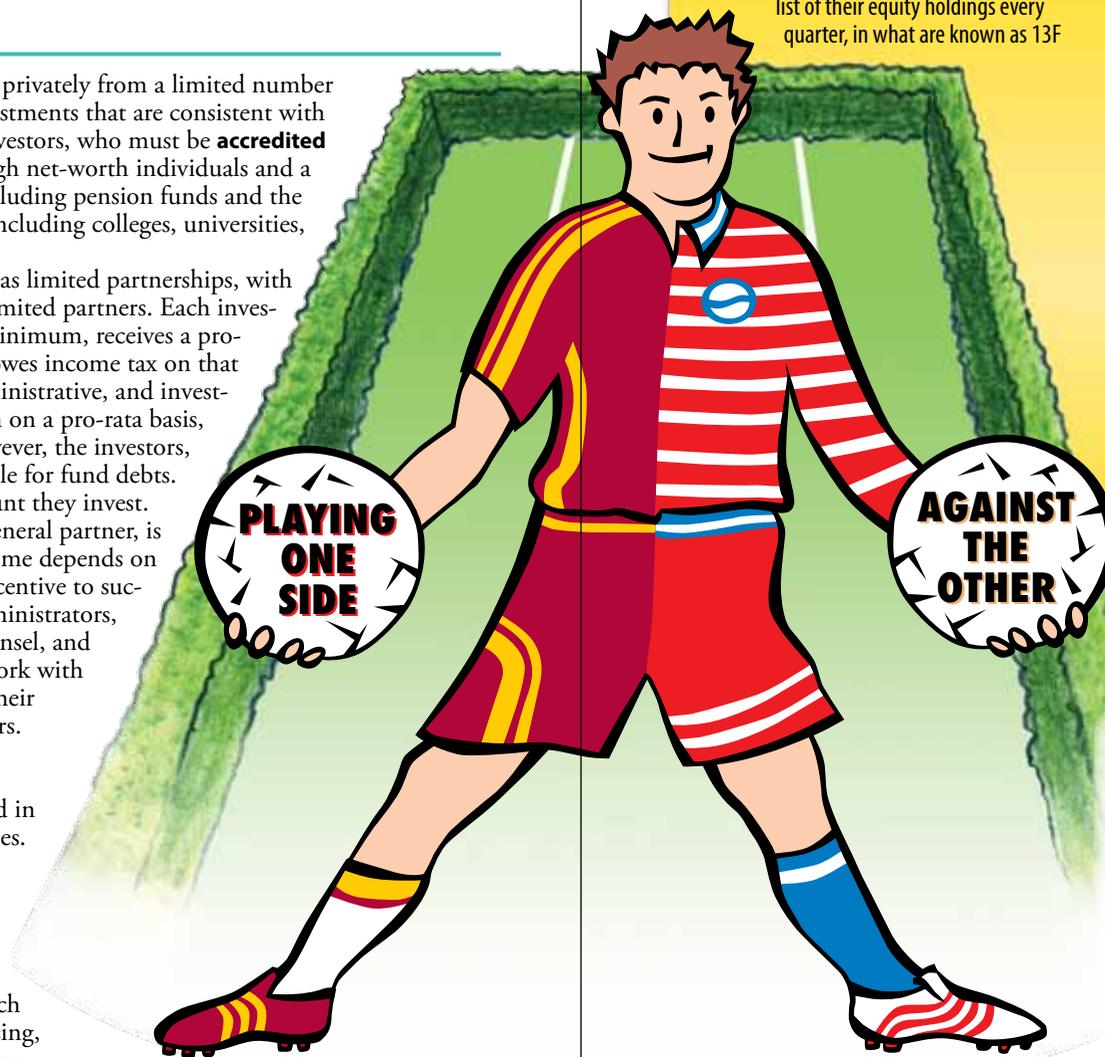
Provisions of the JOBS Act of 2012 allow hedge funds to advertise but still require that all their investors be accredited.

- Global macro strategies focus on anticipated changes in geopolitical or economic variables, such as oil prices or interest rates, and the effect they will have on traditional securities markets, commodity markets, and currency markets.
- Directional, sometimes called tactical, strategies, include traditional long/short and market-neutral approaches to succeeding whichever way the market moves as well as approaches that pursue substantial profits in identifying overvalued securities or markets.
- A relative value strategy focuses on finding discrepancies in securities prices or in some cases on implied and actual volatility.

In addition, there are a number of multi-strategy funds that use a combination of approaches to achieve their objectives.

CONSTRUCTING A HEDGE

The *hedge* in hedge fund refers to the fund's tactic of offsetting one investment's risk using other investments, including derivatives, such as options or futures contracts, a market-neutral or long/short strategy, arbitrage, or other approaches to realizing greater gains than losses.



For example, an **event-driven** strategy will concentrate its investments in companies that are involved in a corporate action, such as a merger, tender offer, or restructuring, among others.

In the case of a merger, the fund will typically buy shares in a target company and sell short shares in the acquiring company. If the deal is done, the fund ends up with equal and opposite positions in the acquiring company and may realize a profit on the **spread**, or difference in prices.

Other major strategic approaches that hedge funds employ are categorized as **global macro**, **directional**, and **relative value**, though these are actually umbrella terms that encompass a wide variety of approaches—by some counts 25 or more.

Hedge Fund Investing

What's essential to hedge fund investing is finding the information you need.

Accredited investors are attracted to hedge funds for a number of reasons, despite the fact that the funds are more costly to own than traditional investments, are less liquid, and don't provide the same level of transparency.

Diversification is often the primary reason. Hedge fund returns are **non-correlated** with the returns on traditional asset classes. In periods when stocks and bonds are underperforming because the markets are flat or losing value, hedge funds may outperform. When that's the case, gains from the hedge funds have the potential to offset losses in an investor's portfolio, providing downside protection.

Further, since hedge fund values aren't driven by the same market forces as traditional investments, or subject to the same cyclical patterns, they tend to be more stable. This **reduced volatility** means a hedge fund can provide a stronger **risk-adjusted return**, or a return relative to the amount of risk it takes, as measured by its Sharpe ratio. It also means that including hedge funds in an investment portfolio may mean more consistent returns, though of course there's no guarantee.

ANOTHER PERSPECTIVE

While many hedge funds take a balanced approach to providing positive returns, some fund managers take greater risks or use leverage to boost their profits. By committing a small amount of the fund's capital to control large positions, they may realize significant gains. But they also expose themselves to larger losses.

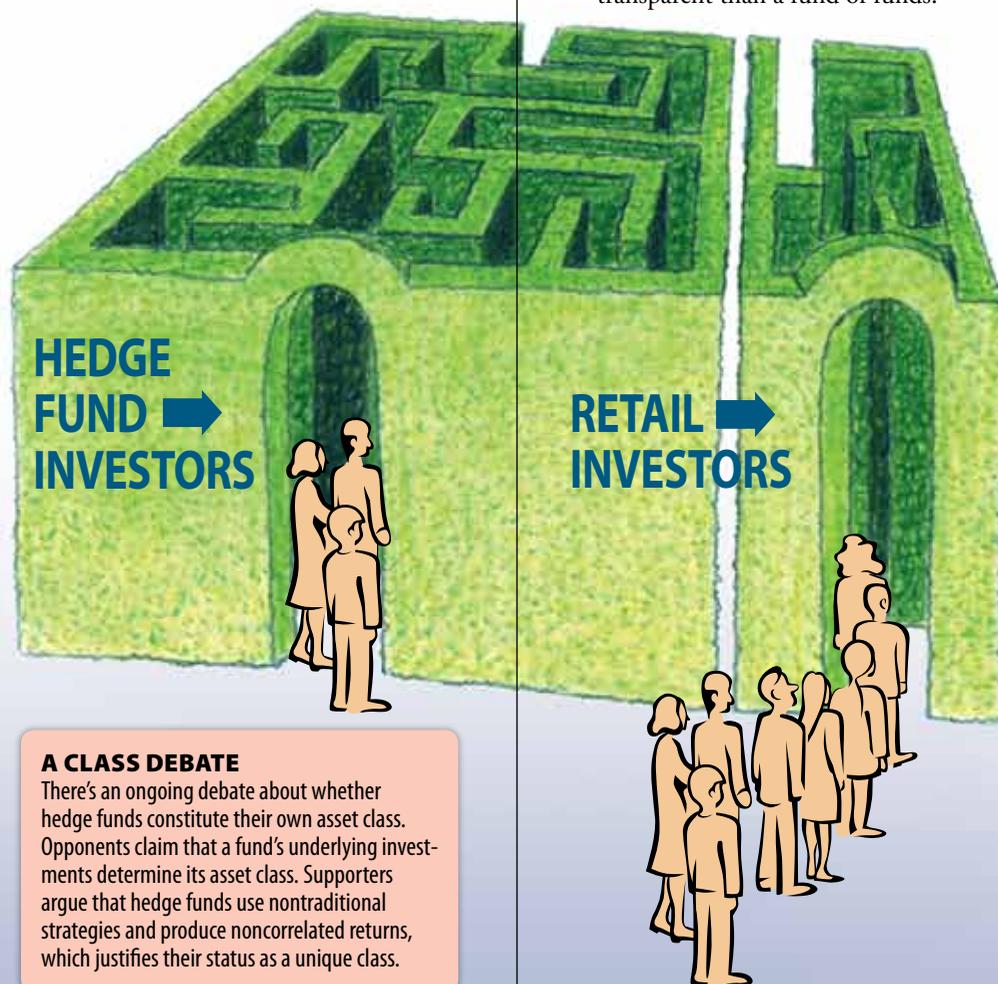
While there have been some spectacular successes, there have also been some notable failures taking this approach. In recent years there have been a number of US Department of Justice prosecutions for insider trading, which have resulted in prison terms, tarnished reputations, and prompted some fund closings or restructurings.

It's worth noting, however, that no hedge funds have been identified as systemically important, whose failure could pose a risk to the economy, as some large US bank holding companies and non-banks have been.

RETAIL INVESTING

Investors who are attracted to hedge fund strategies but either aren't accredited or aren't willing to commit as much money as a fund would require may consider investing in a **fund of hedge funds**. The fund owns shares in a number of hedge funds, which may be selected either because they take the same strategic approach or specifically because they follow different strategies. Either way, these funds offer more diversification than a single hedge fund as well as the potential for higher risk-adjusted returns. But they also add another level of fees, as all funds of funds do.

Retail investors may also consider investing in one or more alternative ETFs. Unlike hedge funds, ETFs can be bought and sold on a national exchange



A CLASS DEBATE

There's an ongoing debate about whether hedge funds constitute their own asset class. Opponents claim that a fund's underlying investments determine its asset class. Supporters argue that hedge funds use nontraditional strategies and produce noncorrelated returns, which justifies their status as a unique class.

at any time, at a price determined by supply and demand. The fees are substantially lower than hedge fund fees, though higher than those of ETFs tracking broad market indexes. And there are no income or net worth standards or required minimum investment amounts.

Some of these ETFs attempt to replicate a hedge fund's portfolio by investing in the assets a fund has reported in its most recent 13F filing. Others identify the types of investments a hedge fund is making based on the way it performs and then invest to achieve similar results using liquid assets. A third type invests to produce the same return as a hedge fund index, such as an equity hedge fund index or an index that tracks a number of hedge funds using different investment strategies.

Alternatively, investors' brokerage accounts may include an allocation to a **feeder fund** linked to a hedge fund. The combined assets of a number of individuals meet the investment minimum. Feeder funds also carry substantial fees and may be less transparent than a fund of funds.

ABSOLUTE RETURN?

Hedge funds are sometimes described as *absolute return funds*. This means that gain or loss in value, whether stated as a percentage or a dollar amount, is measured in relation to the fund's previous value. In contrast, a *relative return* is measured against a benchmark, such as an index, or against the return on a comparable investment. If you want to make your own relative assessment, you can compare hedge fund returns for a particular year to the return of the market, as measured by the S&P 500.

DUE DILIGENCE

Hedge funds provide potential investors with a document called an **investment memorandum**, which explains the fund's structure, identifies its strategy, and describes the qualifications of the management team. It can be a useful starting point in researching the fund, but it's only the beginning of what you need to know.

First and foremost, you need to understand what the fund does—ideally well enough to be able to explain it to someone else. You'll want to learn more about how complex or straightforward the manager's investment strategy is, including the plans for using leverage, short selling, and derivative products. It's also important to know how the fund is organized, how large it is, how many investors are participating, the amount that insiders have invested, and the identity of the fund's independent accountant and other service providers.

Due diligence also includes background and regulatory checks on the fund's managers and on any submanagers whom the fund may use to run parts of the portfolio. If the investment adviser is registered with the SEC, you can check the Form ADV at www.adviserinfo.sec.gov.

You should also confirm the fund's policy on share redemptions, including the lock-up period that may apply, the redemption fee, if any, and whether or not redemptions can be suspended. And you should ask how the fund values its assets and determines its performance. There's no standard method, as there is with traditional investments.

In reality, researching a hedge fund—or any other privately offered investment—is a job for an objective third-party analyst. Finding one is something you should discuss in detail with your investment adviser or brokerage firm.

Private Equity Investments

Nothing ventured, nothing gained is the principle driving private equity investing.

Private equity is an umbrella term for raising private money to invest in business ventures. The firms that raise and manage this pool of cash tend to specialize in either **venture capital** or corporate buyouts.

Venture capital is often described as the engine of a country's economic growth since it enables private companies to get started and grow while fostering invention and experimentation. Venture capital firms expect to make substantial profits on their investments, though some of the companies in which they invest may provide disappointing returns or fail entirely.

Buyout firms, on the other hand, typically purchase existing private or public companies, restructure them, and then either sell them to other private investors or take them public.

RAISING CAPITAL

Before venture capital firms make their investments they raise a pool of capital from **accredited investors** who meet the financial standards set by the SEC.

This **pooled investment fund** is typically organized as a **limited partnership** in which the firm is the general partner and the investors are limited partners. Unlike most investors, who are passive, venture capital firms take an active role in the management of the companies they invest in. To cover those costs, the firm charges the fund's investors an annual management fee of 1% to 2% of assets in the fund plus a percentage—often as much as 20% to 30%—of any eventual profits the fund makes.

FEEDING THE FEES

Wealthy individuals can invest in private equity through a feeder fund organized by a brokerage firm that channels money to a master fund operated by a private equity firm and often focused on a particular industry or strategy. Minimum investments may be smaller. Fees are not.

VENTURE CAPITAL

POOLED INVESTMENT FUND

INVESTING STAGES

Not all companies looking for venture capital are at the same stage in their growth, so firms tend to specialize:

- Early-stage companies are in the first or second phase of developing their products and probably already have some patents or established intellectual property.
- Expansion-stage companies need an injection of capital to grow to the next level.
- Later-stage companies vulnerable to takeover need a final boost of funds to reach the mass necessary to go public or be acquired.

Venture capital firms—often called VCs—may make straight equity investments or offer a combination of equity and debt. They may invest in a range of industry sectors, geographic locations, and growth stages or specialize in a particular sector, place, or stage.

TAKING CONTROL

Buyout firms historically invest in later-stage, often large, companies that are vulnerable to takeover for a variety of reasons. In some cases, the buyers combine cash with substantial amounts of debt to purchase target companies in what are often described as **leveraged buyouts**, or LBOs.

By taking the newly purchased companies private, at least for a time, the buyout firms can make potentially radical changes in structure and management without having to explain their actions or their costs to shareholders.

The buyout firms attract investors for the same reasons that venture capital firms do: the long-term prospect of significant returns despite the substantial fee that the buyout firm takes off the top.

THE INVESTORS

The great majority of investors in venture capital firms are high net worth individuals, pension funds, banks, endowments, foundations, insurance companies, and other institutional investors. Minimum investment thresholds make private equity funds prohibitively expensive for most individual investors, and new funds offered by successful firms are often closed to new investors in any case.

However, affluent individuals can sometimes gain access to private equity partnerships by investing in a **fund of funds**, which holds interests in a selection of these partnerships. In most cases, though, investing through a fund of funds is likely to mean another layer of fees on top of those owed to the partnership, with a substantial percentage of the eventual profits going to the fund of funds managers.

WHEN WILL IT END?

During the term of a private equity investment, those who invest are not able to cash out, and in most cases do not receive any income. However, there may be a sizeable reward for accepting the high risk and illiquidity.

That is, the eventual returns that may be higher than if the money had been invested in the stock market over the same period of time.

There are generally three potential exit strategies for venture capital investments:

EXIT

INITIAL PUBLIC OFFERING (IPO)

In an IPO, the private company is transformed into a company with publicly traded shares. As an investor in the private company, you receive stock in the now-public company equivalent to the value of your investment.

In most cases there are restrictions on how soon you can sell your new shares on the open market. This **lock-up period** is usually at least six months and often graduated, which allows you to sell an increasingly larger portion of your shares over a two-year period.

While an IPO may sound the most exciting, it is, on average, no more or less lucrative for investors than other strategies.

EXIT

MERGER OR ACQUISITION

The most common, and often most successful, exit event is a merger or acquisition. In this case, the private company is bought by or merged with another established company, which might or might not be public. As an original investor, you receive equity in the new company, a cash payment, or both.

EXIT

SECONDARY BUYOUT

A recapitalization, also called a **secondary buyout**, occurs when one venture capital firm sells its stake to another, at which point investors in the original fund are cashed out.

SEC RULES

Like hedge funds, private equity funds with more than \$150 million in assets must register as investment advisers with the SEC. Some but not all have registered as broker-dealers.

Investing in REITs

The real estate you invest in doesn't have to be the place you call home.

A real estate investment trust (REIT) is a corporation that has been set up to invest in real estate. A REIT uses capital raised from a group of investors to buy buildings or, less often, mortgages on buildings. Most REITs specialize in a particular type of real estate, such as hotels, shopping centers, office buildings, or medical facilities, and may concentrate their purchases in a specific geographic area.

TWO CATEGORIES OF REITS

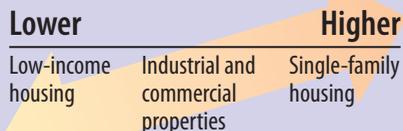
There are two ways you can invest in a REIT. Some REITs are publicly traded. After an IPO they're listed on a national exchange like the NYSE or the Nasdaq or on a quotation service like the OTC Bulletin Board. You invest in these REITs the same way you do in any other publicly traded company, by purchasing shares through a broker-dealer. You sell in the same way.

Nontraded REITs are also public corporations that are registered with the SEC just as publicly traded REITs are. But these REITs don't have an IPO and aren't listed on an exchange. Nontraded REIT offerings are made by prospectus, which explains where it intends to invest, the types of properties it will buy, and how it will finance its investments.

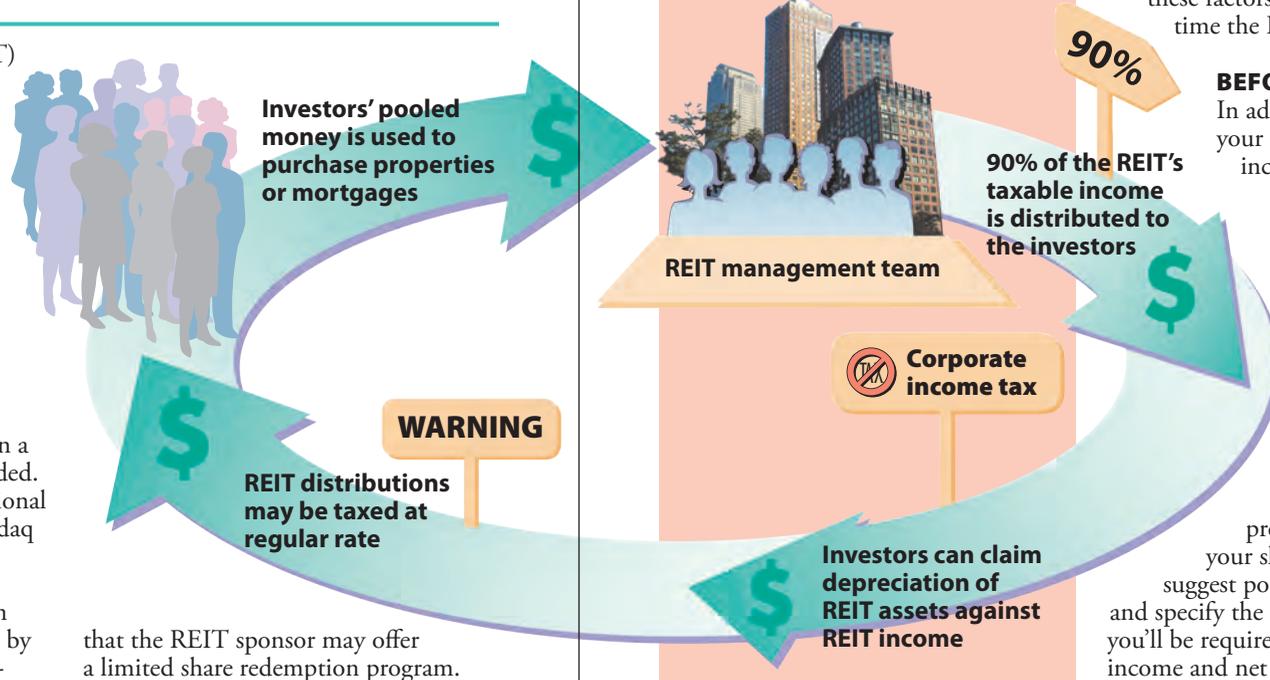
You buy nontraded REITs through a broker-dealer or financial adviser. He or she is responsible for determining that the REIT is a suitable investment and also that it's a suitable addition to your portfolio.

One feature of nontraded REITs is that there is no formal secondary market where you can liquidate your shares or resell your interest. Since a REIT's investment term is typically between 8 and 12 years, and may be longer, you need to be able to commit the capital you invest for that period. The only possible remedy for this illiquidity is

REIT RISK SCALE



REITs



that the REIT sponsor may offer a limited share redemption program.

REIT RETURNS

A REIT's management team is responsible for running a profitable business, which means generating a steady stream of revenue. Under special IRS rules, a REIT, whether traded or nontraded, must distribute at least 90% of its taxable income to investors every year as distributions, which means that income it provides may be higher than most other corporations provide. The downside is that the tax you owe on this REIT income is figured at the same rate you pay on your ordinary income, not at the lower rate that applies to qualified dividends.

Equity REITs that invest directly in buildings generate this income from rents, which are, in turn, paid to investors as a monthly or quarterly distribution. Distributions may increase as rents increase, which means the investment can act as a hedge against inflation. There are risks, however. Rents, and therefore distributions, may drop in a market downturn if rental space remains empty. Distributions may be disappointing as well if the properties the REIT owns aren't attractive to potential tenants or if the market for a particular type of property is saturated. Mortgage REIT investors are likewise vulnerable to changes in interest rates and the potential for defaults.

market interest in traded REITs, the marketability of the properties the non-traded REIT owns, and the general state of the economy. The risk is that none of these factors can be predicted at the time the REIT is initially sold.

BEFORE YOU INVEST

In addition to performing your customary due diligence, including looking at the experience and track record of the management team, the REIT's business plan, and sources of outside capital, you will want to review the prospectus before investing.

The document will clarify the investment term, explain the provisions for redeeming your shares if any exist, suggest potential exit strategies, and specify the minimum purchase you'll be required to make and the income and net worth thresholds you'll have to meet. You may also want the opinion of a neutral third-party analyst.

Some of your evaluation will be facilitated by new FINRA rules governing the responsibilities of a nontraded REIT sponsor. Specifically, the sponsor must report the per-share value of a REIT to provide a more accurate ongoing sense of the investment's actual value. Among other things, this means accounting for the impact of commissions and fees on your initial investment. The sponsor must also disclose when distributions include return of capital, which reduces the per-share value of your holding. In addition, if redemptions are allowed, it must be made clear that the share redemption price may be less than the per-share estimated value provided in your account statement.

A POSSIBLE PLUS

Nontraded REIT returns are not correlated with equity market returns or the returns on similarly invested traded REITs. That's true in large part because the managers aren't under the same pressure to produce short-term results or vulnerable to shifts in supply and demand. On the upside, this means these alternative investments can provide a hedge against marketplace volatility.

FINDING AN EXIT

Income from distributions is only part of the return picture however. Your total return on a REIT is a combination of income and whether or not you realize a capital gain on the principal you invest. With traded REITs, any gain or loss is determined by the difference between the price at which you buy shares and the price at which you sell. Prices fluctuate all the time, as they do with most traditional investments. So you choose the time to sell your holdings and take your profit or loss.

With a nontraded REIT, realizing a capital gain depends on the liquidation event that occurs at the end of the multi-year investment term.

The REIT management team typically has three alternatives for liquidation: converting the REIT to publicly traded status in an IPO, participating in a merger with or acquisition by another nontraded REIT, or selling off the properties the REIT holds individually or in small lots.

The exit strategy the management team prefers, which is normally the one that would produce the greatest gain, may or may not be feasible at the time they are ready to liquidate. Among the factors that come into play are current

Liquid Alts

Mutual funds using hedge fund strategies expand access to alternative investing.

As their name implies, alternative mutual funds aren't conventional investments.

Unlike other mutual funds, whose primary strategy is to purchase securities for their portfolios, alternative funds may, to the extent they're able, sell short, buy futures contracts or currencies rather than securities, use options contracts to offset risk, or borrow to deliver higher returns.

In other words, alternative funds use some hedge fund strategies. At the same time, they limit exposure to some, though certainly not all, hedge fund risks.

A FUND BY ANY OTHER NAME

For all their differences, alternative funds are still mutual funds and must operate in compliance with SEC regulations that:

- Require transparency, disclosure, and daily calculation of net asset value (NAV)
- Forbid performance fees
- Limit the use of leverage and illiquid investments

As with all open-end mutual funds, you can redeem your shares in alternative funds any time at the end-of-day NAV—hence the name **liquid alts**. And there are no restrictions on who can buy shares in these funds: All you

need is enough money to make the initial investment, which typically requires thousands, rather than hundreds of thousands, of dollars.

INSIDE AN ALTERNATIVE FUND

Liquid alts may be bond, equity, or commodity funds. The primary objective of a bond fund is to hedge a portfolio against the impact of changing interest rates. Long/short equity funds focus on minimizing the impact of a falling market, while market neutral funds seek to provide a positive return whether the market goes up or down. Other strategies, including macro global and event driven, as well as managed futures funds, seek results based on their particular focus.

Single-strategy funds typically have a single manager and one investment approach. Multi-strategy funds, on the other hand, use a number of sub-advisers, each managing a portion of the overall portfolio using a different investment approach. The built-in diversification of a multi-strategy fund may be more efficient and cost-effective than selecting a number of single-strategy funds.

THE APPEAL OF LIQUID ALTS

A liquid alt's primary attraction is the portfolio diversification. That's because the fund's return is characteristically

noncorrelated with the return of a buy-only strategy. So adding a liquid alt has the potential to reduce the overall volatility of your portfolio and to provide downside protection in a falling market. Of course, neither is guaranteed.

Liquid alts are sometimes promoted as providing higher returns than traditional funds. But their ability to **outperform** is much more limited than it is for the hedge funds they emulate. The reason is that hedge funds can do things that mutual funds can't, such as using leverage and loading up on illiquid investments when they're extremely cheap, anticipating substantial returns in the long run. In contrast, only 15% of an alt fund's portfolio can be illiquid at any one time.

THE JURY IS STILL OUT

A complicating factor in evaluating liquid alts before you invest is that they're relatively new products, most having been introduced since 2008. So there's not enough data to know how effective managers are in meeting their objectives. Early results indicate that returns are widely divergent, with some managers having far stronger track records than others, particularly in market downturns.

Two benchmark indexes specific to liquid alts that were launched in 2014 should help in evaluating these funds' relative returns. Interim benchmarks, including the S&P 500 and some hedge fund indexes, weren't necessarily appropriate, given the significant differences in strategy.

It's also likely that the benchmarks will serve as the basis of new index-based products, including index mutual funds and ETFs.

WHAT'S ILLIQUID?

According to the SEC, an illiquid asset is one that can't be sold within seven business days for a price equal to the fair market value that has been assigned to it.

TAKING A CLOSER LOOK

With liquid alts, as with all investments, there are advantages and potential drawbacks.

On the plus side, you can invest in a liquid alt for much less than you can in a hedge fund, both in terms of upfront costs and on-going fees. In addition, you'll have access to more information about the liquid alt and will find it easier to redeem your shares.

However, the fees that you pay are substantially higher than those on traditional mutual funds. In fact, when all the charges are tallied, the cost of liquid alts typically amounts to 3% to 5% annually. That's substantial enough to take very seriously in deciding whether or not to invest.

Another issue is how well you understand what you're buying. While some strategies, including long/short, are fairly straightforward, others are not. An approach that depends on assessing the impact of potential changes in world markets, as a global macro strategy does, might give you pause. As a result, these investments require even greater initial investigation and more continuous monitoring than traditional funds.

There's a question, too, about what percentage of a portfolio you should allocate to alternatives. It may turn out that you need to commit 15% to 20%, rather than a more modest 5% to 10%, to impact your overall return. Taking a conservative approach to an alternative investment, which seems like a reasonable position, may actually not be worth the effort—or the cost.



LIQUID ALTS

EQUITY FUNDS

LIQUID ALT SPONSORS

Most liquid alts are sponsored either by an investment company that also offers traditional mutual funds or by a hedge fund company, sometimes in partnership with an investment company.



COMMODITY FUNDS



BOND FUNDS

Multi-strategy



Single-strategy

Business Development Companies (BDCs)

These alternatives to private equity funds focus on providing capital to small firms.

A BDC is a closed-end investment company that raises money from investors and purchases the debt or equity of a specific group of qualifying companies that make up its portfolio. The BDC may also provide management and other services to the companies in which it invests.

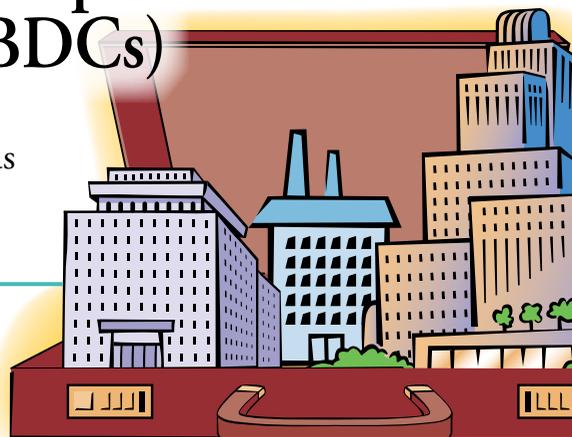
BDCs may trade on a national exchange or be nontraded. The difference between the two is primarily a difference in liquidity. You can buy or sell shares in a traded BDC at the current market price at any time after listing. In contrast, nontraded BDCs are available through broker-dealers and financial advisers only during an extended offering period. If you invest you should expect to hold your shares throughout the BDC's lifespan, which may be as long as ten years.

Unlike traded BDCs, in which anyone can invest, nontraded BDCs are available only to investors who meet the suitability standards set by NASAA and state securities regulators. For example, a state may cap an investor's allocation to alternative products to a specific percentage of his or her net worth or require a minimum annual income.

BDC BASICS

BDCs were introduced in 1980 as a way to allow individual, or retail, investors to invest in small and mid-sized privately held or thinly traded US businesses that might otherwise have difficulty raising capital.

Debt BDCs, which are more common, are primarily income investments. The managers anticipate that the companies issuing the debt securities they buy will make regular interest payments that can be passed through to investors. The BDC may also sell securities it has purchased during its term to realize a capital gain, which may also be paid to investors.



A debt BDC must select a risk-return profile. If it buys the unsecured debt of its portfolio companies, it will realize more income than if it concentrates on long-term secured debt. But it will also run a greater risk that some of the companies may default.

Equity BDCs focus on capital appreciation, or the increasing market value of its portfolio companies. The companies are small, so rarely pay dividends, which means distributions are infrequent. But investors expect that at least some of the companies will grow significantly and provide substantial capital gains during the program's term or from its exit strategy.

WHY BDCs?

If you're interested in diversifying your portfolio and, at the same time, adding a source of potentially regular income, you might consider a non-traded debt BDC.

Nontraded BDCs provide diversification because their returns aren't correlated with the returns on traditional investments and may help reduce portfolio risk.

Regular income is often a selling point, especially for debt BDCs, because BDCs must distribute at least 90% of their taxable income to shareholders each year and typically distribute nearly all of it. That may be a substantial sum with a BDC, but of course there's no guarantee that it will be.

It's relevant that a BDC has a vested interest in distributing the income. Doing so means the company doesn't owe corporate income taxes and may also avoid potential excise taxes. But

you will owe tax on the income and any capital gains you receive. The income distributions are taxed at the same rate you pay on ordinary income, though long-term capital gains are taxed at your lower long-term rate.

If you're more interested in long-term capital appreciation, you might choose an equity BDC.

ASSESSING THE RISKS

BDCs, like all nontraded alternative investments, expose you to certain risks that you'll want to be sure you understand.

Most important is illiquidity. There's no secondary market for BDC shares, and, even if the BDC has a redemption program, you may not be able to sell or break even if you do.

Because many nontraded BDCs use leverage to finance their investments, there's always the risk it may not be able to meet its obligations if its cash flow drops or its investments lose value, or both.

There is also the possibility that the exit strategy won't yield the results you anticipate, either because the BDC managers misjudge the situation, the portfolio is unattractive, or the economy is unfavorable.

You may be able to offset these risks, at least to some extent, by carefully evaluating the experience of the manager, investment adviser, and board of the BDC before you buy and by investing in several differently focused nontraded BDCs simultaneously.

	Traded BDCs	Non Traded BDCs
LIQUIDITY	Trade at current market price on national exchanges	No secondary market, must generally be held for term
INVESTORS	Anyone can invest	Investors must meet suitability standards
TERM	Indefinite term	Finite term with end-date at approximately 10 years

LIQUIDITY EVENTS

While a traded BDC may exist indefinitely, a nontraded BDC has a finite term, often ten years. The end-date depends on several factors, including the type of exit strategy, often called a liquidity event, the managers choose.

There are generally three alternatives:

- Converting the nontraded BDC to a traded BDC and listing it on an exchange
- Selling the entire portfolio or merging it with another BDC in a one-time transaction
- Selling off the investments individually or in small lots

Each has advantages and potential drawbacks in terms of how much value investors will realize. Among the factors the management team must assess in making its exit decision are what's happening in the economy at large, how attractive the portfolio is to potential investors, and whether there are interested buyers.

MEASURING SUCCESS

You evaluate the performance of a BDC by its **total return**, or the combination of the income it provides plus any capital appreciation. Total return may rise or fall during the BDC's offering period based on distributions, capital gains, and changes to the offering price that are dictated by changes in the company's NAV. But the final accounting can be made only after the liquidity event.

Energy Programs

Some alternative investments focus on drilling for oil and natural gas.

Buying stocks and bonds of publicly traded companies that explore for, produce, refine, and sell oil and natural gas products is the traditional approach to investing in energy. Alternative, nontraded energy investments concentrate on what's described as the upstream segment of the business. They may be **drilling programs** that explore for, drill, and operate producing oil and natural gas wells or **royalty programs**—also known as income programs—that lease properties where the drilling occurs. The goal in both cases is to pass income the program generates through to investors.

Most energy programs are open-ended and plan to operate as long as their wells produce. That period is finite, though the actual end-date isn't known at the time you invest. It could be measured in months, in years, or, with some wells, in decades.

THE NATURE OF PARTNERSHIPS

There are two types of partners in a limited partnership: general partners and limited partners. The general partners run the business and the limited partners provide the investment capital and are entitled to a share of the profits. The key difference, though, is that a limited partner has no liability for decisions the general partner makes or for debts the partnership incurs.

THE BUSINESS OF ENERGY

Investing in energy can be attractive from a tax perspective, though the advice of a tax professional is essential. The primary advantages are an **intangible drilling costs (IDCs) deduction**, a **depletion allowance**, and a **depreciation allowance**.

IDCs are the expenses of opening a well excluding the cost of drilling equipment and are concentrated in the first year of a project. The catch is that to be able to use the deduction against ordinary income rather than solely

DRILLING PROGRAMS



PROGRAM STRUCTURE

Drilling programs are generally structured as **limited partnerships**, with a general partner and a number of limited partners. Some are public nontraded programs registered with the SEC and regulators in the states where the program is sold. In most cases, prospective investors need a combined minimum annual income of \$70,000 plus a minimum net worth of \$70,000 or a minimum net worth of \$250,000, though more income or assets may be required in certain programs. Other suitability standards may apply as well.

LIMITED PARTNERSHIPS



against passive income, you must be a general partner. Many partnerships have a conversion feature that allows you to participate initially as a general partner and then switch to limited partner status after the IDC phase ends.

You can use the depletion allowance as long as a well is producing to offset taxes on the income it's providing. And you may be able to take a depreciation allowance for tangible, and thus potential resalable, drilling equipment.

LIQUIDITY ISSUES

Nontraded energy investments are essentially illiquid, which should be a primary factor in determining whether to invest. There may be buyback pro-

visions that permit redemption of ownership shares, but in most cases there are annual limits on the percentage of outstanding shares that may be repurchased. And there's no guarantee that you'll break even if you do redeem.

INCOME PROGRAMS



Other programs are private placements that are exempt from SEC regulation. They're open primarily to **accredited investors** although in some cases there may be up to 35 non-accredited participants.

Income programs may be partnerships or structured in other ways, including as nontraded business development companies (BDCs).

All programs, registered or not, are subject to federal and state **anti-fraud provisions**. This means that a program's sponsor or anyone who offers the program to investors must not make false or misleading statements about the program, the risks it carries, or its potential return.

But, despite the tax breaks, investing can be expensive, with front-end fees that may be 12% to 15% of investment capital plus ongoing charges that reduce production revenues.

INVESTING CHALLENGES

Energy programs are speculative investments, in large part because it's difficult if not impossible to evaluate some of the factors that will determine success or failure. For example, there's no way to tell from the surface how large a hydrocarbon reservoir is or how complex the extraction process will be. There's no way to know ahead of time whether the drilling and production phases will go smoothly or what the market

price will be when the oil or natural gas is flowing.

But you do have access to the offering circular and other documents that sponsors are required to provide for registered programs. And you can review the due diligence reports your broker or adviser have commissioned or created to evaluate the risks you face in a particular program.

RISK AND RETURN

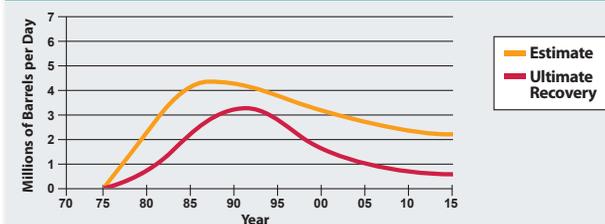
Three primary factors determine the income distributions you receive from energy partnerships:

- The production volume of the wells
- The costs of developing and operating the wells
- The market prices for oil and natural gas

The greater the production, the more potential income it can provide. But it's always possible that a well will be dry or have a limited lifespan. Expenses can erode income even if a well is productive. And market prices can be depressed by too much supply and too little demand. For example, when oil prices are high, investors may want to buy in because they expect a large return. But the high prices may reduce demand as consumers try to control their expenses. And, as production increases, the markets can be flooded, prompting the prices to fall.

Investors should also be aware of potential environmental problems that could result from drilling and that may have significant financial consequences.

OIL PRODUCTION ESTIMATION vs. ULTIMATE RECOVERY



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VIRGINIA B. MORRIS is the Editorial Director of Lightbulb Press. She oversees the development of all of the company's financial education content. A noted expert on financial literacy, Virginia serves as a consultant on investor education, participates in financial planning workshops, and creates financial literacy curricula.



Virginia has written more than thirty books on financial subjects, as well as articles, white papers, and the content for financial literacy websites. She is responsible for Lightbulb's distinctive and accessible approach to explaining investing and personal finance, from the basics of money management to sophisticated investment products and strategies.

Among her Lightbulb Press titles are *Guide to Money & Investing*, *Guide to Understanding Personal Finance*, *Welcome to Your Financial Life*, *A Woman's Guide to Investing*, *An Investor's Guide to Trading Options*, *Guide to Understanding Direct Investments*, and the *Lightbulb Dictionary of Financial Terms*.

Virginia holds a PhD and an MA from Columbia University and a BA from Beaver College.



KENNETH M. MORRIS is the President of Lightbulb Press. Since founding the company in 1990, Ken has fostered the company's role as a leading provider of financial education guides and content. He has championed the use of plain language and informative graphics and has overseen the development of Lightbulb content for electronic devices.

Previously, Ken spearheaded major programs to simplify complex business and legal documents, including financial statements, tax forms, contracts, and insurance policies.

In addition to his work on financial literacy websites, Ken has co-authored several Lightbulb guides, including *Guide to Money & Investing*, *Guide to Understanding Personal Finance*, *A Woman's Guide to Investing*, and *Guide to the Information Age*.

Ken holds a PhD and MA in English from Columbia University and a BA with high honors from Cornell University.

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